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* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/199 and the ICJ opinion on the Kosovo declaration of independence.

**Western Balkans Investment Facility**
**Infrastructure Project Facility**
**Technical Assistance 5 (IPF 5)**

TA2015030 R0 IPA

# Connectivity Networks Gap Analysis Update

# Final Report

**March 2020**

• IPF 5

A project implemented
by the WYG : IPF 5 Consortium

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# Abbreviations

| Abbreviation | Meaning |
|---|---|
| AIH | Adriatic-Ionian Highway |
| ALB | Albania |
| ARA | Albanian Roads Authority |
| BiH | Bosnia and Herzegovina |
| BoQ | Bill of Quantities |
| CBA | Cost Benefit Analysis |
| CCCC | China Communications Construction Company Ltd |
| CRBC | China Road and Bridge Corporation |
| CD | Conceptual Design |
| DD | Detail Design |
| DG MOVE | Directorate-General for |
| DG NEAR | Directorate-General for Neighbourhood and Enlargement Negotiations |
| EBRD | European Bank for Reconstruction and Development |
| EC | European Commission |
| ECA | Export Credit Agency |
| ECMT | European Conference of Ministers of Transport |
| ECS | Energy Community Secretariat |
| EIB | European Investment Bank |
| EnC | Energy Community |
| ENE | Energy sector |
| ENTSO | European Network of Transmission System Operators for Electricity<br>ENTSO-e: electricity and ENTSO-g: gas |
| ERTMS | European Rail Traffic Management Systems |
| ESIA | Environmental and Social Impact Assessment |
| EU | European Union |
| EUD | European Union Delegation |
| EWBJF | European Western Balkans Joint Fund |
| FBiH | Federation of Bosnia and Herzegovina, entity of Bosnia and Herzegovina |
| FIDIC | International Federation of Consulting Engineers |
| FS | Feasibility Study |
| GAF | Grant Application Form (formerly PDF) |
| GIS | Geographic Information System |
| GoA | Government of Albania |
| HR | Croatia |
| IAP | Ionian Adriatic Pipeline |
| IC | Interchange |
| IFI | International Financing Institution |
| IFICO | IFI Coordination Office |
| INV | Investment |
| IPA | Instrument for Pre-accession Assistance |
| IPF | Infrastructure Project Facility |
| IRI | International Roughness Index |
| ISRBC | International Sava River Basin Commission |
| ITGI | Interconnector Turkey – Greece – Italy |
| ITS | Intelligent Transport Systems |
| IWW | Inland Waterways |
| JSC | Joint-stock company |
| KfW | Kreditanstalt fur Wiederaufbau |

| Abbreviation | Meaning |
|---|---|
| KOS* | Kosovo* |
| LOS | Level of Service |
| MED | Mediterranean (Corridor) |
| MKD/ NM | North Macedonia |
| MNE | Montenegro |
| MS | Member State |
| NA | Not available |
| OEM | Orient/East-Med (Corridor) |
| OHL | Overhead Line |
| PCI | Projects of Community Interest |
| PD | Preliminary Design |
| PECI | Projects of Energy Community Interest |
| PESR | Public Enterprise for State Roads |
| PFS | Pre-Feasibility Study |
| PIP | Public Investments Programme |
| PIU | Project Implementation Unit |
| PMI | Projects of Mutual Interest |
| PPP | Public-Private Partnership |
| RS | Republic of Srpska, entity of Bosnia and Herzegovina |
| RSA | Road Safety Audit |
| RZD | Russian Railways |
| SEE | South East Europe |
| SEETIS | South East Europe Transport Observatory Information System |
| SEETO | South East Europe Transport Observatory |
| SEETO MAP | SEETO Multi-Annual Plan |
| SofW | Supervision of Works |
| SPP | Single Project Pipeline |
| SRB/SER | Serbia |
| SS | electrical Substation |
| TA | Technical Assistance |
| TAP | Trans Adriatic Pipeline |
| TCPS | Transport Community Permanent Secretariat |
| TD | Tender Documentation |
| TEN-E | Trans-European Energy Network |
| TEN-T | Trans-European Transport Network |
| ToR | Terms of Reference |
| TPP | Thermal Power Plant |
| TRA | Transport sector |
| TSO | Transmission System Operator |
| TYNDP | Ten Year Network Development Plans |
| WB6 | Western Balkans 6 (Albania, Bosnia and Herzegovina, North Macedonia, Kosovo*, Montenegro and Serbia) |
| WBIF | Western Balkans Investment framework |

** This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence*

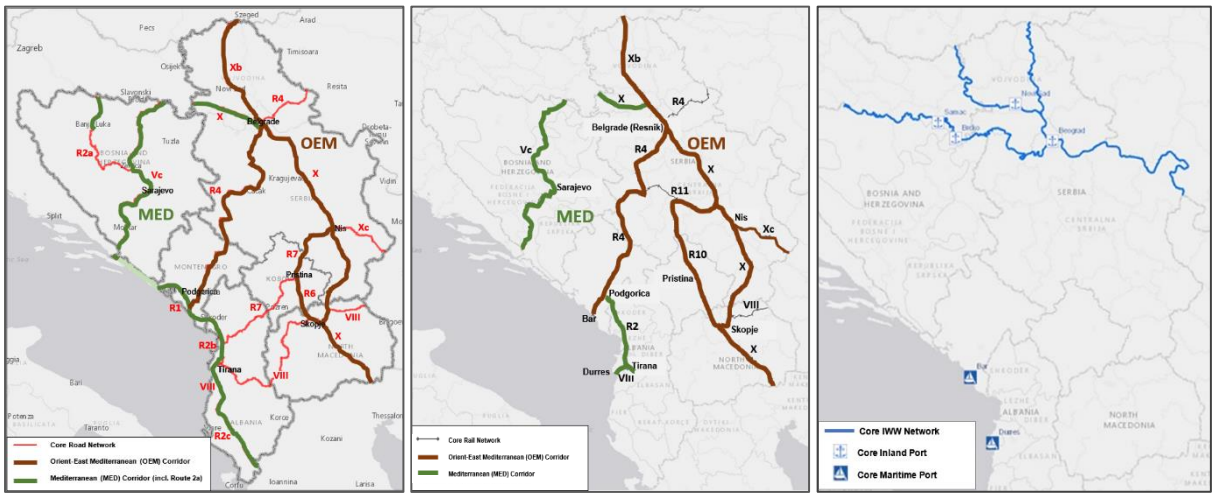
# Executive Summary

The original Connectivity Gap Analysis Update study was undertaken during the first half of 2016. The European Union had set aside up to €1 billion for energy and transport connectivity investment projects in the Western Balkans over the period of 2014-2020, and the study helped to identify projects that were mature to receive this funding. The decision to update this work was taken three years later in April 2019. The study started in mid May 2019 and was completed by the end of the year. Following receipt of comments and amendments the final report was approved and issued in March 2020.

Some 91 connectivity projects have been re-examined in the sub-sectors of road, rail, inland waterways, inland/ maritime ports, electricity and gas, and the information was updated on the Geographic Information System (GIS). The conclusions with respect to each sector are presented in the following paragraphs.

***Transport Sector***

The gap analysis for the transport system is limited to the proposed extension of the three TEN-T Core Network Corridors that intersect the region, namely the Orient/East-Med (OEM) Corridor, the Mediterranean (MED) Corridor and the Rhine-Danube Corridor (only for IWW), as indicatively shown in the maps below.




**Road**

Based on the compliance exercise that was performed for the core road network, it seems that almost half of the OEM Corridor is now compliant (49%), whereas for the MED Corridor the compliance percentage for the road network remains at approximately 35%. These results show significant increase (77%) in compliance rates for the OEM Corridor sections compared to the previous study, while there are no apparent changes for the MED Corridor sections since 2016.

More specifically, the comparison between the road projects reviewed in 2016 and 2019 is as follows:

| | | ALB | BIH[1] | KOS | MKD | MNE | SER | Total |
|---|---|---|---|---|---|---|---|---|
| **Number of projects** | **2016** | 3 | 7 | 2 | 4 | 6 | 6 | **28** |
| | **2019** | 2 | 9 | 2 | 4 | 6 | 8 | **31** |
| | **2016** | 207 | 4,049 | 810 | 209 | 2,036 | 3,715 | **11,026** |

[1] One project common with Croatia.

| | | ALB | BIH[1] | KOS | MKD | MNE | SER | Total |
|---|---|---|---|---|---|---|---|---|
| **Total investment needs (M€)** | **2019** | 2,441[2] | 3,243 | 869 | 199 | 4,101[2] | 5,056[3] | **15,909** |

- Overall the progress of road projects since the 2016 study has been significant with 21 projects (split into 31 sub-projects) having secured (co)financing for implementation, 13 of which for the first time.
- For the rest of the cases, the overall level of project maturity is still low or medium (projects are mostly in preparatory or pre-feasibility/ feasibility phases).
- The existing documentation mostly stems from studies developed via Technical Assistance programmes in the region.
- Due to the low maturity of several projects, the remaining uncertainties are large, such as exact routing, feasibility of projects, future development plans, eligibility for funding, timing, costing, etc.

**Rail**

The results of the gap analysis for the railway network show that there are currently no rail segments in the WB6 region that are fully compliant with all rail TEN-T requirements, which denotes an unchanged status compared to the previous study. Regarding each TEN-T standard, the situation is as follows:

- Electrification: 80% of the OEM Corridor and 74% of the MED Corridor are compliant;
- Axle load: 87% of the freight lines along the OEM Corridor and 77% along the MED Corridor allow for 22.5 tonnes;
- Line speed: only 45% of the OEM Corridor and 12% of the MED Corridor are compliant in terms of maximum operating speed. This is an interesting finding, if one takes into account the fact that the design speed in more than 85% of the OEM Corridor and 74% of the MED Corridor is more than 100 km/h, which is the threshold for compliance. These results clearly indicate that a large percentage of the problems that the railway network in the region faces are due to lack of proper maintenance.
- Train length: 0% compliance on both corridors;
- Track gauge: 100% compliance on both corridors;
- ERTMS: 0% compliance on both corridors.

The comparison between the railway projects reviewed in 2016 and 2019 is as follows:

| | | ALB | BIH | KOS | MKD | MNE | SER | Total |
|---|---|---|---|---|---|---|---|---|
| **Number of projects** | **2016** | 2 | 3 | 1 | 5 | 3 | 8 | **22** |
| | **2019** | 2 | 3 | 1 | 5 | 3 | 9 | **23** |
| **Total railway length (km)** | **2016** | 162 | 399 | 149 | 218 | 192 | 1,099 | **2,219** |
| | **2019** | 162 | 399 | 149 | 306 | 192 | 1,099 | **2,307** |
| **Total investment needs (M€)** | **2016** | 226 | 196 | 194 | 596 | 228 | 1,813 | **3,253** |
| | **2019** | 212 | 188 | 210 | 603 | 231 | 3,751 | **5,195** |

- The progress of rail projects since the 2016 study has been significant with 10 projects (split into 14 sub-projects) having secured (co)financing for implementation, 8 of which for the first time, but with only one having been fully implemented.

[2] Significant change compared to 2016 since detailed estimated costs for Adriatic-Ionian and Bar-Boljare Highways were not available in the previous gap analysis.
[3] Significant change compared to 2016 since detailed estimated costs were not available for all projects in the previous gap analysis.

- This denotes particular endorsement of railway projects in the region, even of those with low or medium maturity levels in the previous gap analysis (such as the modernisation of the Nis-Presevo railway line (section Nis-Brestovac), the general rehabilitation of Railway Route 10 (Leshak-Fushë Kosovë-Hani i Elezit) or the modernisation of railway line Tirana-Durres).
- For the rest of the cases, the overall level of project maturity is still low or medium (projects are mostly in preparatory, pre-feasibility/ feasibility or design phases).
- Due to the low maturity of the projects, the remaining uncertainties are large (including exact routing, feasibility of the projects, future development plans, timing, etc.).

**Inland waterways, Inland & Maritime Ports**

An overview of the compliance gap exercise findings for the IWW network and inland/ maritime ports is presented as follows:

- Danube River: the entire river is compliant with the ECMT Class, maximum vessel length, tonnage and minimum height under bridge TEN-T standards. However, with regards to the minimum draught TEN-T standard, the IWW link between Bezdan and Novi Sad (181 km long) is not compliant, while particular attention should be paid to the border crossing with Hungary.
- Sava River: approximately 95% of the river is currently compliant in terms of ECMT Class, and the entire river is compatible in terms of maximum vessel length, tonnage and minimum height under bridge TEN-T standards. Furthermore, with regards to minimum draught, it is noted that only 13% of the Corridor (81 km) is compliant with the respective TEN-T standard.
- Tisa River: the IWW link on Tisa River is compliant with ECMT Class TEN-T standards.
- Inland and Maritime Ports: all riverports and seaports included in the Core Network are compliant with the TEN-T standards, having an existing rail connection.

Regarding IWW projects, the comparison between the projects reviewed in 2016 and 2019 is as follows:

| | | BIH | SER | Total |
|---|---|---|---|---|
| **Number of projects** | **2016** | 3 | 3 | **6** |
| | **2019** | 3 | 4 | **7** |
| **Total IWW length (km)** | **2016** | 360 | 349 | **709** |
| | **2019** | 360 | 349 | **709** |
| **Total investment (M€)** | **2016** | 43 | 72 | **115** |
| | **2019** | 61 | 242 | **303** |

The conclusions to be drawn from the detailed review of the listed projects are:

- Overall the progress of IWW projects since the last study update has been insignificant.
- Only one project (reconstruction and modernisation of River Port of Brcko) has progressed since the last analysis, showing high maturity level, while one more was added to the identified investments (significant investments in port of Belgrade).
- Despite the high maturity of two projects, the remaining uncertainties are large mainly due to sensitive political issues regarding demining activities along the IWW links on the Sava River that can significantly affect the projects' outcome.

Regarding maritime ports, one project has been identified for the port of Durres in Albania with ongoing project preparation activities, currently yielding low maturity levels for this investment.

## Energy Sector

### Electricity

The comparison between the projects reviewed in 2016 and 2019 is as follows:

| | | ALB | BIH | KOS | MKD | MNE | SER | Total |
|---|---|---|---|---|---|---|---|---|
| Number of projects[4] | 2016 | 2 | 2 | 1 | 1 | 2 | 4 | **12** |
| | 2019 | 1 | 1 | 0 | 1 | 2 | 3 | **8** |
| Total OHL length (km) | 2016 | 217 | 127.3 | 81 | 95 | 176.3 | 325.8 | **1022.4** |
| | 2019 | 56 | 17.3 | 0 | 95 | 176.3 | 257.8 | **602.4** |
| Total investment (M€) | 2016 | 92.6 | 44.1 | 27 | 42 | 130.5 | 164.5 | **500.7** |
| | 2019 | 70 | 9.5 | 0 | 42 | 130.5 | 138.5 | **390.5** |

The main change between the project status in 2016 and in 2019 has been the reduction in the number of assessed projects. This reduction occurred because a number of projects have been completed during this period, in particular 400kV OHL Pancevo (SRB) – Resita (ROM) and 400kV OHL Prishtina (KOS) - Tirana (ALB), and because 400kV OHL Banjaluka (BiH) – Lika (CRO) dropped out from the Energy Community PECI list.

The eight projects reviewed are part of five overall projects of which four are central to the Trans Balkan Corridor. Key highlights are as follows:

- Progress of the electricity projects during this period was significant. All projects moved into a higher category of maturity except two projects which formally remained in the same category (OHL Lastva-Pljevlja in MNE and ALB part of OHL Elbasan-Bitola). However, even with these two projects, actual progress has been made even if they remained within the same evaluation group.
- Financing for all projects is either already in use, or secured, or in the worst case approved in principle. Applications for co-financing can be expected in the next year or two for two of the projects on the Transbalkan corridor (currently at the design stage) and these are the 400kV OHL Obrenovac (SRB) - Bajina Bašta (SRB) and the 400kV OHL Bajina Bašta (SRB) – Pljevlja (MNE)– Višegrad (BiH).
- The risks for implementation of the projects practically do not exist. There remains simply the issue of the timing of construction.

### Gas

The comparison between the projects reviewed in 2016 and 2019 is as follows:

| | | ALB | BIH | KOS | MKD | MNE | SER | Total |
|---|---|---|---|---|---|---|---|---|
| Number of projects | 2016 | 6 | 3 | 3 | 5 | 2 | 6 | **18** |
| | 2019 | 4 | 3 | 2 | 3 | 1 | 4 | **13** |
| | 2016 | 649 | 374 | 199 | 334 | 254 | 617 | **2.427** |

[4] In Albania and in Kosovo one project was completed, (OHL Tirana – Kosovo B), in Serbia also one project was completed (OHL Pancevo – Resita), while in BiH one project dropped out of the PECI list.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Total pipeline length (km)** | **2019** | 498 | 382 | 168 | 202 | 96 | 259 | **1.605** |
| **Total investment (M€)** | **2016** | 2.163 | 206 | 93 | 235 | 212 | 361 | **3.270** |
| | **2019** | 1.892 | 219 | 101 | 129 | 119 | 164 | **2.623** |

Thirteen projects have been reviewed with the following conclusions:

- The list for 2019 is reduced as some of the projects have been abandoned or replaced with other projects.
- The progress of gas interconnection projects since the last study update has been moderate. In the majority of cases, the overall level of project maturity is still low (projects are mostly in preparatory, pre-feasibility or feasibility phases).
- The most significant development continues to be the construction of the Trans Adriatic Pipeline (TAP) which is expected to be operational in 2020 and will deliver gas into Albania/Italy.
- Two projects (Interconnectors BiH – HR South and SER-BG) have progressed to being "presumed mature". In addition, the interconnector MKD-GR will also reach the status of "presumed mature" by mid 2020 through development activities being undertaken by CONNECTA and the construction works are foreseen to start in late 2020 or early 2021. The Ionian Adriatic Pipeline (IAP) project will complete Preliminary Designs in 2020 and so may also be suitable for co-financing before 2024.
- The existing documentation is scarce and is mostly limited to studies developed through technical assistance programs in the region.
- Due to the low maturity of the projects, the remaining uncertainties are large (including exact routing, feasibility of the projects, future development plans, timing).
- Many of the projects are burdened by political issues that can significantly affect the project outcome.

**Synopsis**

Following comprehensive analyses of maturity for all sectors and connectivity networks, an overview has been made of the potential financing needs for implementation of the remaining projects/project components in the next few years (in particular for the period up to 2024). The concluding chapter of the report lists those projects that are forecast to be mature for further support through the WBIF pipeline (ie. are or may become eligible for investment grant financing).

In summary, the number and indicative amount of investments assessed as reaching maturity for potential grant (co)financing are presented in the following table:

| Sector | Number of INV grants approved | Total amount of INV grants approved [M€] | Number of new grant applications by 2024 | Potential requests for WBIF INV grant funding [M€] | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| **Road** | 15 | 296.26 | 11 | 155.9 | 187.2 | 75.1 | - | 59.0 | 56.9 |
| **Rail** | 9 | 294.08 | 13 | 53.4 | 208.4 | 138.1 | 151.3 | 97.6 | 50.0 |
| **IWW, Inland & Maritime Ports** | 1 | 3.08 | 2 | 8.4 | - | - | 45.0 | - | - |

| Sector | Number of INV grants approved | Total amount of INV grants approved [M€] | Number of new grant applications by 2024 | Potential requests for WBIF INV grant funding [M€] | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| **Electricity** | 5 | 70.40 | 2 | - | - | 40.0 | - | 1.6 | - |
| **Gas** | - | - | 2 | 20.7 | - | 10.8 | - | - | - |
| **TOTAL** | **30** | **663.82** | **30** | **238.4** | **395.6** | **264.0** | **196.3** | **158.2** | **106.9** |

The investments included in the table above are listed by sector in Chapter 7.

# 1 Introduction

## 1.1 Background

The geographic coverage of the Connectivity Gap Analysis Update is the six countries of the Western Balkans that are eligible for grants under the WBIF and the IPA programme. The Analysis also covers the connectivity of the Western Balkans with neighbouring EU Member States along the TEN-T and TEN-E core networks. The gap analysis was limited to the indicative extension of the three TEN-T Core Network Corridors that intersect the region, namely the Orient/East-Med (OEM) Corridor, the Mediterranean (MED) Corridor and the Rhine-Danube Corridor (only for IWW).

The strategic objectives of the original 2016 study were stated to be as follows:

1. To identify the physical infrastructure gaps in the connectivity networks – Energy and Transport – and define the segments of infrastructure required to close the gaps.
2. To review the present status of project identification, planning and preparation for each identified gap and assess the maturity of project implementation to fill each gap.
3. To identify the programme timeline, activities and budget for each gap project to move the status from project preparation to project implementation.
4. To prepare an overall prioritised programme of network segments, with identified project preparation and other actions, required to allow construction activities to commence.

The original study was completed in May 2016 and DG NEAR requested IPF 5 to provide a budget estimate for an update on 28 March 2019. A methodology was submitted on 10 April 2019 and this was approved on 10 May 2019. Implementation began immediately with the objective of producing a draft report in September 2019. After extensive data collection and consultation with the involved beneficiaries and stakeholders until December 2019, the draft final revision of this report was completed in January 2020. The final version was approved for issue in March 2020.

## 1.2 Scope of work

The scope of work proposed and agreed in the methodology is as follows:

- Re-activate the GIS database on which all the connectivity projects were stored for a period of seven months starting in May 2019.
- Update the project fiches for each project by recording the developments over the period 2016 to 2019 and the current status of the project including: forecast start of construction, updated cost estimates and any key gaps or constraints
- Update the transport road and rail networks for their compliance with the TEN-T criteria and present the results graphically
- Liaise with Energy Community Secretariat (ECS) and update the portfolio of the energy and gas projects that they are recommending for development.
- Liaise with DG MOVE over the transfer of the updated GIS to the future Transport Community Permanent Secretariat (TCPS).
- Prepare an updated Connectivity Network Gap Analysis Report which: summarises the status of all inventoried projects; recommends those projects identified to be mature for co-financing; and presents the results in graphical form.
- Discuss with DG NEAR/WBIF Secretariat how the updated GIS could be used to the benefit of WBIF in the future.

## 1.3 Activities undertaken

The study has had the advantage that the same team that undertook the work during 2016 has been available to perform the updating exercise. The key activities have been as follows:

- The GIS application has been re-activated and is hosted on a server in Belgrade. The changes in technology over the last three years have allowed some improvements to functionality and presentation.
- The 91 project fiches were extracted from the system and distributed to the six country coordinators (WBIF Country Managers with exception of North Macedonia and Albania) who liaised with local beneficiaries to have them updated. These were then reviewed in detail by the technical leads for transport, electricity and gas.
- The transport road and rail networks have been assessed for their compliance with the TEN-T criteria and the GIS has been used to present the results.
- The latest PECI list was obtained from ECS which turned out to a shorter list than that used in 2016. The projects on this latest list have been used in the updating exercise.
- Permission was obtained from DG MOVE to use the latest 2017 SEETIS data which is now managed by the Transport Community Permanent Secretariat. The data is in the process of being incorporated into the GIS application. Amendments to the electricity and gas networks also remain to be incorporated.
- The updated project fiches have been reviewed by subsector to produce the present updated report.

## 1.4 Definition of project maturity

The definitions of maturity in the original report (issued 2016) were made according to the gradations "High", "Medium", and "Low". However, the present report has been aligned with the more recent WBIF definitions of maturity[5], reproduced in Table 1.1 below, thus maintaining focus on those projects suitable for receiving EU grant funding and in particular investment financing support.

The definitions "Presumed mature" and "De facto mature" generally cover those projects considered of high maturity level for which construction is likely to start between 2020 and 2024. The report has provided a forecast for when applications for WBIF co-financing for investment projects within these categories might be expected. The criteria used has been that a project needs to have reached completion of Detailed Design in order for an application for co-financing to be positively assessed. However, if yellow book FIDIC contracts are to be used then this requires the project to only have completed Preliminary Design.

**Table 1.1 Definition of maturity criteria**

| Project Phase / Criterion | Maturity Level | |
|---|---|---|
| Definition of the individual investment project | 1.1 | De facto not mature |
| Pre-feasibility study | 1.2 | De facto not mature |
| Master plan or any other relevant spatial plan | 1.3 | De facto not mature |
| Feasibility study | 1.4 | De facto not mature |
| Land ownership | 2 | Presumed not mature |
| Preliminary design | 3.1 | Presumed mature |
| Environmental (and social) impact assessment | 3.2 | Presumed mature |
| Main/Detailed design | 3.3 | Presumed mature |
| Loan and grant negotiations for the investments | 4.1 | De facto mature |
| Signing of loan and grant for the investments | 4.2 | De facto mature |
| Procurement | 4.3 | De facto mature |
| Contracting of works | 4.4 | De facto mature |
| Construction and supervision | 4.5 | De facto mature |

[5] WBIF Pipeline: TA and INV Funding Needs, IFICO, Feb 2019.

It is also noted that the term "No need for co-financing" is used within this study for projects which do not require further EU grant funding because: i) project financing is fully secured and the project is either completed or its implementation is ongoing; or ii) investment grant is already secured (approved and/or signed) for the project. Finally, the term "Not eligible" is used for projects that are not eligible for WBIF investment grant funding (e.g. motorway maintenance projects).

## 1.5 Structure of report

The report has been structured in a similar way to the original version with a separate chapter being devoted to each network. The chapters are as follows:

| | |
|---|---|
| Chapter 2 | Roads |
| Chapter 3 | Rail |
| Chapter 4 | Inland Waterways, Inland & Maritime Ports |
| Chapter 5 | Electricity |
| Chapter 6 | Gas |
| Chapter 7 | Conclusions |

Each chapter presents:

- a summary of the gap analysis undertaken for that network
- a review of the maturity of the shortlisted projects
- an overview of the projects identified to be mature for co-financing.

The conclusions chapter presents a summary of the progress achieved over the last three years in each of the sectors and also an overview of the projects that are mature for co-financing.

The projects fiches are available in a separate Project Appendix and are also stored in the GIS. The GIS is also the means by which each of the networks can be viewed geographically.

# 2 Roads

## 2.1 Gap analysis

A compliance gap analysis of the entire Western Balkans (WB6) Core Network against the TEN-T standards was undertaken in 2016. The gap analysis was limited to the indicative extension of the three TEN-T Core Network Corridors that intersect the region, namely the Orient/East-Med (OEM) Corridor, the Mediterranean (MED) Corridor and the Rhine-Danube Corridor (only for IWW). No definitive mapping of these corridors could be found in 2016 and the consultants proposed at that time the following network using guidance from DG MOVE:

- OEM Corridor – Road Network *(Total length approx. 1,594 km)*:
  - Section: Budapest – ***Horgos/Subotica – Belgrade – Nis – Skopje – Gevgelija/Evzoni*** – Thessaloniki
  - Section: ***Nis – Pristina – Skopje***
  - Section: ***Belgrade – Podgorica - Bar***
- MED Corridor – Road Network *(Total length approx. 936 km)*:
  - Section: Zagreb – ***Batrovci – Belgrade***
  - Section: Rijeka – Ploce – ***Neum Northwest – Neum Southeast*** – ***Debeli Brijeg – Bar – Tirana – Durres*** – Igoumenitsa
  - Section: ***Bosanski Samac – Sarajevo – Doljani*** – Ploce

In the following map, the above alignment for the road network is presented, based on the indicative extension of the TEN-T Core Network to the Western Balkans region agreed in 2015 and the TEN-T methodology for the definition of the TEN-T Core Network (the faded links of the MED Corridor in the map represent sections that are in Croatia and therefore not part of the WB6). Data on these road links have been collected and maintained by SEETO Secretariat (SEETIS database) and are now the responsibility of the Transport Community Permanent Secretariat.

**Figure 2.1 The Core TEN-T Corridors proposed alignment for the Road Network**


It should be noted that based on the TEN-T standards, as identified in the TEN-T Regulation No. 1315/ 2013, the requirements for the road network are:

- Roads have to be either an express road or a motorway by 2030
- Roads must have sufficient parking areas, at least every 100 km, by 2030
- Availability of alternative clean fuels by 2030
- Use of tolling systems/ ITS and their interoperability with other systems

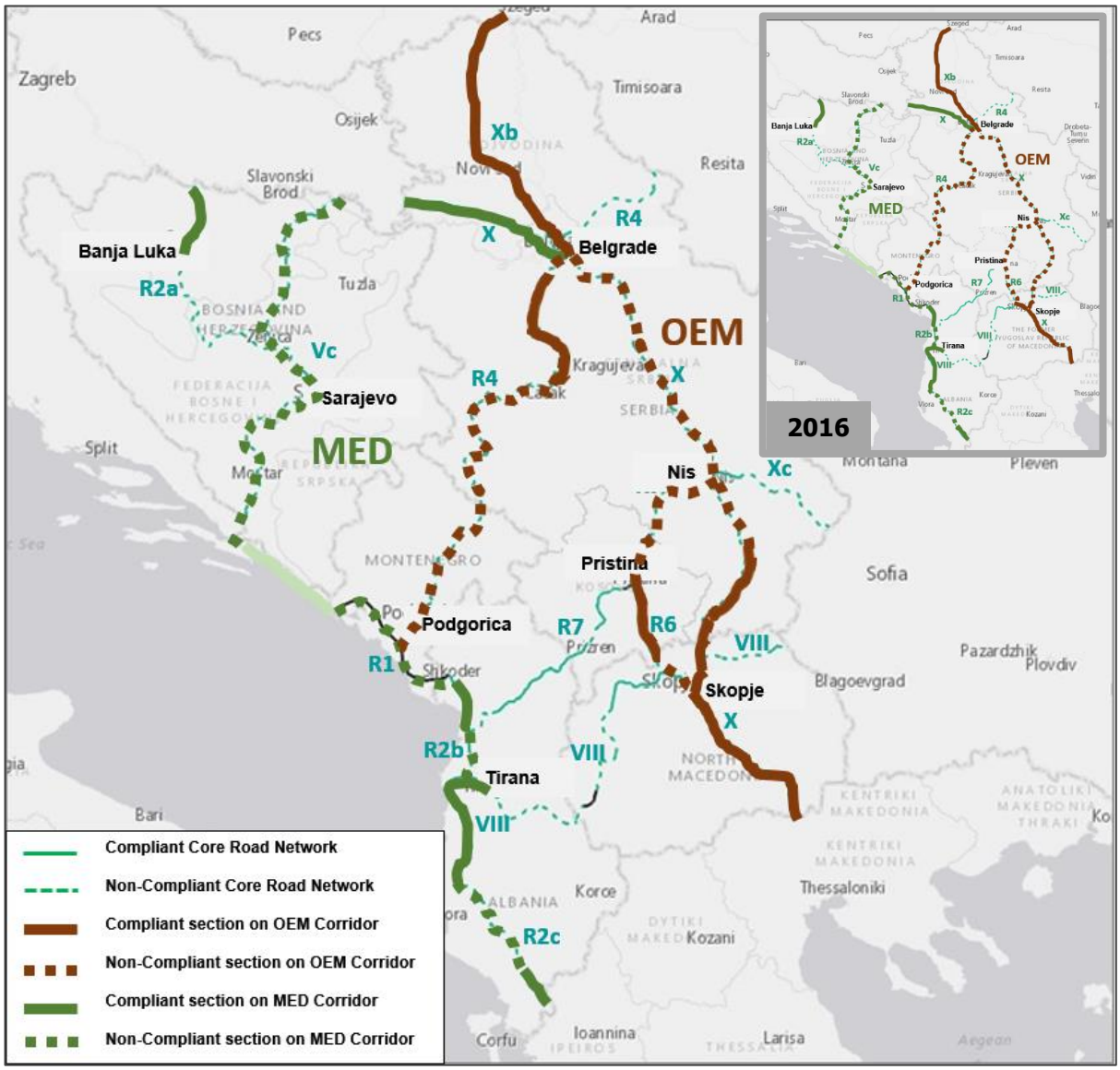
Within the framework of the present analysis, in order for a road section to be compliant, it has to be of motorway (or expressway) standard and also be in very good (IRI 0-1.24) or good condition (IRI 1.24-2.84). This effectively means that certain sections of the road network which are of motorway standard, but not properly maintained or in need of immediate rehabilitation, have been treated as

non-compliant links[6]. Furthermore, for the compliant motorway sections, it is assumed that there are available parking areas, while the criteria referring to the availability of alternative fuels and ITS/ tolling systems were not examined, as they are not directly related to primary infrastructure characteristics.

Based on the compliance exercise that was performed, it seems that almost half of the OEM Corridor is now compliant (49%), whereas regarding the MED Corridor, the compliance percentage for the road network remains at approximately 35%. These results show significant increase (77%) in compliance rates for the OEM Corridor sections compared to the previous study, while there are no apparent changes for the MED Corridor sections since 2016.

The identified infrastructural compliance gaps for the road core network are presented in the following figure and the respective table in more detail.

**Figure 2.2 The Compliance Gaps for the Core TEN-T Corridors - Road Network (2019)**




[6] It is moreover noted that projects of road maintenance only are not eligible for funding and have thus been excluded from the current analysis.

**Table 2.1 Compliance Rates for the Core TEN-T Corridors – Road Network (2019 vs 2016)**

| | OEM Corridor | | | | MED Corridor | | | |
|---|---|---|---|---|---|---|---|---|
| | 2019 | | 2016 | | 2019 | | 2016 | |
| | km | % | km | % | km | % | km | % |
| **Compliant road sections** | 775 | 48.62 | 437 | 27.42 | 323 | 34.51 | 323 | 34.51 |
| **Non-compliant motorways** | 286 | 17.94 | 329 | 20.64 | 0 | 0.00 | 0 | 0.00 |
| **Non-compliant 2-lane roads** | 533 | 33.44 | 828 | 51.94 | 613 | 65.49 | 613 | 65.49 |
| **Total Length** | **1,594** | | | | **936** | | | |

*Note: Compliant road sections – motorways in very good (IRI 0-1.24) or good condition (IRI 1.24-2.84)*
*Non-compliant motorways – motorways in medium or poor condition (IRI > 2.84) in need of rehabilitation*
*Non-compliant 2-lane roads – national roads with 1 lane per direction in need of reconstruction or the construction of a new motorway*

It is noted that for the estimation of the compliance rates for the TEN-T Mediterranean Core Network Corridor, the alignment of the planned Adriatic – Ionian Highway in Montenegro and Albania (Debeli Brijeg – Sotonici – Bar – Muriqan – Buna Bridge) was taken into consideration, rather than the existing road segments. This alignment will eventually be part of the WB6 Core Network and the MED Corridor.

For the identified infrastructural compliance gaps, all necessary projects in order for the existing infrastructure to meet with the TEN-T standards, have been listed and thoroughly analysed. Compared to the previous analysis of 2016, several projects have been split into two or more sub-projects based on the progress, maturity, importance and available information for each subsection. The main aim has been to draw reliable conclusions in terms of the maturity level and to have a clear picture of the implementation timeframe of each sub-project. The ultimate goal is for the two Core Corridors to become fully compliant thus enhancing connectivity with the WB6 region, as well as between the WB6 region and the EU Member States. It should be noted that the compliance check exercise was based on the 2016 Gap Analysis' results, while also taking into consideration the number of projects completed during the time period 2016-2019 (e.g. sections on Corridor Vc).

An overview of the identified projects is presented in the following sections. Precise map locations of "mature" projects are provided in the project summaries in Section 2.2.

### 2.1.1 Orient/ East-Med (OEM) TEN-T Core Network Corridor

For the road sections of the OEM Corridor, 18 projects in total were identified during the original 2016 study, including the road section between Kumanovo and Deve Bair (Border with Bulgaria) in North Macedonia[7]. One more project regarding the ongoing completion of the Belgrade bypass in Serbia (re/construction of Ostruznica bridge over Sava river, Sector 3, LOT 3.2) has been added to this study.

Hence, in total for OEM Corridor, **19 investments** are examined, three of which have been split into sub-projects, yielding a total number of **27 (sub)projects**. In addition, **four[8]** of the projects identified during the 2016 gap analysis are now fully implemented, all of them being segments of the Orient/ East-Med Corridor.

[7] This section was examined since a project for the road segment Rankovce – Kriva Palanka – Deve Bair was included in the list of pre-identified projects for the OEM Corridor in the Connectivity Agenda (Western Balkans Summit – Vienna 2015). This road section is part of Corridor VIII and consists of a significant link with Bulgaria. Currently, the road segment Kumanovo – Deve Bair is not compliant with the TEN-T standards, as it is a two-lane national road, and is being upgraded to expressway.

[8] The project "Reconstruction of the road section Pozega-Belgrade to meet with motorways TEN-T standards" is partially constructed along its subsection Obrenovac-Preljina (approx. 56% of total investment).

An overview of all projects is presented in the following table, where the maturity level assessment complies with the adopted approach, as defined in Table 1.1. The Table also contains the estimated investment cost per project, the latest status and the approved WBIF support (i.e. TA, INV) received so far. In addition, an indication of when a project may be eligible for co-financing by WBIF investment grants[9] and the possible IFIs or other donors supporting the project are provided in the last two columns of the table. The year provided is based on the relevant information collected by the WB6 Country Managers from the relevant project beneficiaries and also on the assumption that project preparation activities will have been completed as planned without significant delays; that is, Detailed Design will be finished for Red Book FIDIC tenders and Preliminary Design for Yellow Book tenders (even for a few currently non-mature projects) so that the application for grant can be submitted in the respective round.

[9] This is set as the year when the respective investment grant application is expected to be evaluated/ approved.

**Table 2.2 Identified Investment Projects on OEM Corridor – Road Network**

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for WBIF co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| 1 | Completion of Belgrade bypass, Construction of Ostruznica bridge (Sector 3) | SER | 29 | The project is considered fully prepared and no further preparation activities are envisaged; Construction works are ongoing. | NA | No need for co-financing | - | EIB |
| 2 | Completion of Belgrade bypass, Reconstruction of road section Ostruznica - Strazevica (Sectors 4 and 5) | SER | 63 | The project is considered fully prepared and no further preparation activities are envisaged; Construction works are ongoing. | NA | No need for co-financing | - | CEXIM |
| 3 | Completion of Belgrade bypass, Sector 6: Strazevica-Bubanj Potok | SER | 143 | The project is considered fully prepared and no further preparation activities are envisaged; Construction & other permits and construction works are ongoing. | NA | No need for co-financing | - | CEXIM |
| 4 | Rehabilitation of the road section between Bubanj Potok and Grdelica | SER | NA | This is a maintenance project that is financed by national funds for road maintenance. | NA | Not eligible | - | - |
| 5 | Reconstruction of road section between Grdelica and Presevo in Serbia to meet with motorways TEN-T standard | SER | 365 | The project is considered fully completed. | WB1-SER-TRA-01 | No need for co-financing | - | EIB/EBRD/WB |
| 6a | Completion of Belgrade-South Adriatic motorway, construction of road section Surcin-Obrenovac with new Sava bridge | SER | 210 | Construction works are ongoing. | NA | No need for co-financing | - | CCCC/CEXIM |
| 6b | Completion of Belgrade-South Adriatic motorway, construction of road section Obrenovac-Ub | SER | 251 | The project is considered fully completed. | NA | No need for co-financing | - | CEXIM |
| 6c | Completion of Belgrade-South Adriatic motorway, construction of road section Ub-Lajkovac | SER | 83 | The project is considered fully completed. | NA | No need for co-financing | - | - |

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for WBIF co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| 6d | Completion of Belgrade-South Adriatic motorway, construction of road section Lajkovac-Ljig | SER | 194 | The project is considered fully completed. | NA | No need for co-financing | - | CEXIM |
| 6e | Completion of Belgrade-South Adriatic motorway, construction of road section Ljig-Preljina | SER | 308 | The project is considered fully completed. | NA | No need for co-financing | - | Azerbaijan |
| 6f | Completion of Belgrade-South Adriatic motorway, construction of road section Preljina-Pozega | SER | 450 | Construction works are ongoing. | NA | No need for co-financing | - | CCCC/CEXIM |
| 7 | Completion of Pozega-Boljare (border with Montenegro) road section | SER | 1,885 | PFS completed; Spatial planning documents are ongoing | NA | De facto not mature | NA | CCCC / CEXIM |
| 8a | Construction of Nis-Merdare E-80 highway, Sector Nis-Plocnik | SER | 255 | PFS, FS, PD, Spatial Planning documents are completed; ESIA, Land property issues, DD are ongoing | WB10-SER-TRA-02, WB13-SER-TRA-01, WB18-SRB-TR-01, WB-IG03-SRB-TRA-01 | No need for co-financing | - | EIB/EU/EBRD |
| 8b | Construction of Nis-Merdare E-80 highway, Sector Plocnik-Merdare | SER | 820 | PFS is completed; FS, PD, ESIA, Spatial Planning documents are ongoing | WB10-SER-TRA-02, WB15-SRB-TRA-01, WB18-SRB-TRA-01 | De facto not mature | NA | EIB |
| 9 | Completion of Route 4: Bar-Boljare Highway, section Andrijevica-Boljare | MNE | 731 | PFS and Spatial planning documents are completed; FS is ongoing | WB18-MNE-TRA-02 | De facto not mature | NA | EBRD |
| 10 | Completion of Route 4, Bar-Boljare Highway, section Matesevo-Andrijevica | MNE | 295 | PFS and Spatial planning documents are completed; FS, PD and ESIA are ongoing | WB17-MNE-TRA-02, WB18-MNE-TRA-02 | De facto not mature | 2021[10] | EBRD |
| 11 | Completion of Route 4: Bar-Boljare Highway, section Matesevo-Podgorica (Smokovac) | MNE | 905 | The project is considered fully prepared and no further preparation activities are envisaged; Construction works are ongoing. | NA | No need for co-financing | - | CEXIM |
| 12 | Completion of Route 4: Bar-Boljare Highway, construction of | MNE | 233 | PFS and Spatial planning documents are completed; FS, PD and ESIA are ongoing | WB17-MNE-TRA-03, WB18-MNE-TRA-02 | De facto not mature | NA | EBRD |

[10] Grant application already submitted under INV04 but has been put on hold because project is considered de facto not mature.

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for WBIF co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| | Podgorica bypass (Capital-Smokovac-Farmaci) | | | | | | | |
| 13 | Completion of Route 4: Bar-Boljare Highway, section Djurmani – Farmaci | MNE | 441 | PFS and Spatial planning documents are completed; FS and land property issues are ongoing | WB18-MNE-TRA-02 | De facto not mature | NA | EBRD |
| 14 | Construction of road section Skopje – Kosovo border (IC Stenkovec-IC Blace) | MKD | 118 | PFS, FS are completed; PD, ESIA, Spatial planning documents, DD, TD are ongoing | WB9-MKD-TRA-01, WB18-MKD-TRA-01, WB-IG04-MKD-TRA-02 | No need for co-financing | - | EBRD |
| 15 | Reconstruction of road section between Demir Kapija and Udovo | MKD | NA | The project is considered fully completed. | NA | No need for co-financing | - | EIB/EU/EBRD |
| 16 | Rehabilitation of road section between Kumanovo and Miladinovci in MKD | MKD | NA | The project is considered fully completed. | NA | No need for co-financing | - | EU |
| 17a | Rehabilitation of road section from Kumanovo to Rankovce | MKD | 9 | NA | NA | Presumed not mature | NA | EU |
| 17b | Reconstruction of road section from Rankovce to Kriva Palanka | MKD | 59 | The project is considered fully prepared and no further preparation activities are envisaged; Construction works are ongoing. | NA | No need for co-financing | - | WB |
| 17c | Reconstruction of road section from Kriva Palanka to Deve Bair | MKD | 13 | FS, PD, ESIA, Land property issues, DD, TD, Construction and other permits are completed | WB-IG03-MKD-TRA-02 | No need for co-financing | - | EBRD/EU |
| 18 | Construction of road section Pristina – Border with North Macedonia | KOS | 660 | The project is considered fully completed. | NA | No need for co-financing | - | - |
| 19 (§2.2.1) | Construction of road section Pristina-Merdare | KOS | 209 | PFS, FS, PD and ESIA are completed | WB11-KOS-TRA-02, WB19-KOS-TRA-01 | Presumed mature | 2021 | EBRD/EU/EIB |
| **Subtotal (excl. projects with no co-financing needs)** | | | **4,623** | | | | | |

Key: PFS – Prefeasibility Study (& Conceptual Design)
PD - Preliminary Design
DD - Detail Design
NA – Not available
FS - Feasibility Study
ESIA - Environmental and Social Impact Assessment
TD - Tender documentation

The total investment cost for the identified road projects, excluding the ones for which financing is secured, is estimated to be approximately €4.62 billion. A more detailed analysis of the high maturity projects is presented in Section 2.2, while detailed information for all identified projects can be found in the Appendix, where all Project Fiches are presented.

### 2.1.2 Mediterranean (MED) TENT-T Core Network Corridor

For the Mediterranean Corridor, the main infrastructural limitations appear on Corridor Vc in Bosnia-Herzegovina, as well as the coastal road sections along Montenegro and Albania, where the Adriatic-Ionian Highway (AIH) is planned. More specifically, **12 investments** in road infrastructure were identified for the MED Corridor, 7 of which have been split into distinct sub-projects, yielding a total number of **33 (sub)projects**. It should be noted that, compared to the 2016 study, the Corridor has been divided into considerably more sub-projects, especially for road investments along the Adriatic-Ionian Highway in the Montenegrin and Albanian territory.

Compared to the previous study, one more project has been identified: the cross-border interconnection Banja Luka-Gradiska including the border bridge over the Sava River between Bosnia and Herzegovina and Croatia, which is under construction.

All projects are listed in the following table. Again, the indicative year of when a project may be eligible for co-financing is based on information collected from the beneficiaries by the WB6 Country Managers and the assumption that project preparation activities will have been completed as planned without significant delays[11], even in a few cases of currently non-mature projects. The possible IFIs and/or other donors supporting the project are also presented in the table, for cases where this information is available.

[11] In this case, the estimated year is set in italic font.

**Table 2.3 Investment Projects on MED Corridor – Road Network**

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for WBIF co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| 1 | Construction of motorway section Odzak-Svilaj, border crossing and cross-border bridge Svilaj over Sava River | BIH | 104 | The project is considered fully prepared and no further preparation activities are envisaged. Construction works are ongoing. | WB-IG00-BIH-TRA-01, WB17-BIH-TRA-04 | No need for co-financing | - | EIB/EU/EBRD |
| 2a (§2.2.2) | Construction of motorway section Odzak-Vukosavlje-Podnovlje and Podnovlje-Johovac | BIH | 295 | PFS, FS, PD, ESIA, Spatial Planning are completed. | | Presumed mature | 2020 | EIB/EU/ optional PPP[12] |
| 2b | Construction of motorway section Johovac-Rudanka | BIH | 64 | The project is considered fully prepared and no further preparation activities are envisaged. Construction works are ongoing | WB-IG01-BIH-TRA-03 | No need for co-financing | - | EBRD/EU |
| 2c | Construction of motorway section Rudanka-Doboj South | BIH | 157 | PFS, FS, PD, ESIA, Spatial Planning and TD are completed; Land property issues are ongoing | WB-IG04-BIH-TRA-06 | No need for co-financing | - | EBRD/EU |
| 3 | Construction of motorway section Doboj South – Žepče South | BIH | 405 | PFS, FS, PD, ESIA, Spatial Planning are completed; DD, Land property issues, TD, Construction and other permits are ongoing | WB-IG04-BIH-TRA-01 | No need for co-financing[13] | 2020 | EBRD/EU |
| 4a | Construction of motorway section Žepče South-Zenica North, subsection Zepce South-Poprikuse-Nemila | BIH | 215 | PFS, FS, PD, ESIA, Spatial Planning & TD are completed; Land property issues are ongoing | WB-IG04-BIH-TRA-02 | No need for co-financing | - | EBRD/EU/EIB |
| 4b | Construction of motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Nemila-Vranduk | BIH | 36 | PFS, FS, PD, ESIA, Spatial Planning, DD, TD, Construction and other permits are completed; Land property issues are ongoing | | No need for co-financing | - | KFAED |

[11] If the financing option (negotiations) with EIB doesn`t progress, backup option is to reconsider concession model with consortia led by Sinochem Capital Ltd.

[13] Grant application submitted in WBIF INV R05 but might not be approved in 2020 due to low maturity (to be re-submitted in R06).

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for WBIF co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| 4c | Construction of motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Vranduk-Ponirak | BIH | 77 | The project is considered fully prepared and no further preparation activities are envisaged; Land property issues & construction works are ongoing | | No need for co-financing | - | OFID |
| 4d | Construction of motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Ponirak-Vraca | BIH | 83 | PFS, FS, PD, ESIA, Spatial Planning, DD, TD are completed; Land property issues, Construction and other permits are ongoing | WB-IG01-BiH-TRA01a | No need for co-financing | - | EIB/EU |
| 4e | Construction of motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Vraca-Zenica North | BIH | 60 | PFS, FS, PD, ESIA, Spatial Planning, Land property issues, TD are completed; DD is ongoing | WB-IG01-BiH-TRA-01b | No need for co-financing | - | EBRD/EU |
| 5a | Completion of motorway section Tarcin-Konjic, subsection Tarcin-Tunnel Ivan | BIH | 101 | PFS, FS, PD, ESIA, Spatial Planning, TD, Construction and other permits are completed; Land property issues and DD are ongoing | WB-IG02-BiH-TRA-06, WB-IG02-BIH-TRA-07 | No need for co-financing | - | EBRD/EU/EIB |
| 5b (§2.2.3) | Completion of motorway section Tarcin-Konjic, subsection Tunnel Ivan-Ovcari | BIH | 261 | PFS and Spatial Planning are completed. FS, PD, ESIA, DD are ongoing[14] | WB18-BIH-TRA-02 | Presumed mature | 2021 | EBRD |
| 5c (§2.2.3) | Completion of motorway section Tarcin-Konjic, subsection Ovcari-Konjic | BIH | 132 | PFS, FS, PD, Spatial Planning are completed; ESIA, DD are ongoing[13] | | Presumed mature | 2021 | NA |
| 6a (§2.2.4) | Construction of motorway section Konjic (IC Ovčari) – Mostar North | BIH | 365 | PFS, FS, PD, ESIA and Spatial planning are completed | WB18-BIH-TRA-01, WB20-BiH-TRA-02 | Presumed mature | 2022 | EBRD/ EIB |
| 6b (§2.2.4) | Construction of motorway section Konjic (IC Ovčari) – Mostar North, Prenj Tunnel | BIH | 280 | PFS, FS, PD, ESIA and Spatial planning are completed | | Presumed mature | 2020 | EBRD/ EIB |

[14] The subsection Tunnel Ivan-Konjic is subject to further optimisation and due to the revised PD, the FS is to be updated again before preparation of the new EIA/ESIA and DD.

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for WBIF co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| 7a (§2.2.5) | Completion of motorway section Mostar North- Mostar South | BIH | 284 | PFS, FS, PD, Spatial Planning are completed; ESIA and DD are ongoing | | Presumed mature | *2024* | EBRD[15] |
| 7b (§2.2.5) | Completion of motorway section Mostar South-Kvanj Tunnel | BIH | 72 | PFS, FS, PD, Spatial Planning, TD are completed; ESIA and Land property issues are ongoing | | Presumed mature | 2020 | EBRD |
| 7c | Completion of motorway section Kvanj Tunnel-Buna | BIH | 105 | PFS, FS, PD, ESIA, Spatial Planning, TD are completed; Land property issues are ongoing | WB-IG04-BIH-TRA-05 | No need for co-financing | - | EIB |
| 7d | Completion of motorway section Buna-Počitelj | BIH | 23 | The project is considered fully prepared and no further preparation activities are envisaged; Construction works are ongoing | WB-IG03-BiH-TRA-06 | No need for co-financing | - | EBRD/EU |
| 8 | Completion of motorway section Počitelj-Zvirovici | BIH | 90 | The project is considered fully prepared and no further preparation activities are envisaged. | WB19-BIH-TRA-01 | No need for co-financing | - | EIB |
| 9 | Bosnia and Herzegovina – Croatia R2a Road Interconnection Banja Luka-Gradiska and the Sava border bridge | BIH | 34 | The project is considered fully prepared and no further preparation activities are envisaged. Construction works are ongoing. | WB-IG00-BIH-TRA-02 | No need for co-financing | - | EIB/EU |
| 10a | Construction of AIH, Section Border with Croatia (Debeli Brijeg)-Bijela, *Herceg Novi Bypass* | MNE | 305 | PFS, FS are ongoing | WB14-REG-TRA-01 | De facto not mature | NA | EBRD |
| 10b | Construction of AIH, Verige (Boka Bay) Bridge | MNE | 228 | PD, DD are completed; PFS, FS are ongoing. | WB14-REG-TRA-01 | Presumed mature | NA[16] | NA |

[15] Along with ongoing negotiations with BiH commercial banks (lending consortium).
[16] Despite the maturity level, there are many risks related to this project, mainly due to the fact that the bridge is located within the buffer zone of an UNESCO World heritage site (Natural and Cultural-Historical Region of Kotor). There are ongoing consultations between UNESCO and the Government of Montenegro since 2008 regarding this specific project, however an agreement is yet to be reached. That is why there can be no estimation about its eligibility for co-financing.

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for WBIF co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| 10c (§2.2.6) | Construction of AIH, Section *Tivat Bypass* | MNE | 96 | PD, DD are completed; PFS, FS are ongoing | WB14-REG-TRA-01 | Presumed mature | *2022* | EBRD |
| 10d (§2.2.6) | Construction of AIH, Section *Budva Bypass* | MNE | 241 | PFS, FS, PD are completed; ESIA, DD, TD are ongoing | WB10-MNE-TRA-02, WB18-MNE-TRA-01, WB19-MNE-TRA-01, WB-IG03-MNE-TRA-01, WB14-REG-TRA-01 | Presumed mature | *2022*[17] | KfW |
| 10e | Construction of AIH, Section Budva Bypass-Sozina | MNE | 272 | PFS, FS are ongoing | WB14-REG-TRA-01 | De facto not mature | NA | EBRD |
| 10f (§2.2.6) | Construction of AIH, Section Sozina-Stari Bar, *Bar Bypass* | MNE | 241 | PD is completed; PFS, FS are ongoing | WB14-REG-TRA-01 | Presumed mature | *2024* | EBRD |
| 10g | Construction of AIH, Section Stari Bar-border with Albania | MNE | 113 | PFS, FS are ongoing | WB14-REG-TRA-01 | De facto not mature | NA | EBRD |
| 11a | Construction of AIH, Section Murriqan-Lezhe (Balldre) | ALB | 193 | PFS, FS are ongoing | WB14-REG-TRA-01 | De facto not mature | NA | EBRD |
| 11b (§2.2.7) | Construction of AIH, Section Lezhe (Balldre)-Milot | ALB | 162 | PD, TD are completed; PFS, FS are ongoing | WB14-REG-TRA-01 | Presumed mature[18] | *2020* | PPP options/ EBRD |
| 11c | Construction of AIH, Section Milot-Thumane | ALB | 40 | PFS, FS are ongoing | WB14-REG-TRA-01 | De facto not mature | NA | PPP options/ EBRD |
| 11d (§2.2.7) | Construction of AIH, Upgrade of Thumane-Vore-Kashar | ALB | 141 | PFS, PD, DD are completed; FS is ongoing | WB14-REG-TRA-01 | Presumed mature | *2020* | PPP options/ EBRD |
| 11e | Construction of AIH, Sections Kashar-Lekaj and Lekaj-Konjat | ALB | 521 | PFS, FS are ongoing | WB14-REG-TRA-01 | De facto not mature | NA | PPP options/ EBRD |
| 11f | Construction of AIH, Sections Konjat-Lushnje and Lushnje-Fier (Bypass) | ALB | 105 | PFS, FS are ongoing | WB14-REG-TRA-01 | De facto not mature | NA | EBRD |
| 11g | Construction of AIH, Section Fier Bypass | ALB | 41 | PD, ESIA, Spatial Planning, DD, Land property issues, TD, Construction & other permits are | WB14-REG-TRA-01 | No need for co-financing | - | EBRD/EIB/ Italy |

[17] WBIF investment grant would finance the northern and southern sections of Budva Bypass (app. 17km); the implementation of the middle section (13km) has already been supported through the WB-IG03-MNE-TRA-01 investment grant.
[18] A PPP contract is currently under negotiation by GoA; provided that the PPP scheme is finalised and officially adopted, the project would not require further (co)financing.

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for WBIF co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| | | | | completed; PFS, FS & Construction works are ongoing | | | | |
| 11h | Construction of AIH, Sections Fier bypass Levan-Pocem and Pocem-Memaliaj | ALB | 625 | PFS, FS are ongoing | WB14-REG-TRA-01 | De facto not mature | NA | EBRD |
| 11i | Construction of AIH, Sections Memaliaj - Subashi Bridge and Subashi Bridge- Gjirokaster Bypass | ALB | 293 | PFS, FS are ongoing | WB14-REG-TRA-01 | De facto not mature | NA | EBRD |
| 11j | Construction of AIH, Gjirokaster Bypass | ALB | 59 | PD is completed; PFS, FS are ongoing | WB14-REG-TRA-01 | Presumed mature[19] | NA | EBRD |
| 11k | Construction of AIH, Section Gjirokaster bypass-Kakavije | ALB | 115 | PFS, FS are ongoing | WB14-REG-TRA-01 | De facto not mature | NA | EBRD |
| 12 (§2.2.8) | Construction of Tirana bypass (Kashar-Vaqarr-Mullet) | ALB | 146 | FS, PD, ESIA are completed; Spatial Planning, Land property issues, DD are ongoing | WB7-ALB-TRA-12, WB16-ALB-TRA-02 | Presumed mature | 2020 | EBRD |
| **Subtotal (excl. projects with no co-financing needs)** | | | **5,990** | | | | | |

Key: PFS – Prefeasibility Study (& Conceptual Design)
FS - Feasibility Study
PD - Preliminary Design
ESIA - Environmental and Social Impact Assessment
DD - Detail Design
TD - Tender documentation

[19] The existing PD will have to be updated, but there is no indicative timeline for further project preparation and implementation actions.

It is noted in particular that the Adriatic-Ionian Highway (AIH) project is in preparatory stage and the Feasibility Study for the entire highway is part of the ongoing WBIF – IPF project WB14-REG-TRA-01. The investment costs for each subsection have been estimated as part of the Conceptual Design for this study, which however is still under elaboration. Nonetheless, several parts along the highway have been separately examined under previous studies and have different maturity levels, as seen in the above table. These sections are the Thumane-Vore-Kashar road section, the Fier Bypass and the Tirana Bypass, all of which will eventually be part of the AIH and the work that has already been undertaken for these sections consists of significant input for the entire highway's planning process.

The total investment cost for the identified road projects, excluding the ones for which financing is secured, is estimated to be approximately €5.84 billion. A more detailed analysis of the high maturity projects is presented in the next section, while detailed information for all identified projects can be found in the Appendix, where all Project Fiches are presented.

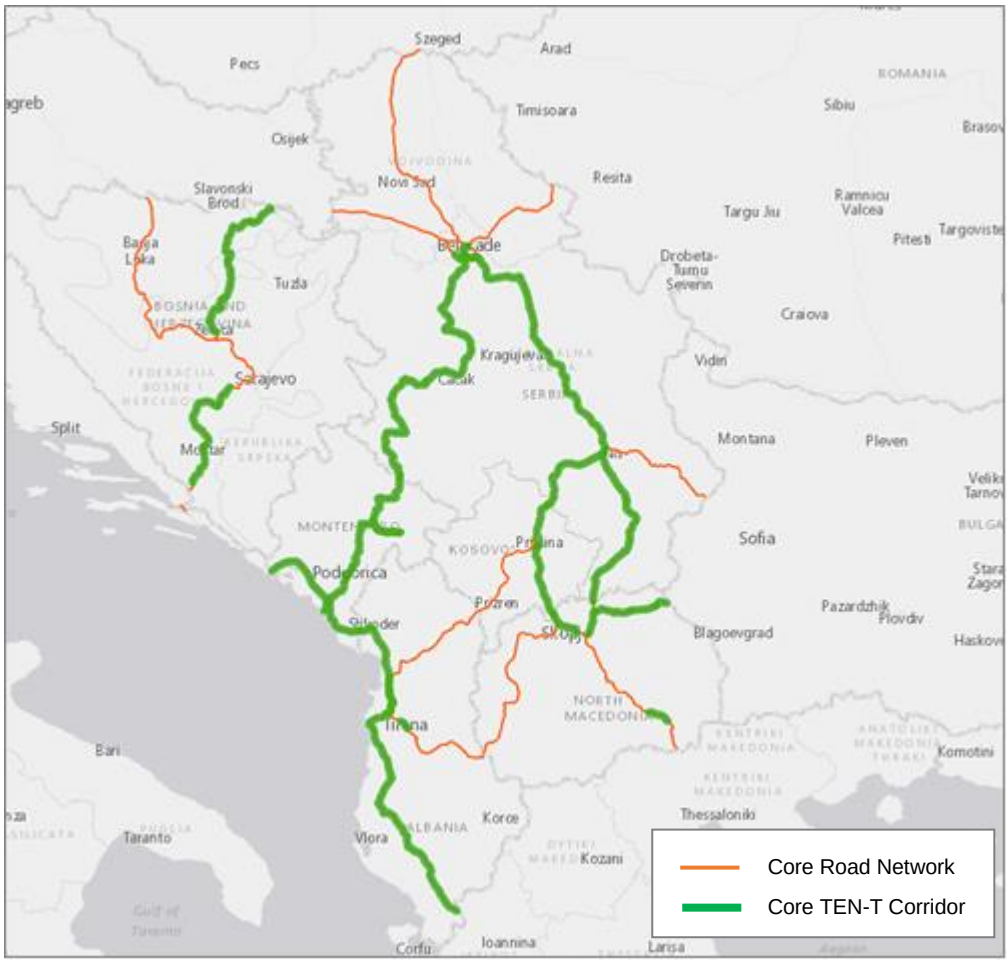
It should be noted again that the assumption made with respect to the definition of maturity level is that projects on which construction is likely to start by 2024 are considered high maturity projects.

## 2.2 Assessment of projects

For both OEM and MED Corridors, 31 projects were identified in total (see map below). It is again noted that five of the projects along the Orient/ East-Med Corridor which were identified during the 2016 gap analysis are now considered fully implemented (i.e. Reconstruction of road section between Grdelica and Presevo in Serbia; Completion of Belgrade-South Adriatic motorway: construction of road sections Obrenovac-Ub, Ub-Lajkovac, Lajkovac-Ljig, Ljig-Preljina[20]; Reconstruction of road section between Demir Kapija and Udovo in North Macedonia; Rehabilitation of road section between Kumanovo and Miladinovci in North Macedonia; and Construction of road section Pristina-Border with North Macedonia in Kosovo).

[20] The first section Surcin-Obrenovac and the last section Preljina-Pozega are still under construction.

**Figure 2.3 Identified Road projects**




Based on the analysis undertaken during the Study Phase, in close collaboration with all involved Beneficiaries and Stakeholders, 8 out of these 31 road projects that were analysed, were indicated as "de facto/ presumed mature" and most likely to commence works before 2024 based on their current status.

A brief overview of these projects is presented as follows, indicating the sections (sub-projects) that are considered most mature for financing and implementation actions.

### 2.2.1 Construction of road section Pristina-Merdare (OEM 19)

**Type:** Road project

**From/To:** Pristina (Besi) to Merdare

**Core Corridor:** OEM

**Country:** Kosovo

**Costs:** €209 million


**Progress since 2016 connectivity study:**

Project preparation activities (PFS, FS, PD & ESIA) are now completed, pending approval by EBRD.

**Status:**

The traffic model, the conceptual design and feasibility study (incl. CBA as per EC standards) were prepared in 2016. Preliminary design (compliant with the EU standard) and ESIA (as per EBRD Environmental and Social Policy 2014 and Performance Requirements) were prepared under the same assignment (WB11-KOS-TA-02) in 2018 and the FS was updated (with CBA as per EU Guide to CBA). ESIA pending finalisation and endorsement in 2019. The preparation of tender dossier (Yellow FIDIC conditions) and supervision of works service is secured through another WBIF grant (WB19-KOS-TRA-01, €4.2 m). The Draft Implementation Plan has been prepared but requires update according to financing decisions.

**Benefits:**

The construction of a new motorway between Pristina to Nis through the administrative crossing point Merdare is expected to reduce significantly travel times, increase level of service (LOS) and road safety and enhance regional transport activities (Albania to Serbia through Kosovo), both passenger and freight. With the implementation of this section, Route 7 will be finalized and the section exit Pristina South – exit Pristina North will be fully functional.

**Financing:**

Initial considerations included €100 million sovereign loan from EBRD, further €20 million of EU grant co-financing and €30 million own contribution. However, following completion of PD and BoQs in 2018, the Beneficiary is negotiating with both EBRD and EIB for loan financing in indicative amounts of 31 M€ each, while EU INV grant would be of value M€26.4 (previous application was on hold and the new one has been submitted for Round 05 in 2019).

**Risks:**

Main risks for this section are related to a potential financing gap (in particular for the part Podujeve-Merdare), high environmental impacts and not secured financing options.

**Expected development:**

The project documentation is complete and a Yellow FIDIC tender procedure could commence once the financing of the project is secured (possible eligibility for WBIF investment grant in 2021).

### 2.2.2 Construction of motorway section Odzak (Svilaj)-Vukosavlje-Podnovlje and Podnovlje-Johovac (MED 2a)

**Type:** Road project

**From/To:** Odzak to Johovac

**Core Corridor:** MED

**Country:** Bosnia and Herzegovina

**Costs:** €295 million

**Progress since 2016 connectivity study:**

Most project preparation activities are completed; land property issues are ongoing.


**Status:**

The PD for the entire route of Corridor Vc was made end-2006 together with the FS that was completed in December 2006 and the EIA's for the different sections (last was approved in 2014).

**Benefits:**

The benefits of the project are summarised below:

- Improved Connectivity: The project is part of Corridor Vc that will improve regional, national and international connectivity in WB6, and links with neighbouring countries to the north and south.
- Economic Development: Improved connectivity provided by the motorway network will facilitate the exchange of goods and services along the Corridor and increase access to tourism centres and industrial areas in BiH. This will encourage creation of jobs in the fields of tourism, manufacturing, supply and services, which will have a knock-on positive benefit to the regional economy.
- Improved LOS and Reduced Congestion: The removal of some through traffic from the local road network will reduce congestion in the towns and built up areas, which will alleviate air pollution and noise generated from through traffic. It should also reduce the numbers of accidents on local roads, caused by through traffic. This all should reduce the cost of transport in the area.
- Short-term Local Employment During Construction: The Project will provide short-term opportunities for local employment during the construction period.

**Financing:**

In past, these sections were considered for PPP financing model (availability payments backed with sovereign loan from the RS Government - with EBRD's preliminary support). On 24/09/2018 the Beneficiary signed a non-binding Protocol with consortia of Chinese companies led by Sinochem Capital Co. Ltd for concession on sections Johovac-Podnovlje-Vukosavlje and further Vukosavlje-Brcko. In any case, implementation of these sections will be under Phase IV and III of the motorway CVc implementation in RS entity and also is being considered to be financed with EIB loans support. If later developments get to successful negotiations, intention is to apply for EU (WBIF INV) grant financing to complement national budget contribution. However, negotiations with Chinese partners on alternative financing models are still open.

**Risks:**

Potential failure in PPP negotiations and/or delays in IFI loan support.

**Expected development:**

A grant application for the entire section could be expected in the next IG round (R06 2020), while construction works are expected to start in 2021.

### 2.2.3 Completion of motorway section Tarcin-Konjic, subsections Tunnel Ivan-Ovcari and Ovcari-Konjic (MED 5b & 5c)

**Type:** Road project

**From/To:** Tunnel Ivan to Konjic

**Core Corridor:** MED

**Country:** Bosnia and Herzegovina

**Costs:** €393 million


**Progress since 2016 connectivity study:**

Initial feasibility study and spatial planning are completed; Detailed Design and ESIA are ongoing for both subsections.

**Status:**

Both subsections Zukici (Tunnel Ivan)-Ovcari and Ovcari-Konjic are subject to further optimisation and the preliminary design made had to be updated. Therefore, in this process, the feasibility study is to be updated again (as per the EC guidelines for CBA) before preparation of the new EIA/ESIA and detail design.

For subsection Tunnel Ivan-Ovcari, the updated FS, ESIA and Detailed Design are to be prepared through WB18-BIH-TRA-02.

For subsection Ovcari-Konjic, the updated Traffic Study, with EIA and Feasibility Study were completed in 2017.

**Benefits:**

The construction of a new motorway between Tarcin and Konjic is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/ Croatia and Bosnia and Herzegovina), both passenger and freight.

**Financing:**

A concession was tentatively considered for the entire section Tarcin-IC Ovcari beyond 2020. However, all financing options are under consideration and no arrangement has been concluded.

**Risks:**

Financing not secured for the entire section; Lack of interest of potential concessionaires.

**Expected development:**

A grant application for these subsections can be expected in the next IG rounds, once all project documentation is finalised (possibly in 2021).

### 2.2.4 Completion of motorway section Konjic (IC Ovčari) – Mostar North and Prenj Tunnel (MED 6a & 6b)

**Type:** Road project

**From/To:** Konjic to Mostar North

**Core Corridor:** MED

**Country:** Bosnia and Herzegovina

**Costs:** €645 million


**Progress since 2016 connectivity study:**

Most project preparation activities are completed; land property issues are ongoing.

**Status:**

The prefeasibility study with conceptual design was prepared in 2005 (for entire corridor). The PD was updated in Q1 2016, the initial FS supporting design was made in December 2006, followed by an updated feasibility study (incl. CBA), EIA/ESIA as well as valid spatial planning documents. However, as the alignment was significantly modified (tunnel through Prenj mountain), before issuing a permit, it had to be included and approved in the Spatial Plan of FBiH. The Beneficiary aimed to tender the subsection Konjic- Prenj Tunnel through Yellow FIDIC (Design and Build). However, this may be the case now only for Prenj Tunnel.

The WBIF TA approved (WB18-BiH-TRA-01, 3.036 M€) for preparation of DD and TD for subsection Konjic (IC Ovcari)- Prenj Tunnel entrance. For the subsection south of Prenj Tunnel exit to IC Mostar North, another WBIF TA grant is approved (WB20-BiH-TRA-02, 3.89 M€) for preparation of DD and land acquisition plan.

It is estimated that Detailed Design for Prenj Tunnel will require some 30 months to completion, once contracted. Land acquisition plan is an integral part of the DD.

**Benefits:**

The construction of a new motorway between Konjic and Mostar North is expected to reduce significantly travel times (40%), increase LOS and road safety (60% reduced accident rate) and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight.

**Financing:**

The Government of FBiH considered PPP and BOT (Build-Operate-Transfer) financing model for construction of this section. Also, expectations were (at the time) that the development EXIM bank might be interested to finance (for loan amount of €240 million). The Beneficiary negotiated with OPEC and EBRD for financing the subsection/LOT from interchange Ovcari near Konjic to Mostar (up to the Prenj Tunnel entrance). According to the MoU signed in London (February 2018) all motorway sections from Konjic to Pocitelj will be financed by EBRD. Financing plan previously considered that part from Ovcari IC to Prenj Tunnel entrance and the Prenj Tunnel itself may be implemented following Yellow FIDIC conditions. However, with the two WBIF TAs for preparation of DD and TD (11.5 km from IC Ovcari to Prenj Tunnel entrance and 13 km from Prenj Tunnel exit (Salakovac) to Mostar North), once mature, these will be tendered following FIDIC Red conditions. The loan amounts for subsection IC Ovcari-Prenj Tunnel entrance are €66 million (EBRD) and €66.5 million (EIB) with total investment estimated to €181.6 million. For the Prenj Tunnel exit-Mostar North subsection, the EBRD loan will

amount to €150 million (€183.5 million total investment estimated). Beneficiary aims to apply for WBIF INV grants for construction of the subsections, once these implementation parts are sufficiently mature.

The largest single investment/structure LOT on the entire CVc relates to Prenj Tunnel (in FBiH Public Investments Programme (PIP) 2019-2021 it is estimated to be approx. €280 million). Although EXIM bank was considered as potential lender in 2017/2018, negotiations are ongoing in 2019 with EBRD and EIB for potentially securing loans for Prenj Tunnel construction (held back-to-back with negotiations for financing section IC Ovcari-Mostar North and Prenj Tunnel, for total loan financing of up to 600M€).

**Risks:**

Issues with Design and Build contract due to complex construction.

**Expected development:**

For the sections before and after Prenj Tunnel the DD is in progress, while a grant application for construction of Prenj Tunnel has been submitted (tendered as Yellow FIDIC). Application for subsections Konjic- Prenj Tunnel and Prenj Tunnel -Mostar North can be expected in the next IG rounds (possibly not before 2022).

### 2.2.5 Completion of motorway section Mostar North-Mostar South and Mostar South-Kvanj Tunnel (MED 7a & 7b)

**Type:** Road project

**From/To:** Mostar North to Kvanj Tunnel

**Core Corridor:** MED

**Country:** Bosnia and Herzegovina

**Costs:** €356 million


**Progress since 2016 connectivity study:**

Feasibility study, spatial planning and preliminary design are now completed; Detailed Design and ESIA is ongoing.

**Status:**

For Mostar North-Mostar South section, the Detailed Design is completed but needs to be elaborated again in order to align design solutions with the adopted Spatial Plan.

For the second subsection Mostar South IC-Kvanj Tunnel, the optimised Preliminary Design was finalised in 2018 and preliminary stage RSA completed in April 2019. Feasibility study was updated in 2018.

**Benefits:**

The project will substantially shorten the travel distance along the North-South axis between the City of Sarajevo and Počitelj settlement (Čapljina municipality) and is thus expected to generate substantial benefits in terms of time savings, reduced accident rates, savings in vehicle operating costs and reduction of local pollution in the area. The project will also increase accessibility and promote regional and local economic development by increasing the traffic flows and connect the existing state road M17 with Corridor Vc.

**Financing:**

For the first section, the Beneficiary is in negotiations with four commercial banks present in BiH and with EBRD support for securing loan financing in total amount of €240 million. Total amount planned within FBiH PIP 2019-2021 is €284.3 m. The aim of the Beneficiary is to set loan terms similar to those provided by EBRD, with 4-year grace and 10-year payment period.

The subsection Mostar South IC-Kvanj Tunnel is included in FBiH PIP 2019-2021 (for total amount of €90 m, of which loan financing €60 million). Negotiations with EBRD for loan financing held in Q3 2015-Q1 2018 with MoU signed in February 2018. The (framework) loan was signed with EBRD on 12/09/2018 (out of which €60 million for this section). The Beneficiary applied for EU (WBIF INV) grant co-financing, however the application was not endorsed in 2019 (lower maturity stage and priority).

**Risks:**

Issues with land acquisition and protests of local community regarding realigning of the motorway.

**Expected development:**

For Mostar North-Mostar South section, there is still no financing structure (loan and IFI are still open), so the perspective grant for this subsection may come in later rounds (estimated for 2024). For the subsection Mostar South IC-Kvanj Tunnel, a grant application has been submitted within IG05, so it should be eligible for co-financing by 2020.

### 2.2.6 Construction of Adriatic Ionian Highway in Montenegro, Sections Tivat Bypass (MED 10c), Budva Bypass (MED 10d) and Bar Bypass (MED 10f)

**Sub-project:** **MED 10c - Construction of AIH, Section Tivat Bypass**

**Type:** Road project

**From/To:** Verige Bridge (Lepetani) to Kotor IC (Bratesici)

**Core Corridor:** MED

**Country:** Montenegro

**Costs:** €96 million


**Progress since 2016 connectivity study:**

The Feasibility study for the entire AIH is ongoing, expected to be completed within 2020. PD and DD are completed for the sub-project of Tivat Bypass.

**Status:**

Besides the preliminary feasibility assessments that were made under the study "Montenegrin Coastal Bypasses Feasibility Study" (WB10-MNE-TRA-02), design solutions and preferred alignment option are confirmed through the FS and Conceptual Design that is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01).

The Preliminary Design for Tivat Bypass was prepared in period 2009-2011.

**Benefits:**

It is expected that the entire AIH project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the FS for the AIH, the economic indicators for this section are positive.

**Financing:**

The WBIF is supporting the sub-project through several TA grants, with a cumulative value of €5.1 million, which developed a feasibility study, environmental impact assessment and preliminary design for the first priority bypass identified during the inception phase after assessing Herceg Novi, Budva and Bar Bypasses.

**Risks:**

In this phase of the project preparation, main risks are related to timely project preparation and further potential delays related to issues with financing.

**Expected development:**

There is no indication for an investment grant application in the short-term since the project financing structure is still not defined. However, since the DD is already complete and the FS will finish in 2020 there is a possibility for Red FIDIC tender procedure in 2021 including an investment grant application.

**Sub-project:** **MED 10d - Construction of AIH, Section Budva Bypass**

**Type:** Road project

**From/To:** Kotor IC (Bratesici) to Petrovac IC (Vrijesno)

**Core Corridor:** MED

**Country:** Montenegro

**Costs:** €241 million


**Progress since 2016 connectivity study:**

The Feasibility study for the entire AIH is ongoing, expected to be completed within 2020. FS and PD for Budva Bypass are completed, but DD is ongoing, expected to be completed in Q3 2021. The tender procedure should be completed by the end of 2021 and the construction should start in Q1 2022.

**Status:**

Besides the preliminary feasibility assessments that were made under the study "Montenegrin Coastal Bypasses Feasibility Study" (WB10-MNE-TRA-02), design solutions and preferred alignment option are confirmed through the FS and Conceptual Design that is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01).

Completion of the Preliminary Design for Budva Bypass was done through CONNECTA (CONNECTA-TRA-INFR-MNE-PD-01) and detailed design is progressing through other TA grants approved (WB18-MNE-TRA-01 and WB19-MNE-TRA-01).

**Benefits:**

It is expected that the entire AIH project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the FS for the AIH, the economic indicators for this section are positive.

**Financing:**

The WBIF is supporting the sub-project through several TA grants, with a cumulative value of €5.1 million, which developed a feasibility study, environmental impact assessment and preliminary design for the first priority bypass identified during the inception phase after assessing Herceg Novi, Budva and Bar Bypasses. In December 2018, the WBIF also approved a €42 million investment grant (WB-IG03-MNE-TRA-01) to support the construction of Budva Bypass, specifically 8.5 km of new motorway, 4 km of access roads, as well as 2 interchanges.

**Risks:**

The main risks are related to the technical complexity of the project due to the challenging topography of the region, which might result into further delays in project preparation and implementation stages.

**Expected development:**

There is no indication for an additional investment grant application in the short-term since the project financing structure is still not defined. However, since the DD is expected to be ready in 2021, there is a possibility for tender procedure (Red FIDIC) to be finalised in 2022 in conjunction with an INV grant application.

**Sub-project:** **MED 10f - Construction of AIH, Section Bar Bypass**

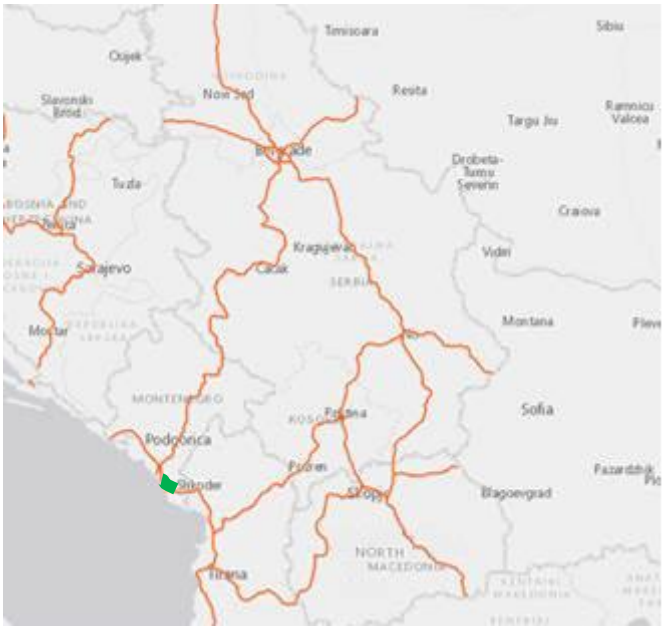
**Type:** Road project

**From/To:** Sozina IC (Djurmani) to Stari Bar IC

**Core Corridor:** MED

**Country:** Montenegro

**Costs:** €241 million




**Progress since 2016 connectivity study:**

The Feasibility study for the entire AIH is ongoing, expected to be completed within 2020.

**Status:**

Besides the preliminary feasibility assessments that were made under the study "Montenegrin Coastal Bypasses Feasibility Study" (WB10-MNE-TRA-02), design solutions and preferred alignment option are confirmed through the FS and Conceptual Design that is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01).

**Benefits:**

It is expected that the entire AIH project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the FS for the AIH, the economic indicators for this section are positive.

**Financing:**

The WBIF is supporting the latter sub-project through several TA grants, with a cumulative value of €5.1 million, which developed a feasibility study, environmental impact assessment and preliminary design for the first priority bypass identified during the inception phase after assessing Herceg Novi, Budva and Bar Bypasses.

**Risks:**

In this phase of the project preparation, main risks are related to timely project preparation and further potential delays related to issues with financing.

**Expected development:**

There is no indication for an investment grant application in the short-term since the project financing structure is still not defined. However, since the PD is completed and the FS will finish in 2020, the project may become eligible for a grant in the coming rounds (via Yellow FIDIC tender).

### 2.2.7 Construction of Adriatic Ionian Highway in Albania, Sections Lezhe (Balldre)-Milot (MED 11b) and Thumane-Kashar (MED 11d)

**Sub-project:** **MED 11b - Construction of AIH Section Lezhe (Balldre)-Milot**

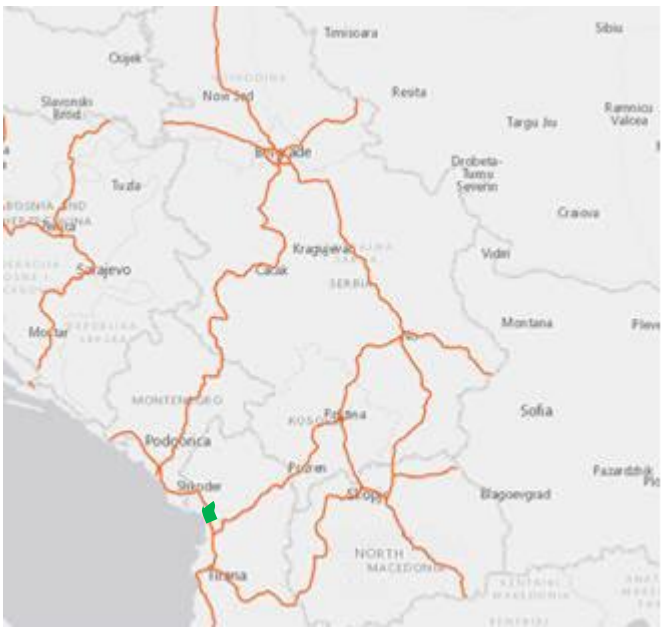
**Type:** Road project

**From/To:** Lezhe (Balldre) to Milot

**Core Corridor:** MED

**Country:** Albania

**Costs:** €162 million




**Progress since 2016 connectivity study:**

Preliminary Design has been completed, but the Feasibility Study for AIH is ongoing.

**Status:**

Conceptual Design with PFS is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01), which also includes FS with CBA and Preliminary ESIA for the entire AIH. However, the preliminary design for this section is completed (procured by a local potential investor under PPP scheme - open procedure). Following contracting with the private investor (PPP), detailed design can be prepared in Phase I and construction to follow in Phase II (Phase III is maintenance).

**Benefits:**

It is expected that the entire project of the Adriatic-Ionian Highway will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase levels of service and of road safety.

**Financing:**

The PPP tender is completed. The Albanian Parliament has approved the Law on the PPP contract (Design-Build-Maintain, 13 years period, availability annual payments up to €213.6 million) for Milot - Balldre road section on 18/07/2019 (back-to-back with the Amendments on the Law on Concessions

and PPPs). It is assumed that loan financing will be negotiated (the Government will provide guarantees).

**Risks:**

Although the PPP contract was approved by the GoA for this section in July 2019, the contract is not yet ratified and there is a potential risk for further delays.

**Expected development:**

Although a PPP scheme is considered for this motorway section, there is a possibility for delays or changes in the project structure. If the implementation proceeds without private partners, the project might be eligible for co-financing in the coming rounds (via Yellow FIDIC).

**Sub-project:** **MED 11d - Upgrade of AIH Section Thumane-Vore-Kashar**

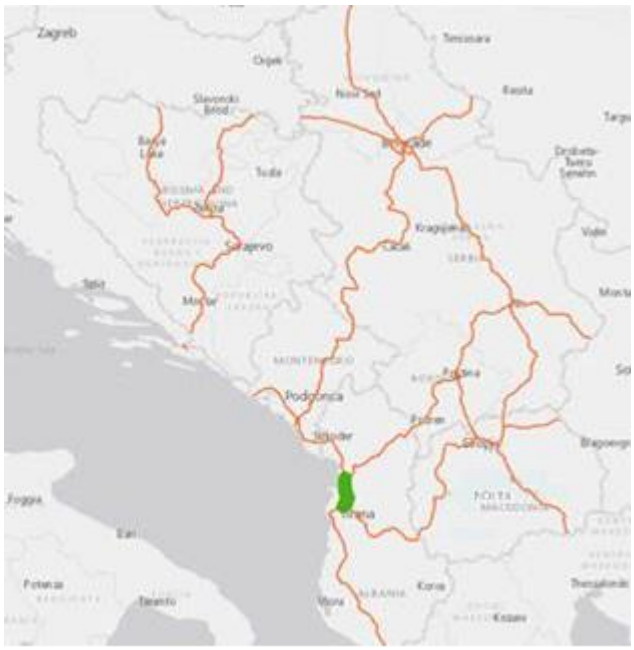
**Type:** Road project

**From/To:** Thumane to Kashar

**Core Corridor:** MED

**Country:** Albania

**Costs:** €141 million




**Progress since 2016 connectivity study:**

Detailed design has been completed, but Feasibility Study for AIH is ongoing (expected to be completed within 2020).

**Status:**

The PPP detail design is complete (and approved) and intention of the Government was to tender this section as PPP but this was not achieved. Feasibility study (incl. CBA) with Preliminary ESIA is being provided through WBIF TA (WB14-REG-TRA-01) for the entire AIH in Albania and Montenegro.

**Benefits:**

Albania has two main corridors: North-South (coincides mainly with Adriatic-Ionian Highway) and East-West Corridor, which are included in the transport strategies of Albanian Government. The section is also part of Durres–Morine highway which connects the Pan–European VIII corridor, part of the Western Balkans Core network, and is included in the National Transport Plan proposed by the GoA. It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase levels of service and of road safety. Based on the preliminary results of the AIH FS, the economic indicators for this section are positive.

**Financing:**

A PPP scheme was not supported by the GoA in 2019 due to budget reallocations. PPP models are however being re-assessed under the AIH FS.

**Risks:**

In this phase of the project preparation, the main risks are related to timely project preparation (not only in Albania) and further potential delays related to issues with securing financing. DD is complete and preliminary results of ongoing FS are positive, rendering thus the section higher in maturity levels compared to other sections of the AIH.

**Expected development:**

Despite the ongoing PPP assessments for this project, due to the completed DD and the soon to be finalised FS, this section is considered mature and may be eligible for co-financing in the short-term in case a PPP scheme is not endorsed.

### 2.2.8 Construction of Tirana bypass (Kashar-Vaqarr-Mullet section, part of Adriatic-Ionian Highway) (MED 12)

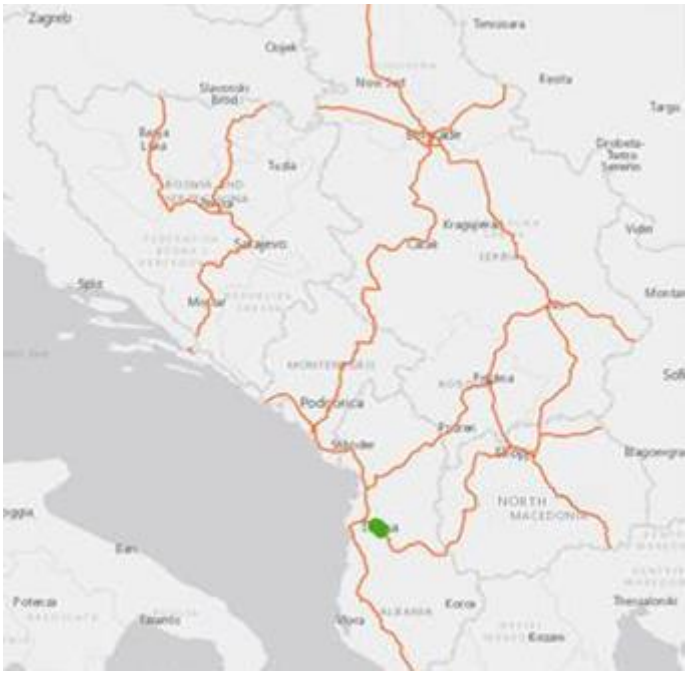
**Type:** Road project

**From/To:** Tirana Bypass

**Core Corridor:** MED

**Country:** Albania

**Costs:** €146 million



**Progress since 2016 connectivity study:**

Spatial Planning, Land property issues and Detail Design are still ongoing. DD is expected to be completed in Q3 2020, while works would not commence before Q1 2021.

**Status:**

Preparation of the feasibility study (incl. CBA), preliminary design and Preliminary ESIA (approved by EBRD) is funded through WBIF grant (WB7-ALB-TRA-12, €1 million). Preferred option of the bypass (21.581 km) was selected through the MCA and, together with the accompanying technical documentation, has been approved by the Beneficiary (Ministry of Infrastructure & Energy/ARA), EBRD and EUD in March 2014. Preparation of the Detail Design and ESIA package (incl. procurement plan and tender documents) is ongoing through WBIF TA support (WB16-ALB-TRA-01).

**Benefits:**

The main objective of the project is to reduce traffic congestion in the capital of Albania, which is presently caused by the transit traffic. It should be mentioned that there is a significant strategic dimension in the realization of this bypass. Tirana Bypass is part of the Tirana - Elbasan motorway, which complements the national West-East corridor (Durres - Tirana - Border with North Macedonia and Greece) allowing for enhanced regional passenger and freight transport flows.

**Financing:**

The Beneficiary aims to negotiate an EBRD sovereign loan indicatively in value of approx. €108 m and to apply for EU (WBIF INV) grant financing as the financial gap is significant. The WBIF INV application submitted in IG04 (2019) was not positively assessed. The Beneficiary has resubmitted an INV grant application to WBIF R05 (grant value approx. €31.952 million, of which €27.3 million for investment and €3.95 for TA).

**Risks:**

Financing is not secured yet; differences of standards and legislation in force in the EU from those in Albania; budget for DD potentially insufficient to cover field surveys.

**Expected development:**

Since the DD is expected to be finalised within 2020, there is a possibility for Red FIDIC tender procedure in the short-term, including eligibility for an investment grant in 2020.

## 2.3 Road projects summary

The table below summarizes the changes between the projects analysed in 2016 Connectivity study compared to the current update. For consistency purposes, all sub-projects are merged into the respective 2016 projects.

**Table 2.4 Evolution of road projects from 2016 to 2019**

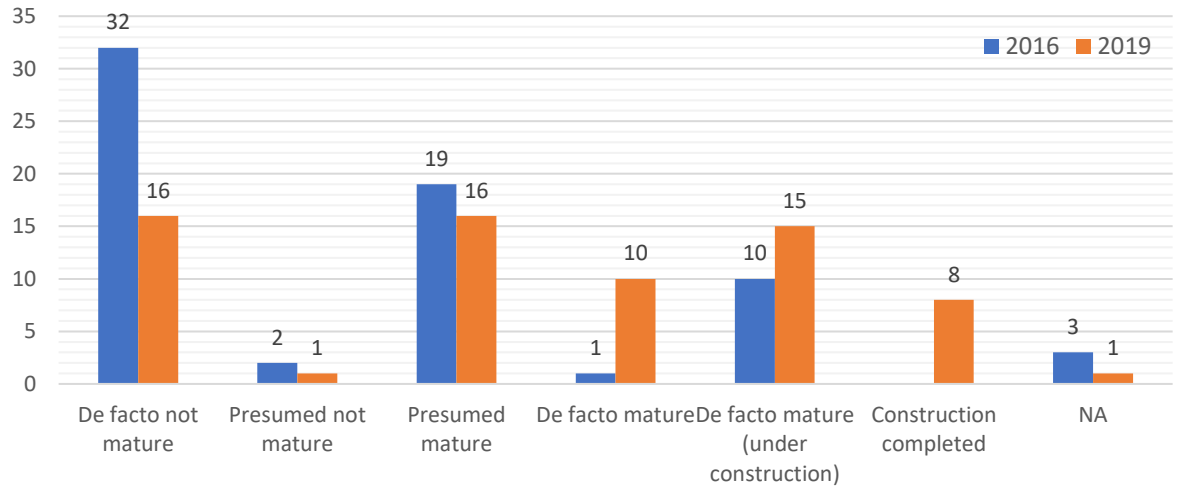
| | | ALB | BIH[21] | KOS | MKD | MNE | SER | Total |
|---|---|---|---|---|---|---|---|---|
| Number of projects | 2016 | 3 | 7 | 2 | 4 | 6 | 6 | **28** |
| | 2019 | 2 | 9 | 2 | 4 | 6 | 8 | **31** |
| Total investment (M€) | 2016 | 207 | 4,049 | 810 | 209 | 2,036 | 3,715 | **11,026** |
| | 2019 | 2,441[22] | 3,243 | 869 | 199 | 4,101[21] | 5,056[21] | **15,909** |

The conclusions to be drawn from the detailed review of the listed road projects are as follows:

- Overall the progress of road projects since the 2016 study has been significant with 30 sub-projects having secured (co)financing for implementation, 20 of which for the first time.
- For the rest of the cases, the overall level of project maturity is still low or medium (sub-projects are mostly in preparatory, pre-feasibility/ feasibility or design phases).
- The existing documentation mostly stems from studies developed via Technical Assistance programmes in the region.
- Due to the low maturity of several sub-projects, the remaining uncertainties are large, such as exact routing, feasibility of projects, future development plans, timing, costing, etc.

Taking into account the 2016 and 2019 connectivity road project lists, the evolution of the individual project maturity in 2016 and 2019 is assessed in the following figure and table. The columns "2016 Maturity Level" and "2019 Maturity Level") of Table 2-5 are based on the available information on the project maturity and proposed classification criteria of maturity level according to the adopted methodology described in Section 1.4. The last column provides an indication on the actual/ planned period of construction works, as per the available information and the estimated duration of current design activities for each de facto mature project.

**Figure 2.4 Comparison of road projects' maturity between 2016 and 2019**




[21] One project common with Croatia.
[22] Significant changes in total investment costs compared to 2016 are due to the fact that estimated costs were not available for all projects in the previous gap analysis.

**Table 2.5 Evolution of road projects' maturity from 2016 to 2019**

| # | Project name | 2016 Status | 2019 Status | 2016 Maturity Level | 2019 Maturity Level | Construction period[23] |
|---|---|---|---|---|---|---|
| | **OEM** | | | | | |
| 1 | Completion of Belgrade bypass, Construction of Ostruznica bridge (Sector 3) | NA | Construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | 19/01/2016 - Q4 2019 |
| 2 | Completion of Belgrade bypass, Reconstruction of road section Ostruznica - Strazevica (Sectors 4 and 5) | PFS, FS, PD, ESIA, Spatial Planning completed, Land property issues resolved, DD ongoing | Construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | 24/07/2018 - 20/07/2021 |
| 3 | Completion of Belgrade bypass, Sector 6: Strazevica-Bubanj Potok | PFS, FS, ESIA, Spatial Planning completed, DD, land property issues, construction/ other permits ongoing | Construction & other permits and construction works contract signed. | Presumed not mature | De facto mature (under construction) [4.5] | 24/07/2018 - 20/07/2021 |
| 4 | Rehabilitation of the road section between Bubanj Potok and Grdelica | Maintenance project financed by national funds for road maintenance | Maintenance project financed by national funds for road maintenance (not eligible for co-financing) | NA | NA | |
| 5 | Reconstruction of road section between Grdelica and Presevo in Serbia to meet with motorways TEN-T standard | Project considered fully prepared and no further preparation activities envisaged. Construction works ongoing. (no need for co-financing) | Project considered fully completed (no need for co-financing) | De facto mature (under construction) | Construction completed | 15/01/2011 - 18/05/2019 |
| 6a | Completion of Belgrade-South Adriatic motorway, construction of road section Surcin-Obrenovac with new Sava bridge | PFS, FS, PD and ESIA completed, Spatial planning documents completed, Land property issues, DD, TD, construction and other permits ongoing. | Construction works ongoing (no need for co-financing) | De facto mature | De facto mature (under construction) [4.5] | 05/05/2017 - 19/12/2019 |
| 6b | Completion of Belgrade-South Adriatic motorway, construction of road section Obrenovac-Ub | | Project considered fully completed (no need for co-financing) | De facto mature (under construction) | Construction completed | 30/06/2014 - 18/08/2019 |
| 6c | Completion of Belgrade-South Adriatic motorway, construction of road section Ub-Lajkovac | | Project considered fully completed (no need for co-financing) | De facto mature (under construction) | Construction completed | 29/07/2010 - 18/08/2019 |

[23] Actual/ planned start of works - Actual/ expected end of works.

| # | Project name | 2016 Status | 2019 Status | 2016 Maturity Level | 2019 Maturity Level | Construction period[23] |
|---|---|---|---|---|---|---|
| 6d | Completion of Belgrade-South Adriatic motorway, construction of road section Lajkovac-Ljig | | Project considered fully completed (no need for co-financing) | De facto mature (under construction) | Construction completed | 30/06/2014 - 18/08/2019 |
| 6e | Completion of Belgrade-South Adriatic motorway, construction of road section Ljig-Preljina | | Project considered fully completed (no need for co-financing) | De facto mature (under construction) | Construction completed | 2012 - 01/10/2016 |
| 6f | Completion of Belgrade-South Adriatic motorway, construction of road section Preljina-Pozega | | Construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | 18/05/2019 – Q2 2022 |
| 7 | Completion of Pozega-Boljare (border with Montenegro) road section | PFS completed, Spatial planning documents ongoing | PFS completed; Spatial planning documents ongoing | De facto not mature | De facto not mature [1.2] | |
| 8a | Construction of Nis-Merdare E-80 highway, Sector Nis-Plocnik | PFS completed, FS, PD, ESIA, Spatial Planning ongoing | PFS, FS, PD, Spatial Planning documents completed; ESIA, Land property issues, DD ongoing (no need for co-financing) | Presumed not mature | De facto mature [4.2] | Q2 2021 - |
| 8b | Construction of Nis-Merdare E-80 highway, Sector Plocnik-Merdare | | PFS completed; FS, PD, ESIA, Spatial Planning documents ongoing | De facto not mature | De facto not mature [1.2] | |
| 9 | Completion of Route 4: Bar-Boljare Highway, section Andrijevica-Boljare | PFS completed, Spatial planning documents ongoing | PFS and Spatial planning documents completed; FS ongoing | De facto not mature | De facto not mature [1.3] | |
| 10 | Completion of Route 4, Bar-Boljare Highway, section Matesevo-Andrijevica | PFS completed, Spatial planning documents ongoing | PFS and Spatial planning documents completed; FS, PD and ESIA ongoing | De facto not mature | De facto not mature [1.3] | |
| 11 | Completion of Route 4: Bar-Boljare Highway, section Matesevo-Podgorica (Smokovac) | PFS, FS, PD, ESIA completed, Spatial planning documents completed, land property issues resolved, DD, Construction/ other permits ongoing. (no need for co-financing) | Construction works ongoing (no need for co-financing) | De facto mature (under construction) | De facto mature (under construction) [4.5] | 05/11/2015 - 11/09/2020 |
| 12 | Completion of Route 4: Bar-Boljare Highway, construction of Podgorica bypass (Capital-Smokovac-Farmaci) | PFS completed, Spatial planning documents ongoing | PFS and Spatial planning documents completed; FS, PD and ESIA ongoing | De facto not mature | De facto not mature [1.3] | |
| 13 | Completion of Route 4: Bar-Boljare Highway, section Djurmani - Farmaci | PFS completed, Spatial planning documents/land property issues ongoing | PFS and Spatial planning documents completed; FS and land property issues ongoing | De facto not mature | De facto not mature [1.3] | |

| # | Project name | 2016 Status | 2019 Status | 2016 Maturity Level | 2019 Maturity Level | Construction period[23] |
|---|---|---|---|---|---|---|
| 14 | Construction of road section Skopje - Kosovo border (IC Stenkovec-IC Blace) | PFS, FS, PD, ESIA completed; DD ongoing | PFS, FS completed; PD, ESIA, Spatial planning documents, DD, TD ongoing (no need for co-financing) | Presumed mature | De facto mature [4.2] | Q2 2020 - Q4 2023 |
| 15 | Reconstruction of road section between Demir Kapija and Udovo | Construction works ongoing (no need for co-financing) | Project considered fully completed (no need for co-financing) | De facto mature (under construction) | Construction completed | 09/08/2012 - 28/02/2018 |
| 16 | Rehabilitation of road section between Kumanovo and Miladinovci | Construction works ongoing (no need for co-financing) | Project considered fully completed (no need for co-financing) | De facto mature (under construction) | Construction completed | 30/12/2015 - 17/04/2018 |
| 17a | Rehabilitation of road section from Kumanovo to Rankovce | NA | NA | De facto not mature | Presumed not mature [2] | |
| 17b | Reconstruction of road section from Rankovce to Kriva Palanka | PFS, FS, PD, ESIA, DD completed, Land property issues, TD, Construction and other permits ongoing | Construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | 22/06/2018 - |
| 17c | Reconstruction of road section from Kriva Palanka to Deve Bair | NA | FS, PD, ESIA, Land property issues, DD, TD, Construction and other permits completed (no need for co-financing) | De facto not mature | De facto mature [4.3] | Q4 2019 – Q4 2021 |
| 18 | Construction of road section Pristina – Border with North Macedonia | Under construction (no need for co-financing) | Project considered fully completed. (no need for co-financing) | De facto mature (under construction) | Construction completed | 07/03/2014 - 29/05/2019 |
| 19 | Construction of road section Pristina-Merdare | PFS, FS and ESIA ongoing | PFS, FS, PD and ESIA (pending approval) completed | De facto not mature | Presumed mature [3.2] | |
| | **MED** | | | | | |
| 1 | Construction of motorway section Odzak-Svilaj, border crossing and cross-border bridge Svilaj over Sava | Construction works ongoing (no need for co-financing) | Construction works ongoing (no need for co-financing) | De facto mature (under construction) | De facto mature (under construction) [4.5] | 31/09/2013 - |
| 2a | Construction of motorway section Odzak-Vukosavlje-Podnovlje and Podnovlje-Johovac | PFS, FS, PD, ESIA, Spatial Planning, DD completed, Construction and other permits ongoing | PFS, FS, PD, ESIA, Spatial Planning completed | Presumed mature | Presumed mature [3.2] | |
| 2b | Construction of motorway section Johovac-Rudanka | | Construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | 17/06/2019 - |
| 2c | Construction of motorway section Rudanka-Doboj South | | PFS, FS, PD, ESIA, Spatial Planning and TD completed; Land property issues ongoing (no need for co-financing) | Presumed mature | De facto mature [4.1] | NA |

| # | Project name | 2016 Status | 2019 Status | 2016 Maturity Level | 2019 Maturity Level | Construction period[23] |
|---|---|---|---|---|---|---|
| 3 | Construction of motorway section Doboj South – Žepče South | PFS, FS, PD, ESIA, Spatial Planning completed | PFS, FS, PD, ESIA, Spatial Planning completed; DD, Land property issues, TD, Construction and other permits ongoing (no need for co-financing) | Presumed mature | De facto mature [4.1] | NA |
| 4a | Construction of motorway section Žepče South-Zenica North, subsection Zepce South-Poprikuse-Nemila | PFS, FS, PD, ESIA, Spatial Planning completed, DD, Land property issues, TD, Construction and other permits ongoing | PFS, FS, PD, ESIA, Spatial Planning & TD completed; Land property issues ongoing (no need for co-financing) | Presumed mature | De facto mature [4.2] | |
| 4b | Construction of motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Nemila-Vranduk | | PFS, FS, PD, ESIA, Spatial Planning, DD, TD, Construction and other permits completed; Land property issues ongoing (not eligible for co-financing) | Presumed mature | De facto mature [4.2] | |
| 4c | Construction of motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Vranduk-Ponirak | | Project considered fully prepared and no further preparation activities envisaged; Land property issues & construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | Q2 2019 – Q2 2021 |
| 4d | Construction of motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Ponirak-Vraca | | PFS, FS, PD, ESIA, Spatial Planning, DD, TD completed; Land property issues, Construction and other permits ongoing (no need for co-financing) | Presumed mature | De facto mature [4.3] | Q4 2019 - |
| 4e | Construction of motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Vraca-Zenica North | | PFS, FS, PD, ESIA, Spatial Planning, Land property issues, TD completed (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.4] | 08/11/2018 – Q4 2022 |
| 5a | Completion of motorway section Tarcin-Konjic, subsection Tarcin-Tunnel Ivan | PFS completed, FS, PD, ESIA, Spatial Planning, Land property issues, DD ongoing. | PFS, FS, PD, ESIA, Spatial Planning, TD, Construction and other permits completed; Land property issues and DD ongoing. (no need for co-financing) | Presumed mature | De facto mature [4.3] | Q1 2020 - |
| 5b | Completion of motorway section Tarcin-Konjic, subsection Tunnel Ivan-Ovcari | | PFS and Spatial Planning completed. FS, PD, ESIA, DD ongoing. | De facto not mature | Presumed mature [3.1] | |
| 5c | Completion of motorway section Tarcin-Konjic, subsection Ovcari-Konjic | | PFS, FS, PD, Spatial Planning completed; ESIA, DD ongoing. | De facto not mature | Presumed mature [3.1] | |
| 6a | Construction of motorway section Konjic (IC Ovčari) – Mostar North | PFS, PD completed, FS and Spatial planning ongoing | PFS, FS, PD, ESIA and Spatial planning completed. | De facto not mature | Presumed mature [3.2] | |

| # | Project name | 2016 Status | 2019 Status | 2016 Maturity Level | 2019 Maturity Level | Construction period[23] |
|---|---|---|---|---|---|---|
| 6b | Construction of motorway section Konjic (IC Ovčari) – Mostar North, Prenj Tunnel | | PFS, FS, PD, ESIA and Spatial planning completed. | De facto not mature | Presumed mature [3.2] | |
| 7a | Completion of motorway section Mostar North- Mostar South | PFS completed, FS, PD, ESIA and DD ongoing | PFS, FS, PD, Spatial Planning completed; ESIA and DD ongoing | De facto not mature | Presumed mature [3.1] | |
| 7b | Completion of motorway section Mostar South-Kvanj Tunnel | | PFS, FS, PD, Spatial Planning, TD completed; ESIA and Land property issues ongoing | De facto not mature | Presumed mature [3.1] | |
| 7c | Completion of motorway section Kvanj Tunnel-Buna | | PFS, FS, PD, ESIA, Spatial Planning, TD completed; Land property issues ongoing (no need for co-financing) | De facto not mature | De facto mature [4.1] | NA |
| 7d | Completion of motorway section Buna-Počitelj | | Construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | 08/03/2018 - 25/01/2020 |
| 8 | Completion of motorway section Počitelj-Zvirovici | NA | Project considered fully prepared and no further preparation activities envisaged. (no need for co-financing) | NA | De facto mature (under construction) [4.5] | Q3 2019 - Q1 2022 |
| 9 | BiH-Croatia R2a Road Interconnection Banja Luka-Gradiska and the Sava border bridge | NA | Construction works ongoing (no need for co-financing) | NA | De facto mature (under construction) [4.5] | Q3 2019 - Q1 2022 |
| 10a | Construction of AIH, Section Border with Croatia (Debeli Brijeg)-Bijela, *Herceg Novi Bypass* | No available documentation yet | PFS, FS ongoing | De facto not mature | De facto not mature [1.1] | |
| 10b | Construction of AIH, Verige (Boka Bay) Bridge | | PD, DD completed; PFS, FS ongoing | De facto not mature | Presumed mature [3.3] | |
| 10c | Construction of AIH, Section *Tivat Bypass* | | PD, DD completed; PFS, FS ongoing | De facto not mature | Presumed mature [3.3] | |
| 10d | Construction of AIH, Section *Budva Bypass* | | PFS, FS, PD completed; ESIA, DD, TD ongoing | De facto not mature | Presumed mature [3.1] | |
| 10e | Construction of AIH, Section Budva Bypass-Sozina | | PFS, FS ongoing | De facto not mature | De facto not mature [1.1] | |
| 10f | Construction of AIH, Section Sozina-Stari Bar, *Bar Bypass* | | PD completed; PFS, FS ongoing | De facto not mature | Presumed mature [3.1] | |
| 10g | Construction of AIH, Section Stari Bar-border with Albania | | PFS, FS ongoing | De facto not mature | De facto not mature [1.1] | |
| 11a | Construction of AIH, Section Murriqan-Lezhe (Balldre) | No available documentation yet | PFS, FS ongoing | De facto not mature | De facto not mature [1.1] | |

| # | Project name | 2016 Status | 2019 Status | 2016 Maturity Level | 2019 Maturity Level | Construction period[23] |
|---|---|---|---|---|---|---|
| 11b | Construction of AIH, Section Lezhe (Balldre)-Milot | | PD, TD completed; PFS, FS ongoing | De facto not mature | Presumed mature [3.1] | |
| 11c | Construction of AIH, Section Milot-Thumane | | PFS, FS ongoing | De facto not mature | De facto not mature [1.1] | |
| 11d | Construction of AIH, Upgrade of Thumane-Vore-Kashar | FS and PD completed; DD ongoing | PFS, PD, DD completed; FS ongoing | Presumed mature | Presumed mature [3.3] | |
| 11e | Construction of AIH, Sections Kashar-Lekaj and Lekaj-Konjat | No available documentation yet | PFS, FS ongoing | De facto not mature | De facto not mature [1.1] | |
| 11f | Construction of AIH, Sections Konjat-Lushnje and Lushnje-Fier (Bypass) | | PFS, FS ongoing | De facto not mature | De facto not mature [1.1] | |
| 11g | Construction of AIH, Section Fier Bypass | | PD, ESIA, Spatial Planning, DD, Land property issues, TD, Construction & other permits completed; PFS, FS & Construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | 11/06/2016 - 28/02/2020 |
| 11h | Construction of AIH, Sections Fier bypass Levan-Pocem and Pocem-Memaliaj | | PFS, FS ongoing | De facto not mature | De facto not mature [1.1] | |
| 11i | Construction of AIH, Sections Memaliaj - Subashi Bridge and Subashi Bridge- Gjirokaster Bypass | | PFS, FS ongoing | De facto not mature | De facto not mature [1.1] | |
| 11j | Construction of AIH, Gjirokaster Bypass | | PD completed; PFS, FS ongoing | De facto not mature | Presumed mature [3.1] | |
| 11k | Construction of AIH, Section Gjirokaster bypass-Kakavije | | PFS, FS ongoing | De facto not mature | De facto not mature [1.1] | |
| 12 | Construction of Tirana bypass (Kashar-Vaqarr-Mullet) | FS, PD, ESIA completed, Spatial Planning, Land property issues, DD, TD, Construction and other permits ongoing | FS, PD, ESIA completed; Spatial Planning, Land property issues, DD ongoing | Presumed mature | Presumed mature [3.2] | |

Key:
PFS – Prefeasibility Study (& Conceptual Design)
FS - Feasibility Study
PD - Preliminary Design
ESIA - Environmental and Social Impact Assessment
DD - Detail Design
TD - Tender documentation
NA – Not available

# 3 Rail network

## 3.1 Gap analysis

The compliance analysis was carried out on the extension of the TEN-T Core Network Corridors in the Western Balkans. The two railway core corridors are the Orient/ East-Med (OEM) Corridor and the Mediterranean (MED) Corridor. The network links making up these corridors were identified by the 2016 study to be as follows:

- OEM Corridor – Rail Network *(Total length 1,602 km)*:
  - Section: Budapest – **Subotica – Belgrade – Niš – Skopje – Gevgelija** – Thessaloniki
  - Section: **Stalać – Kraljevo – Pristina – Skopje (Trubarevo)**
  - Section: **Beograd (Resnik) – Podgorica – Bar**
- MED Corridor – Rail Network *(Total length 689 km)*:
  - Section: Zagreb – ***Šid – Pazova (Belgrade)***
  - Section: ***Šamac – Sarajevo – Čapljina*** – Ploče
  - Section: Podgorica – Tuzi – Hotit – Vore – Tirana – Vore – Durres

The following map presents the alignment for the rail network which is based on the indicative extension of the TEN-T Core Network to the Western Balkans region, as agreed in 2015. Data on these rail links have been collected and maintained by SEETO Secretariat (SEETIS database) and are now held by the Transport Community Permanent Secretariat. The present gap analysis is based on the previous Gap Analysis Study (2016) results, while taking into consideration the number of projects completed during the time period 2016-2019.

**Figure 3.1 The Core TEN-T Corridors proposed alignment for the Rail Network**


The requirements for the railway infrastructure that were examined during this exercise are:

- Electrification: rail network to be electrified by 2030 (including sidings where necessary);
- Axle load: Freight lines 22.5t axle load by 2030;
- Line speed: Freight lines must allow 100 km/h by 2030[24];
- Train length: Freight lines to allow for 740m trains by 2030;
- Track gauge: Nominal track gauge for new railway lines (1435 mm);
- ERTMS/ signalling system: Core network to be equipped with ERTMS by 2030.

The results of the analysis are presented in Table 3-1. There are currently no rail segments in the WB6 region that are fully compliant with all rail TEN-T requirements, which denotes an unchanged status

[24] No speed requirement for passenger lines.

compared to the previous gap analysis. Looking at each TEN-T standard separately the situation is as follows:

- Electrification: 80% of the OEM Corridor and 74% of the MED Corridor are compliant;
- Axle load: 87% of the freight lines along the OEM Corridor and 77% along the MED Corridor allow for 22.5 tonnes;
- Line speed: only 45% of the OEM Corridor and 12% of the MED Corridor are compliant in terms of maximum operating speed. This is an interesting finding, if one takes into account the fact that the design speed in more than 85% of the OEM Corridor and 74% of the MED Corridor is more than 100 km/h, which is the threshold for compliance. These results clearly indicate that a large percentage of the problems that the railway network in the region faces, are due to lack of proper maintenance.
- Train length: 0% compliance on both corridors;
- Track gauge: 100% compliance on both corridors;
- ERTMS: 0% compliance on both corridors.

**Table 3.1 Compliance Rates for the Core TEN-T Corridors – Rail Network (2019)**

| TEN-T requirement | | OEM Corridor | | MED Corridor | |
|---|---|---|---|---|---|
| | | Km | % | Km | % |
| **Electrification** | Compliant sections | 1,278 | 79.77 | 508 | 73.73 |
| | Non-compliant sections | 324 | 20.23 | 181 | 26.27 |
| **Axle Load** | Compliant sections | 1,387 | 86.59 | 533 | 77.36 |
| | Non-compliant sections | 215 | 13.41 | 156 | 22.64 |
| **Operating speed** | Compliant sections | 722 | 45.06 | 80 | 11.61 |
| | Non-compliant sections | 880 | 54.94 | 609 | 88.39 |
| **Maximum train length** | Compliant sections | 0 | 0.00 | 0 | 0.00 |
| | Non-compliant sections | 1040 | 64.92 | 572 | 83.02 |
| | No available data | 562 | 35.08 | 117 | 16.98 |
| **Track gauge** | Compliant sections | 1,602 | 100.00 | 689 | 100.00 |
| | Non-compliant sections | 0 | 0.00 | 0 | 0.00 |
| **ERTMS (full deployment)** | Compliant sections | 0 | 0.00 | 0 | 0.00 |
| | Non-compliant sections | 1,602 | 100.00 | 689 | 100.00 |
| **Total Length** | | **1,602 km** | | **689 km** | |

*Note: For 35.08% and 16.98% of the OEM and MED Corridors, respectively, that no data is available on maximum train length allowed, it is assumed that these segments are not compliant with the TEN-T standard train length >740 m.*

The maps of the compliance gaps for the requirements in electrification, axle load and operation speed are presented in Figures 3.2, 3.3 & 3.4 respectively below. As shown, there are no changes in the compliance gaps since the previous study.

**Figure 3.2 Electrification Compliance Gaps for Core TEN-T Corridors – Rail Network (2019)**

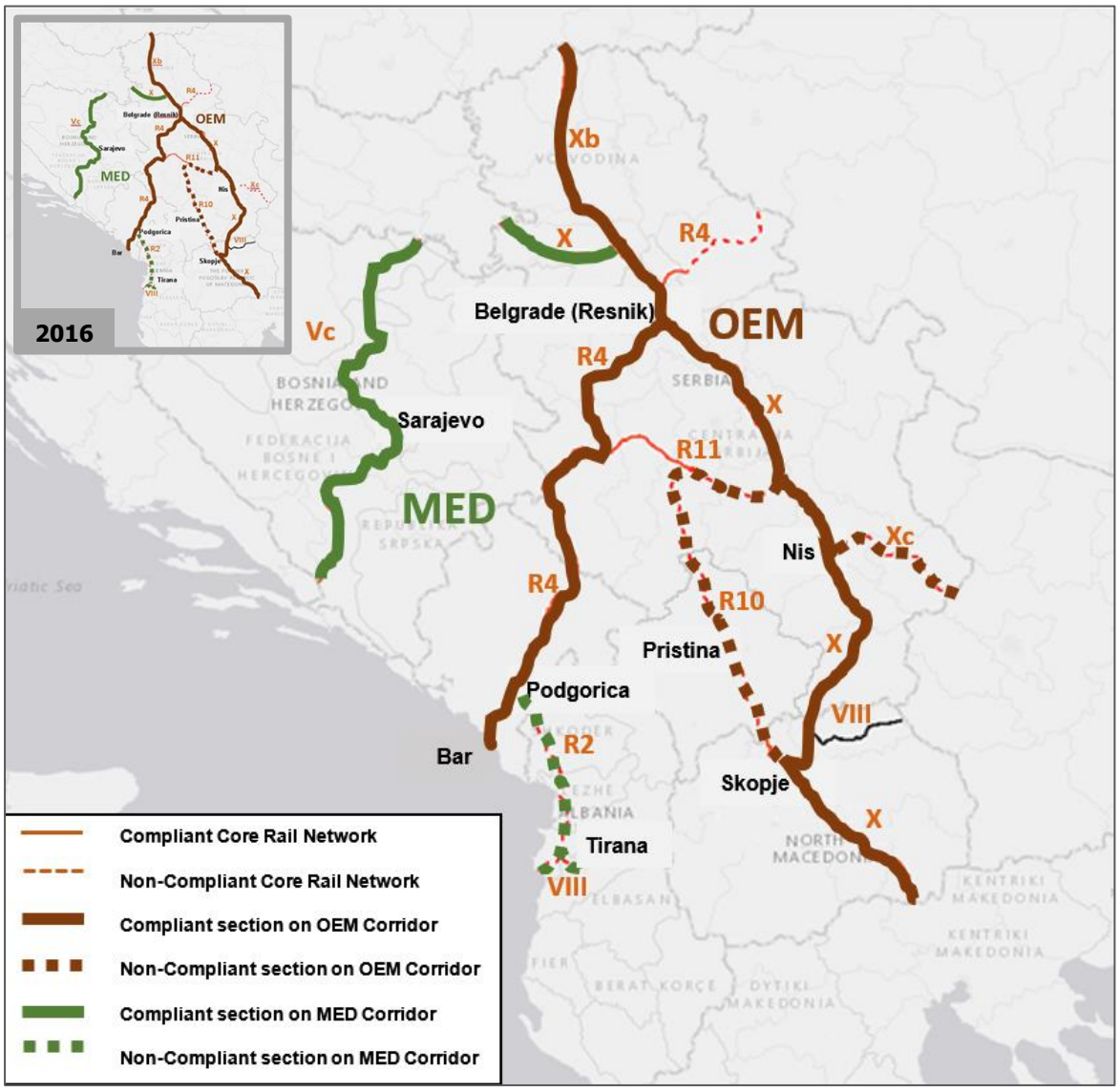


**Figure 3.3 Axle Load Compliance Gaps for Core TEN-T Corridors – Rail Network (2019)**

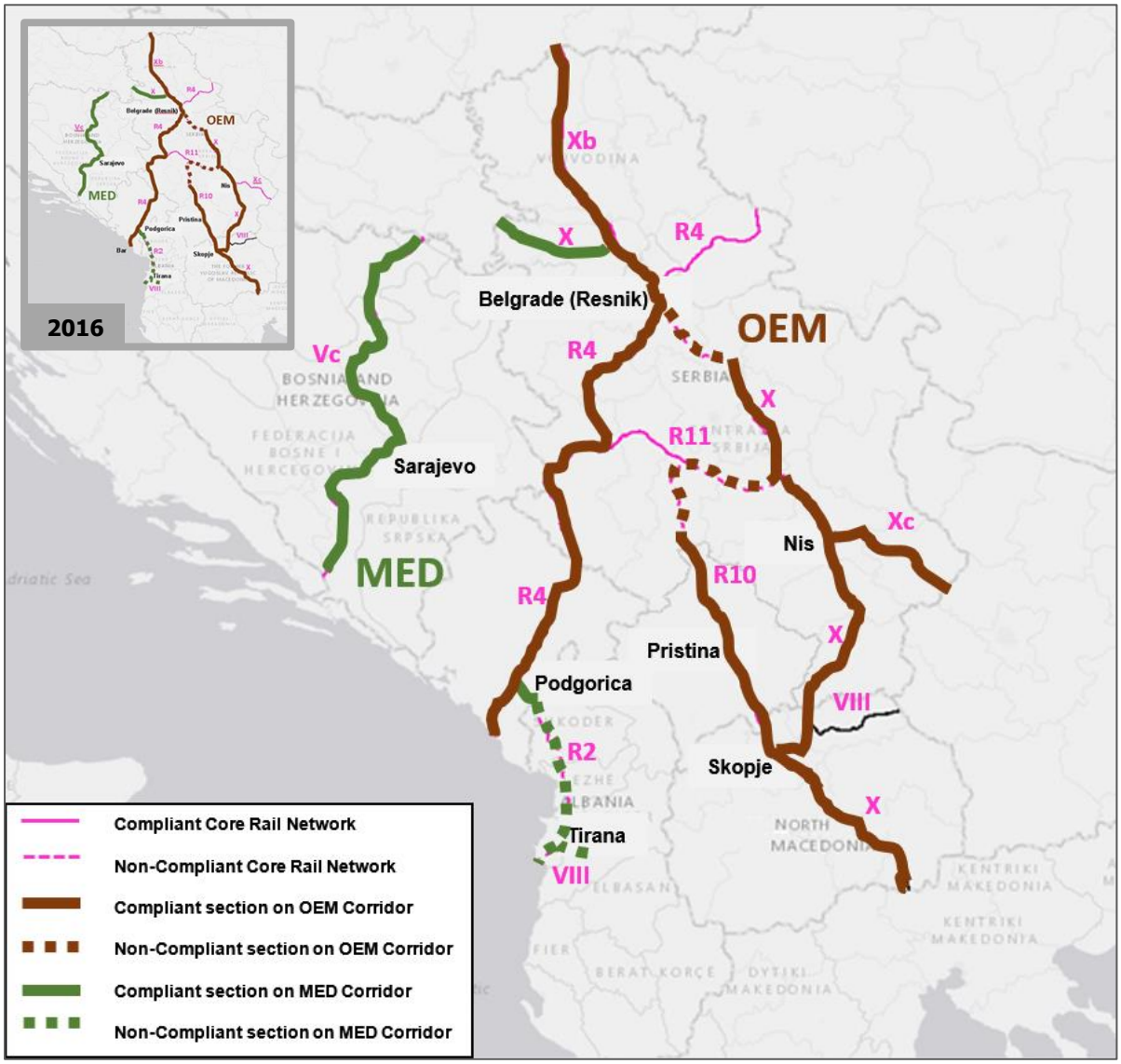
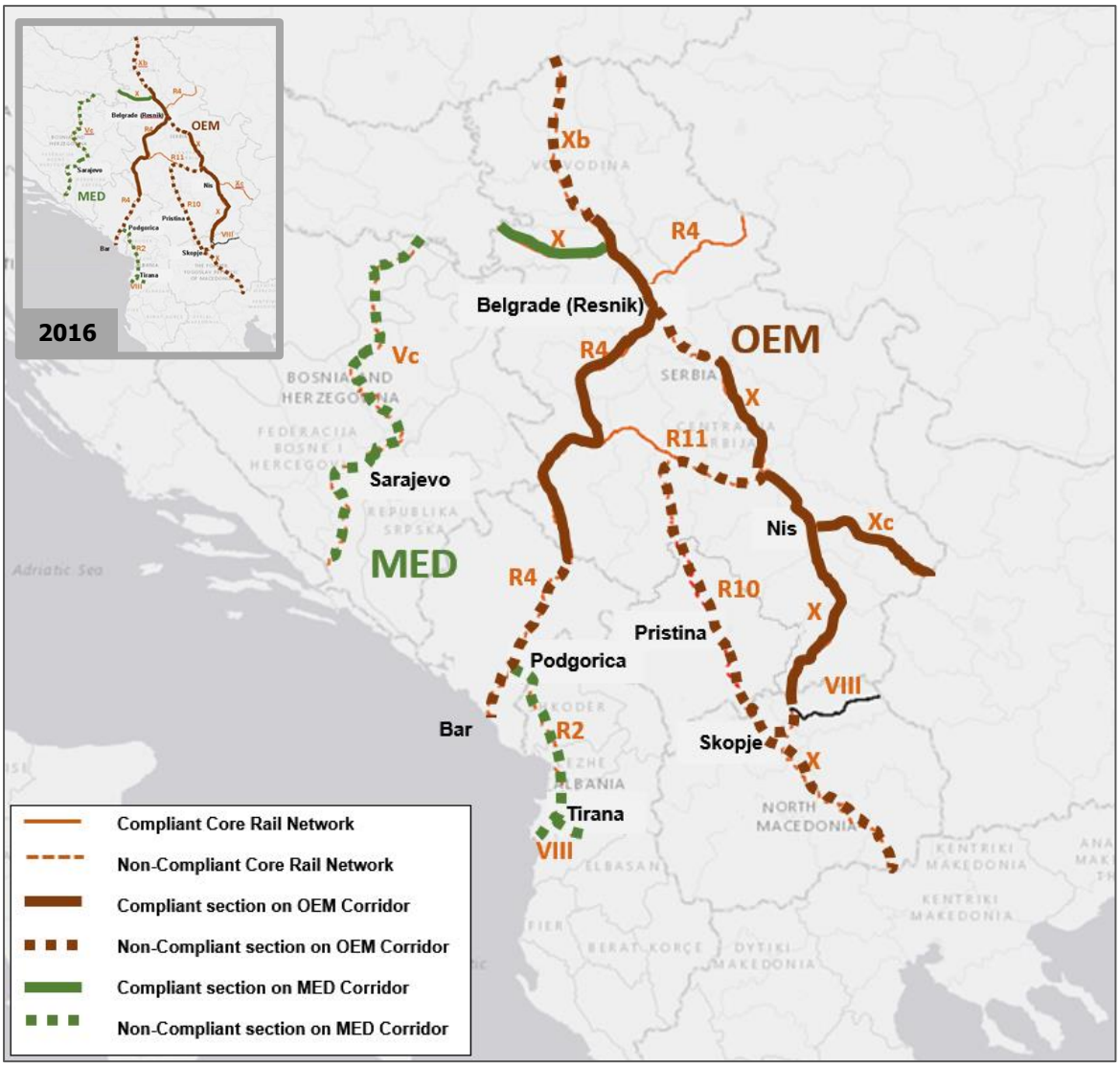


**Figure 3.4 Operating Speed Compliance Gaps for Core TEN-T Corridors – Rail Network (2019)**




For the identified infrastructural compliance gaps, all necessary projects in order for the existing railway infrastructure to meet the TEN-T standards, have been listed and thoroughly analysed. Compared to the previous analysis of 2016, several projects have been split into two or more sub-projects based on the progress, maturity, importance and available information for each subsection. The main aim was to draw reliable conclusions in terms of their maturity level and have a clear picture of their implementation timeframe. The ultimate goal is for the two Core Corridors to become fully compliant, enhancing thus connectivity within the WB6 region, as well as between the region and the EU Member States.

An overview of the identified projects is presented in the following sections for each Core Corridor.

### 3.1.1 Orient/ East-Med (OEM) Core TEN-T Corridor

For the OEM Rail Corridor, 15 investment projects have been identified, also taking into account the national Single Project Pipelines (SPPs) and the SEETO Multi-Annual Plan (MAP) 2016. It is noted that for the OEM Corridor, the rail section between Kumanovo and Deve Bair (Border with Bulgaria) in North Macedonia was also considered[25] in the previous study. Thus, for the OEM Corridor **16 investment projects** were analysed in total, four of which have been split into sub-projects, yielding a total number of 29 sub-projects.

All projects are listed in Table 3.2, where the indicative year of when a project may be eligible for co-financing as well as possible IFIs and/or other donors supporting the project are included according to information received and the assumption that project preparation activities will have been completed as planned without significant delays[26], even in the cases of currently non-mature projects.

[25] The section was analysed since a project for the rail segment Beljakovce - Deve Bair (Border with Bulgaria) was included in the list of pre-identified projects for the OEM Corridor in the Connectivity Agenda (Western Balkans Summit – Vienna 2015). This rail section is part of Corridor VIII and constitutes a significant link with Bulgaria. Currently, this rail segment is not in operation.
[26] In this case, the estimated year is set in italic font.

**Table 3.2 Investment Projects on OEM Corridor – Rail Network**

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| 1a | Modernisation of the Nis-Presevo railway line, Section Nis-Brestovac | SER | 63 | PFS, FS, PD, ESIA, Spatial Planning, TD are completed | TA-SER-15 | No need for co-financing | - | EU |
| 1b | Modernisation of the Nis-Presevo railway line, Section Brestovac- Presevo (Border with North Macedonia) | SER | 160 | PFS and Spatial Planning are completed | TA-SER-15, WB19-SRB-TRA-03 | Presumed not mature | 2022 | EIB |
| 2 (§3.2.1) | Reconstruction, modernisation and construction of second track on section Stalac-Djunis of railway line Belgrade-Nis | SER | 157 | PFS, FS, PD, ESIA, Spatial Planning are completed. | WB8-SER-TRA-14 | Presumed mature | 2021 | EIB |
| 3 | Modernisation and doubling of single track section of railway line Resnik - Klenje - Mali Pozarevac - Velika Plana | SER | 340 | PFS and Spatial Planning are completed | | Presumed not mature | NA | EBRD/ CRBC-CEXIM |
| 4 | Modernization and reconstruction of railway line Velika Plana - Stalac and Djunis-Trupale | SER | 563 | PFS is completed; FS, PD, ESIA, Spatial Planning and Land property issues are ongoing | | Presumed not mature | *Between 2022 and 2024* | EU/ EIB |
| 5a | Reconstruction and modernization of railway line Stalac – Kraljevo | SER | 144 | PFS is ongoing | WB14-SRB-TRA-01 | Presumed not mature | NA | EIB |
| 5b | Reconstruction and modernization of railway line Kraljevo - Rudnica | SER | 120 | PFS is ongoing | WB14-SRB-TRA-01 | Presumed not mature | NA | EIB |
| 6 (§3.2.2) | Rehabilitation and modernisation of railway section Tabanovci - Dracevo along Corridor X | MKD | 38 | FS, PD, ESIA, DD are completed | WB15-MKD-TRA-02, WB15-MKD-TRA-04 | Presumed mature | NA | EBRD |

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| 7 (§3.2.3) | Reconstruction of railway section Dracevo – Veles along corridor X | MKD | NA | PFS, FS, PD, ESIA are completed[27] | WB15-MKD-TRA-02, WB15-MKD-TRA-04 | Presumed mature | NA | EBRD |
| 8 | Rehabilitation and modernisation of railway section Veles - Gevgelija along Corridor X | MKD | NA | PFS and PD are completed for some sections[28] | WB15-MKD-TRA-02, WB15-MKD-TRA-04 | Presumed not mature | NA | EBRD |
| 9a | Reconstruction of Railway Line Novi Beograd – Zemun – Batajnica | SER | NA | The project is considered fully prepared and no further preparation activities are envisaged; Construction works are ongoing. | | No need for co-financing | - | CEXIM |
| 9b | Reconstruction of Railway Line Batajnica - Stara Pazova | SER | NA | The project is considered fully prepared and no further preparation activities are envisaged; Construction works are ongoing. | | No need for co-financing | - | CEXIM |
| 9c | Reconstruction and modernisation of railway line Stara Pazova - Novi Sad | SER | 523 | The project is considered fully prepared and no further preparation activities are envisaged; Land property issues and Construction works are ongoing. | | No need for co-financing | - | Russia |
| 9d | Reconstruction and modernisation of railway line Novi Sad - Subotica - border with Hungary (Kelebija) | SER | 943 | PFS is completed; FS, PD, ESIA and Spatial Planning are ongoing | | No need for co-financing | - | CEXIM |
| 10 | Rehabilitation and modernization of railway section Blace-Gjorce Petrov, including electrification | MKD | 14 | NA | | De facto not mature | NA | NA |
| 11 | General Rehabilitation of Railway Route 10 (Border | KOS | 210 | FS, PD ESIA, Spatial Planning, DD and TD are completed; | TA-KOS-02, WB9-KOS-TRA-01, | No need for co-financing | - | EBRD/EIB/ EU/Austria |

[27] CBA (2014) results indicated that this project is not viable; no further preparatory actions have been undertaken apart from the PD.
[28] Remaining project preparation documentation is to be prepared for subsections Veles-Nogaevci (19.8 km), Demir Kapija-Miravci (21.4 km) and rail junction Veles.

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| | with Serbia Leshak – Fushë Kosovë – Hani i Elezit – Border with North Macedonia), including electrification | | | Land property issues are resolved; Construction & other permits, Construction works are ongoing | WB12-KOS-TRA-01, WB14-KOS-TRA-02, WB-IG00-KOS-TRA-01, WB-IG01-KOS-TRA-01, WB-IG04-KOS-TRA-02 | | | |
| 12 | Rail Route 4 (Bar - Vbrnica) - Signaling Podgorica node and Bridges | MNE | 45 | The project is considered fully prepared and no further preparation activities are envisaged; TD and Construction works are ongoing. | WB-IG00-MNE-TRA-01, WB16-MNE-TRA-01, WB17-MNE-TRA-01 | No need for co-financing | - | EIB/EU |
| 13 | Reconstruction and modernization of railway line Vrbnica-Bar<br>1) Rehabilitation of Train Track (superstructure), Culverts, Regulation of watercourse, reconstruction of steel bridges;<br>2) Rehabilitation of Slopes;<br>3) Rehabilitation of landslides, tunnels, concrete bridges & electrical works | MNE | 153 | FS, Spatial Planning are completed; Land property issues are resolved; DD, TD, Construction & other permits, Construction works are ongoing | WB-IG03-MNE-TRA-02, WB10-MNE-TRA-01, WB13-MNE-TRA-01, WB14-MNE-TRA-01, WB17-MNE-TRA-01, WB21-MNE-TRA-01 | No need for co-financing | - | EBRD/EIB/ CEB/EU |
| 14 | Rehabilitation of railway line Resnik-Vrbnica, section Valjevo-Vrbnica | SER | 300 | PFS is completed; FS, PD are ongoing | | Presumed not mature | NA | Russia |
| 15a | Modernization of single-track railway line Nis-Dimitrovgrad-Bulgarian border, Section Sicevo – Stanicenje – Dimitrovgrad | SER | 139 | PFS is completed; FS, PD are ongoing | WB16-SRB-TRA-01, WB-IG01-SRB-TRA-01 | No need for co-financing | - | EIB/EU |
| 15b (§3.2.4) | Modernization of single-track railway line Nis-Dimitrovgrad- | SER | 129 | PFS, FS, ESIA and Spatial Planning are completed; PD | WB19-SRB-TRA-02, WB-IG01-SRB-TRA- | De facto mature | 2020 | EIB/EU |

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| | Bulgarian border, Nis Bypass Section | | | and Land property issues are ongoing | 01, WB-IG02-SRB-TRA-01 | | | |
| 16 | Construction of railway section Beljakovce – Kriva Palanka – Border with Bulgaria along Corridor VIII | MKD | 551 | FS, PD, ESIA, DD, Spatial Planning and Land property issues are completed; TD, Construction & other permits, Construction works are ongoing | WB-IG02-MKD-TRA-01, WB7-MKD-TRA-02, WB11-MKD-TRA-01 | No need for co-financing | - | EBRD/EU/ Italy |
| **Subtotal (excl. projects with no co-financing needs)** | | | **1,778** | | | | | |

Key: PFS - Prefeasibility Study
FS - Feasibility Study
PD - Preliminary Design
ESIA - Environmental and Social Impact Assessment
DD - Detail Design
TD - Tender documentation
NA – Not available

It is noted that for the railway section Belgrade (Resnik) – Vrbnica (Route 4) in Serbia, where the operating speed and axle load TEN-T standards seem to be met, it is well known that this railway line is not well maintained and significant capacity constraints are identified.

Furthermore, for the electrification of the railway line Kraljevo-Pristina-Blace-Gjorce Petrov (Rail Route 10), it is noted that there must be a unified approach among the three involved countries (Serbia, Kosovo and North Macedonia). Thus, even though the electrification is currently included in the projects' design, its implementation will follow a phased approach, according to the coordination among the Beneficiaries and decision-making processes followed in each country.

The total investment cost for the identified railway projects, excluding the ones for which financing is secured, is estimated to be approximately €1.78 billion. A more detailed analysis of the high maturity projects is presented in Section 3.2, while all detailed information for all identified projects can be found in the Appendix, where all Project Fiches are presented.

It should be noted that the assumption made with respect to the definition of maturity level is that projects on which construction is likely to start by 2024 are considered high maturity projects.

### 3.1.2 Mediterranean (MED) Corridor

For the MED Corridor, **7 railway projects** were identified during the scoping phase, taking into account the National SPPs, as well as the SEETO MAP 2016. The significant infrastructural limitations of the MED Rail Corridor, especially in terms of operating speed, are evident throughout the Corridor.

A brief overview of the identified projects is presented in the following table, including possible/ estimated timeline for eligibility for co-financing and potential IFIs and/or other donors supporting the project.

**Table 3.3 Investment Projects on MED Corridor – Rail Network**

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| 1 | Rehabilitation and modernization works of railway section Bosanski Samac – Podlugovi | BIH | 129 | PFS is completed; FS, PD, Land property issues, DD ongoing | WB5-BIH-TRA-14 | Presumed mature | *2021* | EIB |
| 2 | Overhaul of railway section Podlugovi - Sarajevo | BIH | 23 | FS, PD, DD are ongoing | TA2-BIH-TRA-02 | Presumed mature | 2023 | EIB |
| 3 | Rehabilitation and modernization works of railway section Sarajevo – Čapljina | BIH | 36 | The project is considered fully completed.[29] | | No need for co-financing | - | - |
| 4 | Modernization of Railway Line Stara Pazova-Sid-Border with Croatia | SER | 250 | PFS and Spatial Planning are completed | WB20-SRB-TRA-03 | Presumed not mature | 2023 | EBRD |
| 5 | Modernisation of railway line of Tirana-Durres | ALB | 89 | PFS, FS, PD, ESIA, Spatial planning, DD & TD completed; Land property issues ongoing | TA-ALB-06, WB4-ALB-TRA-09, WB-IG01-ALB-TRA-01 | No need for co-financing | - | EBRD/EU |
| 6 | Improvement of railway link Durres - Vora - Shkodra - Hani i Hotit | ALB | 123 | PFS, FS and Spatial planning are completed; PD and ESIA are ongoing | TA-ALB-06, WB16-ALB-TRA-01 | Presumed not mature | 2021 | EBRD |
| 7 | Reconstruction and Modernisation of Railway line Podgorica - Tuzi - Border with Albania | MNE | 33 | Land property issues are resolved | WB20-MNE-TRA-02 | Presumed not mature | *>2024* | KfW |
| **Subtotal (excl. projects with no co-financing needs)** | | | **498** | | | | | |

Key: PFS - Prefeasibility Study
FS - Feasibility Study
PD - Preliminary Design
ESIA - Environmental and Social Impact Assessment
DD - Detail Design
TD - Tender documentation

[29] Even though the rehabilitation works are completed, additional works may be needed in the future in order for the railway section Sarajevo – Čapljina to fully meet the TEN-T standards. Currently, BiH has limited loan capacity, so such an investment would have a long-term perspective.

The total investment cost for the identified railway projects for the MED Corridor, excluding the ones for which financing is secured, is estimated to be approximately €0.50 billion. A more detailed analysis of the high maturity projects is presented in the next section, while detailed information for all identified projects can be found in the Appendix, where all the Project Fiches are presented.

It should be noted that the assumption made with respect to the definition of maturity level is that projects on which construction is likely to start by 2024 are considered high maturity projects.

## 3.2 Assessment of projects

For both OEM and MED Core Network Corridors, 23 railway projects were identified in total. It is noted that one project along the Mediterranean Corridor which was identified during the 2016 gap analysis is now considered fully implemented.

**Figure 3.5 Identified rail projects**


Based on the analysis undertaken during the Study Phase, in close collaboration with all involved Beneficiaries and Stakeholders, four of the railway projects analysed were indicated as "de facto/ presumed mature" and most likely to commence implementation before 2024 based on their current status. A brief overview of these projects is presented as follows.

### 3.2.1 Reconstruction, modernisation and construction of second track on section Stalac-Djunis of railway line Belgrade-Nis (Corridor X) (OEM 2)

**Type:** Rail project

**From/To:** Stalac to Djunis

**Core Corridor:** OEM

**Country:** Serbia

**Costs:** €150 million


**Progress since 2016 connectivity study:**

All ongoing preparatory activities (PFS, FS, PD, ESIA and Spatial Planning) have now been completed.

**Status:**

The General Design and Pre-Feasibility Study for Reconstruction and Modernization of the railway line Belgrade–Nis was approved by the State Revision Committee in July 2015. The feasibility study, preliminary design and environmental impact assessments (both as per Serbian legislation and EBRD standards, being prepared with WBIF support - IPF3 TA, WB8-SER-TRA-14) were submitted for State Revision Commission review on 14/02/2018, as this formal endorsement was pending adoption of the Spatial Plan and issue of the Location Conditions.

**Benefits:**

The project is expected to bring capacity enhancements of the Corridor X railway line Belgrade-Nis and transport services quality improvement on the Core Network Corridor (and thus in the entire region of South East Europe), contributing to a substantial increase in volumes of overall passenger and goods transport). Key expected benefits include reduction of travel times, reduction of infrastructure costs and rolling stock maintenance costs, better use of the rolling stock, and savings concerning environmental protection, accidents and congestion as compared to the competitive road transport.

**Financing:**

Sources of financing are not yet known. Initially, the Government of Serbia and the Serbian Railways company were in communication with EBRD given that financing of the Stalac-Djunis scheme was previously considered under 200 M€ sovereign loan for "JSC Serbian Railways" in 2011. Eventually the Stalac-Djunis component (105.6 M€) was not included due to the early stage of project preparation. However, also EIB recognises this project as infrastructure priority, and is therefore considering to further support the project preparation of this investment (including endorsing application for the WBIF INV grant funding, potentially in 2020), subject to an ongoing additional analysis of alternatives under the guidance of Jaspers.

**Risks:**

As the land expropriation has not been completed, extensions of preliminary deadlines for the project completion are possible during the expropriation process. In addition, and for the same reason, an increase in the total project costs is possible.

**Expected development:**

The project documentation is finalised including PD and ESIA, hence the eligibility for an investment grant is possible in the coming rounds (INV06 in 2020), following Yellow FIDIC tender procedure.

### 3.2.2 Rehabilitation and modernisation of railway section Tabanovce - Dracevo along Corridor X (OEM 6)

**Type:** Rail project

**From/To:** Tabanovce to Dracevo

**Core Corridor:** OEM

**Country:** North Macedonia

**Costs:** €38 million


**Progress since 2016 connectivity study:**

There are ongoing preparation activities for rehabilitation works on the remaining 17 km of railway line on the section Kumanovo-Deljadrovci to fully comply with TEN-T standards.

**Status:**

Under the IPA I assistance (2007-2013) studies for the Supply and Installation of Equipment for European Train Control System (ETCS level 1) and Global System for Mobile Communications-Railway (GSM-R) along the Corridor X were prepared. Renewal design for subsection Tabanovce-Kumanovo is dated 2011. For the Kumanovo-Deljadrovci part (17 km) of the Kumanovo-Dracevo subsection, funding for project preparation (feasibility study incl. CBA, PD, EIA and DD) were provided under IPA I OPRD 2007-2013 (Component III) and this documentation was prepared in June 2012-Jan 2014 (DD for reconstruction for speed 120 km/h, km 413 - km 430). Two TA grants were approved under WBIF (WB15-MKD-TRA-04, 0.3 M€ and WB15-MKD-TRA-02, 0.5 M€) for introduction of GSMR and ETCS Level 1, respectively, on the entire Corridor X through North Macedonia (Tabanovce-Gevgelija). These include preparation of conceptual designs with pre-feasibility studies (incl. CBA), procurement documents and plans.

**Benefits:**

The project aims to improve the safety and security, reduce the travelling time for passenger and freight railway transport.

**Financing:**

The implementation of the Tabanovce-Kumanovo subsection (11.6 km) is already completed (investment costs 7 M€, with support of EBRD framework loan in amount of 4 M€, signed in 2010, construction contract signed April 2012 and works completed October 2013). Works on the Miladinovci-Ilinden sub-section are also completed - value of 3 M€. Value of works for the Kumanovo-Miladinovci section estimated to be 60 M€ (speed 120 km/h), of which approx. 38 M€ for the Kumanovo-Deljadrovce part, and additional 20 M€ estimated for the works on the Skopje node. 6 M€ from IPA funds are secured for supply and installation of equipment for GSM-R and ETCS (level 1) on all Corridor X sections from Tabanovce to Gevgelija.

**Risks:**

-

**Expected development:**

Although the preparation activities are complete and the project is considered technically mature, there is no indicative schedule for implementation of the remaining section of this project (Kumanovo-Miladinovci).

### 3.2.3 Reconstruction of railway section Dracevo – Veles (Corridor X) (OEM 7)

**Type:** Rail project

**From/To:** Dracevo to Veles

**Core Corridor:** OEM

**Country:** North Macedonia

**Costs:** NA

**Progress since 2016 connectivity study:**

No significant progress is reported for this section since the previous study.

**Status:**

Under the IPA I assistance (2007-2013) studies for the Supply and Installation of Equipment for ETCS level 1 and GSM-R along the Corridor X were prepared. The feasibility study (incl. CBA) was prepared in 2014 as well as PD and EIA for the alternative solutions - for speeds of 120 and 160 km/h (IPA I, OPRD 2007-2013). However, due to the results of the feasibility study (C/B ratio <1.0) no activities for further preparation of the design documentation have been undertaken. A specific target for dislocation and construction of a new railway line between Veles and Dracevo (speed up to 160 km/h) is to allow construction of a new hydropower plant near Veles. Two TA grants are approved under WBIF (WB15-MKD-TRA-04, 0.3 M€ and WB15-MKD-TRA-02, 0.5 M€) for introduction of GSMR and ETCS Level 1 on the entire Corridor X through North Macedonia, including preparation of conceptual designs with pre-feasibility studies (incl. CBA), procurement documents and plans.

**Benefits:**

The project aims to improve the safety and security, reduce the travelling time for passenger and freight railway transport.

**Financing:**

The investment value for the reconstruction to min. speed of 80 km/h for all sections of Tabanovce-Gevgelija corridor was estimated to approx. €600 million, while for the scenario with speed of 160 km/h it was assessed to be approx. €1 billion (Chinese Gov. funding is considered for the later scenario). €6 million from IPA funds are secured for supply and installation of equipment for GSM-R and ETCS (level 1) on all CX sections from Tabanovce to Gevgelija.

**Risks:**

Significant financial gap due to high investment costs and low traffic projections (the results of CBA have shown that both selected options of the project are not feasible).

**Expected development:**

Although the preparation activities are complete and the project is considered technically mature, there is no indicative schedule for the implementation stages.

### 3.2.4 Modernization of single-track railway line Nis-Dimitrovgrad-Bulgarian border, Nis Bypass Section (OEM 15b)

**Type:** Rail project

**From/To:** Nis to Sicevo

**Core Corridor:** OEM

**Country:** Serbia

**Costs:** €132 million


**Progress since 2016 connectivity study:**

Although most preparation activities were completed, there are additional design studies needed for the new subsections included in the investment.

**Status:**

The General Regulation Plan for the bypass was adopted on 24/05/2016. CD and PD for electrification and S&T prepared (approved by the State Revision Commission on 13/10/2016, including Location Conditions issued by Ministry dated July 2016). The formal Government Decision regarding the alignment is dated 21 April 2017. WBIF TA has been approved (WB19-SRB-TRA-02) for the preparation of Design for Construction Permit and tender documents. However, there are components/subsections that were not previously and timely included into the project preparation and for which the plan is to be included into the WBIF supported TA (with increase of the scope and grant value). These are the subsections Crveni Krst-Pantelej and Nis-Crveni Krst. For these two subsections, outstanding PDs for overhaul and all remaining studies for S&T will be done under the WBIF TA support (completion of the WP is pending). LARP was formally adopted on 19/07/2019.

**Benefits:**

Overall, the project will contribute to improvement of the quality and reliability of railway services for both passengers and goods, and thus to modal shift from road to rail with the consequent reduction of energy consumption, noise, and emissions of air pollutants. All this should result in an improvement to the environmental situation.

**Financing:**

Serbia had applied for EU donation - an investment grant through WBIF in Round 4 (2019), but the application was not assessed positively. However, the financing is largely secured through the Finance Contract signed with EIB on 31/01/2018 (€134 million).

**Risks:**

The value of own commitments in the project financing is relatively large to the State budget.

**Expected development:**

A new investment grant application has been submitted for INV05 (December 2019) and the project may become eligible for co-financing in 2020.

## 3.3 Rail projects summary

The conclusions to be drawn from the above detailed review of the listed rail projects are as follows:

- Overall the progress of rail projects since the 2016 study has been significant with 13 sub-projects having secured (co)financing for implementation, 12 of which for the first time, but with only one having been fully implemented.
- This denotes particular endorsement of railway projects in the region, even of those with low or medium maturity levels in the previous gap analysis.
- For the rest of the cases, the overall level of project maturity is still low or medium (projects are mostly in preparatory, pre-feasibility/ feasibility or design phases).
- Due to the low maturity of the projects, the remaining uncertainties are large (including exact routing, feasibility of the projects, future development plans, timing).

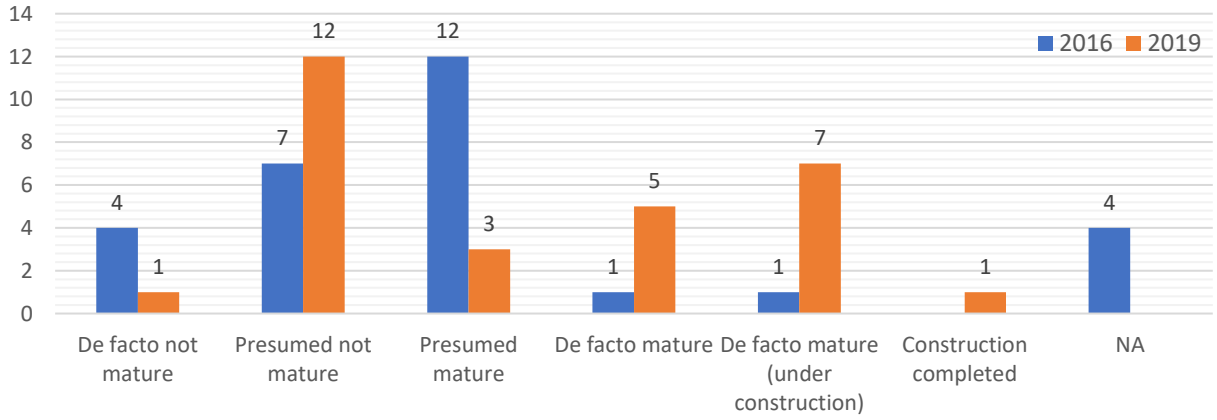
The table below summarizes the changes between the rail projects analysed in 2016 Connectivity study compared to this analysis. For consistency purposes, all sub-projects are merged into the respective 2016 projects.

**Table 3.4 Evolution of rail projects from 2016 to 2019**

| | | ALB | BIH | KOS | MKD | MNE | SER | Total |
|---|---|---|---|---|---|---|---|---|
| **Number of projects** | **2016** | 2 | 3 | 1 | 5 | 3 | 8 | **22** |
| | **2019** | 2 | 3 | 1 | 5 | 3 | 9 | **23** |
| **Total railway length (km)** | **2016** | 162 | 399 | 149 | 218 | 192 | 1,099 | **2,219** |
| | **2019** | 162 | 399 | 149 | 306 | 192 | 1,099 | **2,307** |
| **Total investment (M€)** | **2016** | 226 | 196 | 194 | 596 | 228 | 1,813 | **3,253** |
| | **2019** | 212 | 188 | 210 | 603 | 231 | 3,751[30] | **5,195** |

Taking into account the 2016 and 2019 connectivity rail project lists, the evolution of the individual project maturity in 2016 and 2019 is assessed in the following figure and table. The last two columns (2016 Maturity and 2019 Maturity) of Table 3-5 are based on the available information on the project maturity and proposed classification criteria of maturity level according to the adopted methodology described in Section 1.4. The last column provides an indication on the actual/ planned period of construction works, as per the available information and the estimated duration of current design activities for each de facto mature project.

**Figure 3.6 Comparison of rail projects' maturity between 2016 and 2019**




[30] Significant changes in total investment costs compared to 2016 are due to the fact that estimated costs were not available for all projects in the previous gap analysis or have been updated since then.

**Table 3.5 Evolution of rail projects' maturity from 2016 to 2019**

| # | Project name | 2016 Status | 2019 Status | 2016 Maturity Level | 2019 Maturity Level | Construction period[31] |
|---|---|---|---|---|---|---|
| | **OEM** | | | | | |
| 1a | Modernisation of the Nis-Presevo railway line, Section Nis-Brestovac | PFS, FS, PD, ESIA, Spatial Planning ongoing | PFS, FS, PD, ESIA, Spatial Planning, TD completed. Tendered. (no need for co-financing) | Presumed mature | De facto mature [4.3] | |
| 1b | Modernisation of the Nis-Presevo railway line, Section Brestovac- Presevo (Border with North Macedonia) | | PFS and Spatial Planning completed | Presumed not mature | Presumed not mature [2] | |
| 2 | Reconstruction, modernisation and construction of second track on section Stalac-Djunis of railway line Belgrade-Nis | PFS completed, FS, PD, ESIA, Spatial Planning ongoing | PFS, FS, PD, ESIA, Spatial Planning completed. | De facto not mature | Presumed mature [3.2] | |
| 3 | Modernisation and doubling of single track section of railway line Resnik - Klenje - Mali Pozarevac - Velika Plana | PFS completed | PFS and Spatial Planning completed | De facto not mature | Presumed not mature [2] | |
| 4 | Modernization and reconstruction of railway line Velika Plana - Stalac and Djunis-Trupale | PFS and Spatial Planning completed, Land property issues ongoing | PFS completed; FS, PD, ESIA, Spatial Planning and Land property issues ongoing | De facto not mature | Presumed not mature [2] | |
| 5a | Reconstruction and modernization of railway line Stalac – Kraljevo | PFS stage | PFS ongoing | Presumed not mature | Presumed not mature [2] | |
| 5b | Reconstruction and modernization of railway line Kraljevo - Rudnica | | PFS ongoing | Presumed not mature | Presumed not mature [2] | |
| 6 | Rehabilitation and modernisation of railway section Tabanovci - Dracevo along Corridor X | Reconstruction works completed / pending | FS, PD, ESIA, DD completed | Presumed mature | Presumed mature [3.3] | |
| 7 | Reconstruction of railway section Dracevo – Veles along Corridor X | FS, CBA, EIA completed | PFS, FS, PD, ESIA completed | Presumed mature | Presumed mature [3.2] | |
| 8 | Rehabilitation and modernisation of railway section Veles - Gevgelija along Corridor X | No available documentation yet | PFS and PD completed for subsection | NA | Presumed not mature [2] | |
| 9a | Reconstruction of Railway Line Novi Beograd – Zemun – Batajnica | PFS, FS, PD, ESIA completed | Construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | 28/11/2017 - 30/11/2020 |

[31] Actual/ planned start of works - Actual/ expected end of works.

| # | Project name | 2016 Status | 2019 Status | 2016 Maturity Level | 2019 Maturity Level | Construction period[31] |
|---|---|---|---|---|---|---|
| 9b | Reconstruction of Railway Line Batajnica - Stara Pazova | | Construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | 28/11/2017 - 30/11/2020 |
| 9c | Reconstruction and modernisation of railway line Stara Pazova - Novi Sad | | Land property issues and construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | 19/09/2017 - 31/12/2021 |
| 9d | Reconstruction and modernisation of railway line Novi Sad – Subotica – border with Hungary (Kelebija) | | PFS completed; FS, PD, ESIA and Spatial Planning ongoing (no need for co-financing) | Presumed not mature | De facto mature [4.2] | |
| 10 | Rehabilitation and modernization of railway section Blace-Gjorce Petrov, including electrification | NA | NA | NA | De facto not mature [1.1] | |
| 11 | General Rehabilitation of Railway Route 10 (Border with Serbia Leshak – Fushë Kosovë – Hani I Elezit – Border with North Macedonia), including electrification | PFS, FS completed, Land property issues resolved, ESIA, DD and Spatial Planning ongoing | FS, PD ESIA, Spatial Planning, DD and TD completed; Land property issues resolved; Construction & other permits, Construction works ongoing (no need for co-financing) | Presumed not mature | De facto mature (under construction) [4.5] | 07/02/2019 - |
| 12 | Rail Route 4 (Bar - Vrbnica) - Signaling Podgorica node and Bridges | PFS, FS, PD, ESIA, Spatial Planning completed, Land property issues resolved, DD, Construction and other permits completed, TD ongoing | TD completed and construction works ongoing (no need for co-financing) | De facto mature | De facto mature (under construction) [4.5] | 31/03/2017 - |
| 13 | Reconstruction and modernization of railway line Vrbnica-Bar 1) Rehabilitation of Train Track (superstructure), Culverts, Regulation of modernization of railway line Vrbnica-Bar watercourse, reconstruction of steel bridges; 2) Rehabilitation of Slopes; 3) Rehabilitation of landslides, tunnels, concrete bridges & electrical works | No available documentation | FS, Spatial Planning completed; Land property issues resolved; DD, TD, Construction & other permits, Construction works ongoing (no need for co-financing) | Presumed mature | De facto mature (under construction) [4.5] | |
| 14 | Rehabilitation of railway line Resnik-Vrbnica, section Valjevo-Vrbnica | NA | PFS completed; FS, PD ongoing | NA | Presumed not mature [2] | |
| 15a | Modernization of single-track railway line Nis-Dimitrovgrad-Bulgarian border, | PFS, FS, PD ongoing | PFS completed; FS, PD ongoing (no need for co-financing) | Presumed mature | De facto mature [4.2] | |

| # | Project name | 2016 Status | 2019 Status | 2016 Maturity Level | 2019 Maturity Level | Construction period[31] |
|---|---|---|---|---|---|---|
| | Section Sicevo – Stanicenje – Dimitrovgrad | | | | | |
| 15b | Modernization of single-track railway line Nis-Dimitrovgrad-Bulgarian border, Nis Bypass Section | | PFS, FS, ESIA and Spatial Planning completed; PD and Land property issues ongoing | Presumed mature | De facto mature [4.1] | |
| 16 | Construction of railway section Beljakovce – Kriva Palanka – Border with Bulgaria along Corridor VIII | FS completed, PD and ESIA ongoing | FS, PD, ESIA, DD, Spatial Planning and Land property issues completed; TD, Construction & other permits, Construction works ongoing (no need for co-financing) | NA | De facto mature (under construction) [4.5] | 17/04/2014 - Q2 2023 |
| | **MED** | | | | | |
| 1 | Rehabilitation and modernization works of railway section Bosanski Samac – Podlugovi | DD and Tender Documentation completed, FS ongoing, | PFS completed; FS, PD, Land property issues, DD ongoing | Presumed mature | Presumed not mature [2] | |
| 2 | Overhaul of railway section Podlugovi - Sarajevo | FS completed; DD ongoing | FS, PD, DD ongoing | Presumed not mature | Presumed not mature [2] | |
| 3 | Rehabilitation and modernization works of railway section Sarajevo – Čapljina | Construction works ongoing (no need for co-financing) | Project considered fully completed (no need for co-financing) | De facto mature (under construction) | Construction completed | 2018 |
| 4 | Modernization of the Railway Line Stara Pazova – Sid – Border with Croatia | PFS completed, PD ongoing | PFS and Spatial Planning completed | Presumed not mature | Presumed not mature [2] | |
| 5 | Modernisation of the railway line of Tirana-Durres | PFS, FS, PD, ESIA, Spatial planning completed, Land property issues, DD, Tender documentation ongoing | PFS, FS, PD, ESIA, Spatial planning, DD and TD completed; Land property issues ongoing (no need for co-financing) | Presumed mature | De facto mature [4.3] | Q4 2019 - Q2 2022 |
| 6 | Improvement of the railway link Durres-Vora - Shkodra - Hani i Hotit | PFS, FS and ESIA completed | PFS, FS and Spatial planning completed; PD and ESIA ongoing | Presumed mature | Presumed not mature [2] | |
| 7 | Reconstruction and Modernisation Railway line Podgorica-Tuzi - Border with Albania | DD ongoing | Land property issues resolved | De facto not mature | Presumed not mature [2] | |

Key: PFS – Prefeasibility Study (& Conceptual Design)
FS - Feasibility Study
PD - Preliminary Design
ESIA - Environmental and Social Impact Assessment
DD - Detail Design
TD - Tender documentation
NA – Not available

# 4 Inland Waterways, Inland & Maritime Ports

## 4.1 Gap analysis

The Inland Waterways (IWW) Core Network in the Western Balkans region includes parts of the Danube River from Bezdan in Serbia to Timok River (Serbian Borders with Romania and Bulgaria), as well as parts of the Sava River from Belgrade to Jamena in Serbia and from Ustica to Rača in Bosnia and Herzegovina. Furthermore, Tisa River from the Serbian Border with Hungary to the Danube River is also part of the Core Network. All these IWW sections are part of the Rhine-Danube Core Network Corridor.

More specifically, with regards to IWW, as well as IWW ports, the following links and nodes have been included in the Rhine-Danube Core Network Corridor:

*IWW links:*

1. ***Danube River***, total length 589 km from Bezdan to Timok River in Serbia
2. ***Sava River***, total length 619 km from Ustica to Rača in BiH (332 km) and from Jamena to Belgrade in Serbia (287 km)
3. ***Tisa River***, total length 164 km from Border with Hungary to Danube River in Serbia.

*IWW nodes:*

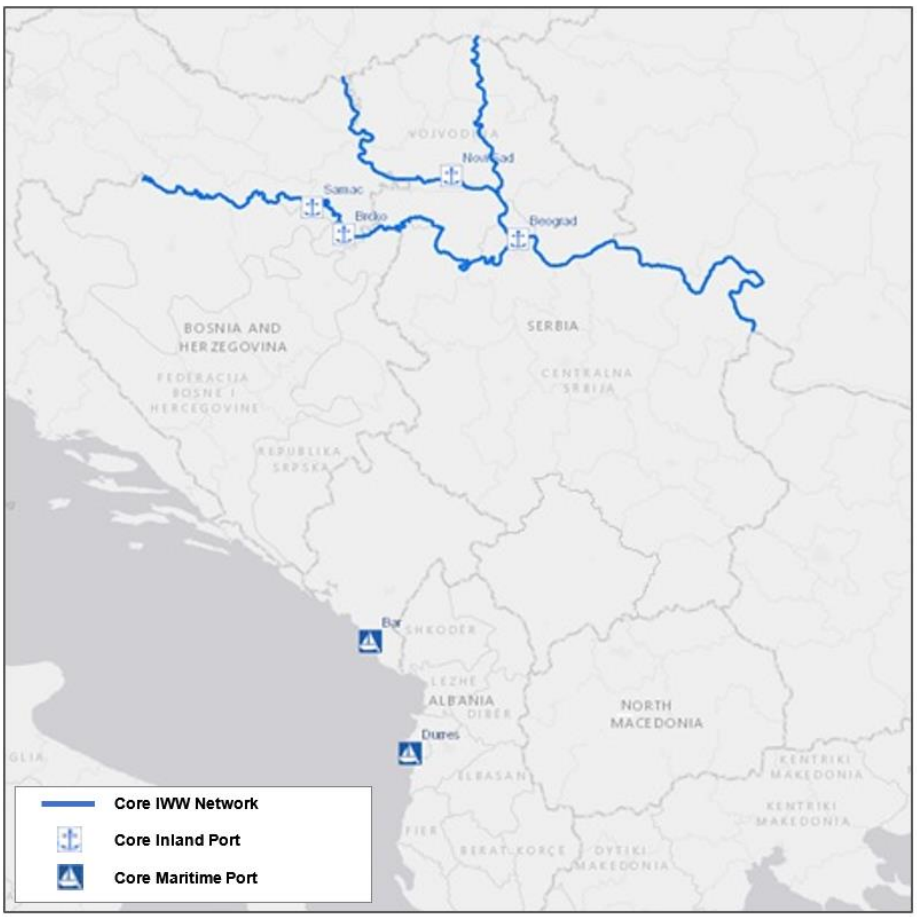
4. ***Port of Belgrade*** in Serbia
5. ***Port of Novi Sad*** in Serbia
6. ***Port of Brčko*** in Bosnia and Herzegovina
7. ***Port of Šamac*** in Bosnia and Herzegovina.

Furthermore, the maritime ports of Durres in Albania and Bar in Montenegro were also examined. It is noted that the port of Durres is part of the Mediterranean Corridor, while the port of Bar is an overlapping node in both Mediterranean and Orient/ East-Med Corridors.

*Maritime nodes:*

8. ***Port of Durres*** in Albania
9. ***Port of Bar*** in Montenegro.

**Figure 4.1 Core IWW Network and Core River and Maritime Ports**




The compliance gap analysis for the IWW and maritime network has been based on the infrastructure requirements of the TEN-T Core Network set out in the Regulation 1315. These requirements for IWW and ports are:

Inland waterways

Indication on the infrastructure parameters per section, verifying the compliance at least with class IV requirements according to ECMT, in particular:

- Length of vessels and barges: from 80-85m
- Maximum beam: from 9.50m
- Minimum draught: from 2.50m
- Tonnage: from 1000-1500t
- Minimum height under bridges: from 5.25/7.00m
- Indication on the availability of alternative clean fuels in inland ports by 2030

Maritime and Inland ports

- Connection to rail network, inland waterways and road network: core ports to be connected to rail by 2030
- Availability of alternative clean fuels by 2030.

An overview of the compliance gap exercise findings for the IWW and ports is presented as follows. It is noted that for the compliance exercise, the study team used the previous Gap Analysis (2016) results, taking into consideration the number of projects completed during the time period 2016-2019.

**Danube River**

The entire Danube River is compliant with the ECMT Class, maximum vessel length, tonnage and minimum height under bridge TEN-T standards. However, with regards to the minimum draught TEN-T standard, the IWW link between Bezdan and Novi Sad (181 km long, approximately 30% of the entire Danube SEETO Core Corridor) is not compliant, consisting thus of an infrastructure gap. Furthermore, particular attention should be paid to the border crossing with Hungary on the Danube River.

**Sava River**

Approximately 95% of Sava River is currently compliant in terms of ECMT Class, and the entire river is compatible in terms of maximum vessel length, tonnage and minimum height under bridge TEN-T standards. Furthermore, with regards to minimum draught, it is noted that only 13% of the Corridor (81 km between Belgrade and Vrbica-Plandiste area in Serbia) is compliant with the respective TEN-T standard.

**Tisa River**

Currently the IWW link on Tisa River is compliant with TEN-T standards in terms of ECMT Class.

**Inland and Maritime Ports**

All inland and maritime ports included in the Core Network are compliant with the TEN-T standards, having an existing rail connection.

### 4.1.1 Mediterranean Corridor

The only project identified for this Core Network Corridor is the "Rehabilitation of Quays 1 & 2 in the Port of Durres" in Albania, for which a Feasibility Study is under elaboration and an investment grant has already been provided to the Beneficiary.

### 4.1.2 Rhine-Danube Corridor

For the Rhine-Danube Corridor, **7 projects** were identified during the study, taking into account the National SPPs and the SEETO MAP 2018. Compared to the 2016 gap analysis one additional project has been included in the list of identified investments along the Corridor.

The projects for the Danube River refer to river training and dredging works on the Serbia-Croatia joint stretch of Danube (from Bezdan to Bačka Palanka) and the Bačka Palanka – Belgrade IWW link. These projects will address the compliance gaps identified on the Danube River. At the same time, the projects for the Sava River refer to the demining of the river's right bank, as well as rehabilitation, river training and dredging works on critical sections of the Sava River. Regarding the demining project in the section of the Sava River between the Drina and Una Rivers, which is of great significance for ensuring the safety of IWW transport in the area, the Detailed Design is completed. It should be noted that the demining process is one of the **most important preconditions for the Sava river waterway** and no other projects could be considered, unless this is implemented.

Furthermore, a project for the River port of Brčko is also included in the list of identified projects. This project is one of the five pre-identified projects for the Core Corridor Rhine-Danube, as agreed upon during the WB6 Vienna Summit in 2015 (Connectivity Agenda). The investment for the Port of Belgrade has also been added to this analysis.

An overview of the identified projects for the Rhine-Danube Corridor is presented is the following Table.

**Table 4.1 Investment Projects on Rhine-Danube Corridor – IWW Network**

| # | Project | Country | Investment Cost (M€) | Status | WBIF Support | Maturity Level | Eligible for WBIF co-financing | Supporting IFI/ other donor |
|---|---|---|---|---|---|---|---|---|
| 1 | River training and dredging works on critical sectors on SRB-HR joint stretch of Danube River | SER | 45 | PFS/CD and Spatial planning documents are completed; FS and PD are ongoing | | Presumed not mature | NA | EIB |
| 2 | River training and dredging works on critical sectors of Danube river in Serbia between Backa Palanka and Belgrade | SER | 9 | The project is considered fully prepared and no further preparation activities are envisaged. Construction works are ongoing. | | No need for co-financing | - | EU |
| 3 | River training and dredging works on critical sectors of Sava river | SER | 8 | PFS/CD, FS, PD, Spatial planning documents are completed; DD, TD, Construction & other permits, Construction works are ongoing | | No need for co-financing | - | EIB/EU |
| 4 | Construction of new infrastructure at Belgrade Port | SER | 180 | Spatial planning documents are to follow preparation of the CD and PFS | WB20-SRB-TRA-02 | De facto not mature | 2023 | EIB |
| 5 | Reconstruction and modernisation of River Port of Brčko | BiH | 14 | ESIA and DD are completed; Spatial planning documents and Construction and other permits are ongoing. | WB-IG01-BIH-TRA-04 | No need for co-financing | - | EBRD/EU |
| 6 (§4.2.1) | Rehabilitation and improvement of the Sava river waterway | BiH | 21 | PFS, FS and PD are completed; ESIA is ongoing | | Presumed mature | NA | NA |
| 7 (§4.2.2) | Demining of the Sava River right bank from confluence of Drina river up to confluence of Una river | BiH | 26 | DD is ongoing | | Presumed mature | 2020 | NA |
| **Subtotal (excl. projects with no co-financing needs)** | | | **272** | | | | | |

Note: PFS - Pre Feasibility Study
CD - Conceptual Design
FS - Feasibility Study
PD - Preliminary Design
ESIA - Environmental and Social Impact Assessment
DD - Detail Design
TD - Tender documentation
NA – Not available

The total investment cost for all identified IWW and ports projects, excluding the ones for which financing is secured, is estimated to be approximately €272 million, €225 million of which for the Danube River and €47 million for the Sava River. The projects are shown in the following map.

**Figure 4-4.2 Identified IWW projects**


It should be noted that the assumption made with respect to the definition of maturity level is that projects on which construction is likely to start by 2024 are considered high maturity projects.

For the IWW projects of high maturity, a more detailed analysis is presented in the next section, while detailed information for all identified projects can be found in the Appendix, where all Project Fiches are presented.

## 4.2 Assessment of Projects

Based on the analysis undertaken in close collaboration with all involved Beneficiaries and Stakeholders, two of the examined IWW and River Port projects for the Rhine/Danube Corridor were found to be of high maturity. A brief overview of these projects is presented as follows.

### 4.2.1 Rehabilitation and improvement of the Sava river waterway

**Type:** IWW project

**From/To:** Brčko to Confluence with Drina river (Raca)

**Core Corridor:** Rhine-Danube

**Country:** Bosnia and Herzegovina

**Costs:** €21 million


**Progress since 2016 connectivity study:**

No progress on preparation activities.

**Project status:**

The PFS (incl. PD solution) and feasibility study are prepared (supported/financed by ISRBC). The FS (incl. CBA) analysed two scenarios, first of which was improvement of the river Sava waterway to navigation class IV and the second one to navigation class Va. Also, the ToR for Detailed Design requires improvement of the river Sava waterway to navigation class IV (between Sisak and Brčko) and to navigation class Va (from Brčko toward Belgrade). Such "mixed" scenario was not analysed by the FS, which anyway needs to be updated. Also, the PD is based on surveys executed before 2014 floods, so it needs to be updated on the basis of new surveys and with updated unit prices. The next steps toward preparation of the project involves addressing the gaps in the earlier feasibility work in areas such as river morphology, climate change and integration with other ongoing projects (Requirements of the EU Water Framework Directive), prior to preparing the DD for the interventions, the exact costing, and the draft tender documentation for the engineering works. World Bank was involved in contract management for preparation of technical documentation (Detailed Design and ESIA), financed from EU grant IPA 2008. The project related to preparation of technical documentation has failed, as the IPA grant was withdrawn. To that end, next preparation considerations (as indicated in the WBIF Round 15 grant application) are: finishing the preparation of the necessary design and tender documentation for the civil works interventions to permit safe and efficient navigation on the section for the River Sava waterway from 179,7 rkm to 234 rkm and thus introduce reliable vessel operations; completion of a full ESIA including an Environmental and Social Management Plan (ESMP) and an Environmental and Social Management Framework (ESMF).

**Benefits:**

Promoting the water transport enhances regional transport development between the ports on the river Sava. The investment in the fairway is designed to facilitate trade, regional integration and sustainable growth and thus has a positive impact on the broader economy of Bosnia and Herzegovina. An increase in the cargo volume by more than 25%, i.e. by 100,000 tons/year, is expected. In addition, there will be lower operational costs for the Port of Brčko and thus more competitive cargo handling fees for the private sector active in the region.

**Financing:**

Financial options are yet unknown, though initial options include loan funding and potential investment co-financing (to total €20 million). To this aim, BiH applied for the WBIF grant (Round 15). The request of €860k included completion of ESIA study (€260k) and preparation of detail design and tender documentation (€600k). Also, Bosnia and Herzegovina received IPA 2010 grant funding (trust funds administered by the World Bank) for the preparation of the detailed design and ESIA for the Sava River from the mouth of the river (rkm 0) at the confluence with the Danube river at Belgrade to Brčko (rkm 234); and for the demining of critical areas of the right bank of the Sava River within BiH. However,

the above IPA grant, which preconditioned approval of the credit line, was cancelled (and consequently all contracts signed terminated) as Republika Srpska revoked its commitment.

**Risks:**

The main risks are related to potential lack of political willingness necessary for project implementation as well as cross-boundary coordination issues.

**Expected development:**

Until all project preparation activities are finalised there is no indication for an investment grant application for this project.

### 4.2.2 Demining of the Sava River right bank from the confluence of Drina river up to the confluence of Una river

**Type:** IWW project

**From/To:** Donja Gradina to Rača

**Core Corridor:** Rhine-Danube

**Country:** Bosnia and Herzegovina

**Costs:** €26 million

**Progress since 2016 connectivity study:**

No PFS, FS or ESIA has been elaborated.

**Status:**

The Beneficiary provided only the Detailed Design for demining. Although these activities are not typical civil/construction works (i.e. they do not need to be elaborated by CD, PD etc.), they still need to be covered by a PFS and FS as they will generate a certain financial cost. Taking into account that a demining process is one of the preconditions for the Sava river waterway improvement, it would be very practical to include demining costs into the Sava river waterway improvement costs and in such a way to update the existing studies for the Sava river waterway. The demining project design preparation was partly done by ITF, and the rest is in process of project preparation by Federal Management of Civil Protection, Armed Forces of BiH etc. Existing designs are outdated and these must be site revised.

**Benefits:**

The key benefits are opening of the riverbank for local communities, development of socio-economic activities along the riverbank and securing river to be safe for navigation.

**Project financing:**

BiH applied for an IPA grant (€4m, IPA 2010) preconditioned with the World Bank loan funds (30M$) for demining activities (the grant implementation preconditioned loan agreement with the Bank). However, the above grant, and consequently World Bank financing, was cancelled. Hence, financial options are yet unknown.

**Risks:**

The main risk is a potential lack of political willingness related to securing/committing to financing to implement the Sava river waterway improvement which is directly dependent on the demining activities.

**Expected development:**

The Beneficiary has submitted an investment grant application to WBIF INV R05 (WB-IG05-BIH-TRA-08), so the project should be eligible for co-financing in 2020.

## 4.3 IWW projects summary

The conclusions to be drawn from the above detailed review of the listed IWW projects are as follows:

- Overall the progress of IWW projects since the last study update has been insignificant.
- Only one project (reconstruction and modernisation of River Port of Brcko) has progressed since the last analysis, showing high maturity level, while one more was added to the identified investments (significant investments in port of Belgrade).
- Despite the high maturity of two projects, the remaining uncertainties are large mainly due to sensitive political issues regarding demining activities along the IWW links on the Sava River that can significantly affect the projects' outcome.

The table below summarizes the changes between the IWW projects analysed in 2016 Connectivity study compared to this analysis.

**Table 4.2 Evolution of IWW projects from 2016 to 2019**

| | | BIH | SER | Total |
|---|---|---|---|---|
| **Number of projects** | **2016** | 3 | 3 | **6** |
| | **2019** | 3 | 4 | **7** |
| **Total IWW length (km)** | **2016** | 360 | 349 | **709** |
| | **2019** | 360 | 349 | **709** |
| **Total investment (M€)** | **2016** | 43 | 72 | **115** |
| | **2019** | 43 | 242 | **285** |

Taking into account the 2016 and 2019 connectivity IWW project lists, the evolution of the individual project maturity in 2016 and 2019 is assessed in the following figure and table. The two columns (2016 Maturity and 2019 Maturity Level) of Table 4-3 are based on the available information on project maturity and proposed classification criteria of maturity level according to the adopted methodology described in Section 1.4. The last column provides an indication on the actual/ planned period of construction works, as per the available information and the estimated duration of current design activities for each de facto mature project.

**Figure 4.3 Comparison of IWW projects' maturity between 2016 and 2019**

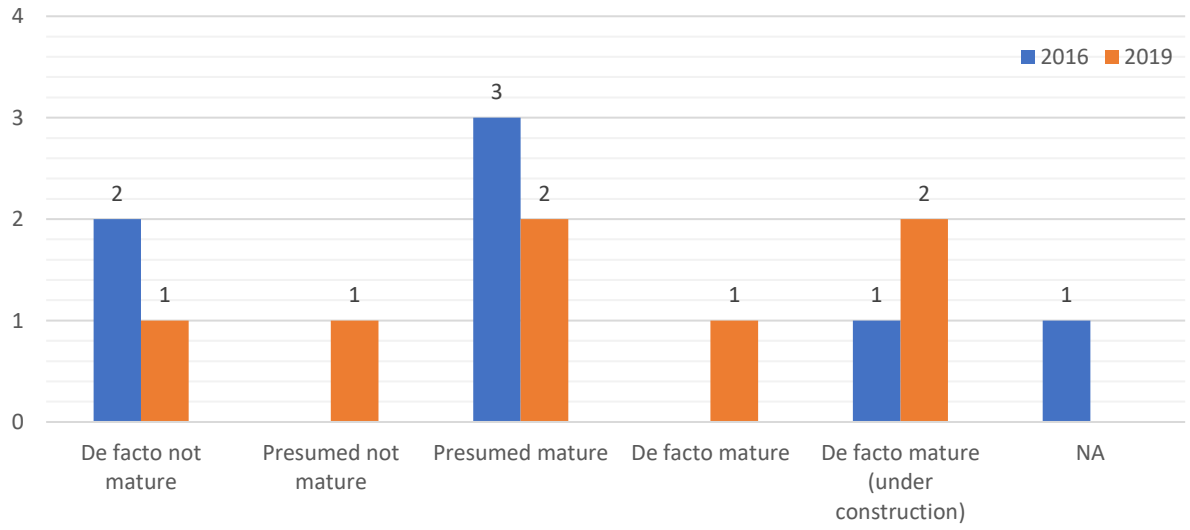


**Table 4.3 Evolution of IWW projects' maturity from 2016 to 2019**

| # | Project | 2016 Status | 2019 Status | 2016 Maturity Level | 2019 Maturity Level | Construction period[32] |
|---|---|---|---|---|---|---|
| 1 | River training and dredging works on critical sectors on SRB-HR joint stretch of Danube River | PFS and CD completed, Spatial planning documents completed/ approved, FS and PD ongoing | PFS/CD and Spatial planning documents completed; FS and PD ongoing | De facto not mature | Presumed not mature [2] | |
| 2 | River training and dredging works on critical sectors of Danube river in Serbia between Bačka Palanka and Belgrade | Works ongoing (no need for co-financing) | Works ongoing (no need for co-financing) | De facto mature (under construction) | De facto mature (under construction) [4.5] | 30/08/2018 - |
| 3 | River training and dredging works on critical sectors of Sava river | PFS and CD completed, Spatial planning documents completed/ approved, FS ongoing | PFS/CD, FS, PD, Spatial planning documents completed but to be updated for class IV; DD, TD, Construction & other permits, Limited works on some sectors | De facto not mature | De facto mature (under construction) [4.5] | 01/07/2017 - |
| 4 | Construction of new infrastructure at Belgrade Port | NA | Spatial planning documents pending completion of the CD and PFS (PFS is to commence within 2019) | NA | De facto not mature [1.1] | |
| 5 | Reconstruction and modernisation of River Port of Brčko | ESIA and DD completed, Spatial planning documents completed/ approved, Construction and other permits ongoing | ESIA and DD completed; Spatial planning documents and Construction and other permits ongoing (no need for co-financing) | Presumed mature | De facto mature [4.2] | NA |
| 6 | Rehabilitation and improvement of the Sava river waterway | PFS, FS and PD completed, ESIA ongoing | PFS, FS and PD completed; ESIA ongoing | Presumed mature | Presumed mature [3.1] | |
| 7 | Demining of the Sava River right bank from the confluence of Drina river up to the confluence of Una river | DD completed | DD ongoing | Presumed mature | Presumed mature [3.3] | |

Key: PFS – Prefeasibility Study (& Conceptual Design)
FS - Feasibility Study
PD - Preliminary Design
ESIA - Environmental and Social Impact Assessment
DD - Detail Design
TD - Tender documentation
NA – Not available

[32] Actual/ planned start of works - Actual/ expected end of works.

# 5 Electricity

## 5.1 Gap analysis

### 5.1.1 Gaps in electricity transmission corridors

The predominant power flow directions in the region analysed in the 2016 Connectivity Study remained of same importance and complexity at the time of this gap analysis update. Their identification is crucial for identification of the projects that need to be implemented in order to improve connectivity along main electricity transmission corridors. The main power flow directions in the Western Balkan region are from East to West (E->W) and from North to South (N->S), and these corridors are illustrated on Figure 5.1.

The status of the individual corridors is as follows:

- Corridor 1a is almost completed with energizing of the 400kV OHL between Serbia and North Macedonia [(400kV OHL Leskovac (SER) – Stip (NM)] and with the completion of the 400kV OHL project Tirana (ALB) – Pristina (Kosovo). The 400kV OHL project Bitola (NM) – Elbasan (ALB) line, which is in the advanced stage, will finalise developments of new infrastructure in this corridor.

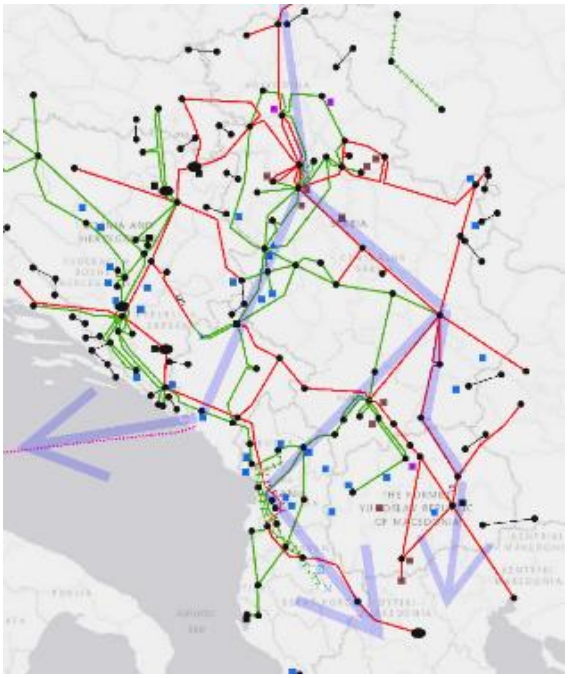
- Corridor 1b still has a number of gaps along its route, although significant progress was identified in development of individual projects. The missing sections are:
  - New 400kV OHL Bajina Basta (SER) – Visegrad (BiH) – Pljevlja (MNE), which is in the detailed design stage,
  - New 400kV OHL Lastva - Pljevlja (MNE), partly completed, partly still under construction,
  - Upgrading of the existing 220kV OHL Obrenovac – Bajina Basta (SER) to 400kV and upgrading of the existing 220kV S/S Bajina Basta to 400kV – in the detailed design stage,

- Corridor 2a, as initially designed, is completed with the construction of new interconnection between Serbia and Romania, 400kV OHL Pancevo (SER) – Resita (RO), only from Serbian side. Full capacity along this corridor may be achieved only upon completing the rest of the line on the Romanian side, as well as upgrade of the existing 220kV transmission grid in the Romanian part of Banat close to the Serbian border, also close to the Hungarian border and linking the existing 400kV interconnection between Hungary and Romania. On top of that, significant development of wind power generation in the area raised demand for further reinforcements along this corridor, which implied development of another new 400KV project in this area, new 400/110 kV 2x300 MVA substation "Belgrade West" and OHL 400 kV Serbia – Romania (i.e. upgrading of the existing single circuit 400kV OHL Djerdap (SER) – Portille de Fier (ROM) to double circuit 400kV OHL.

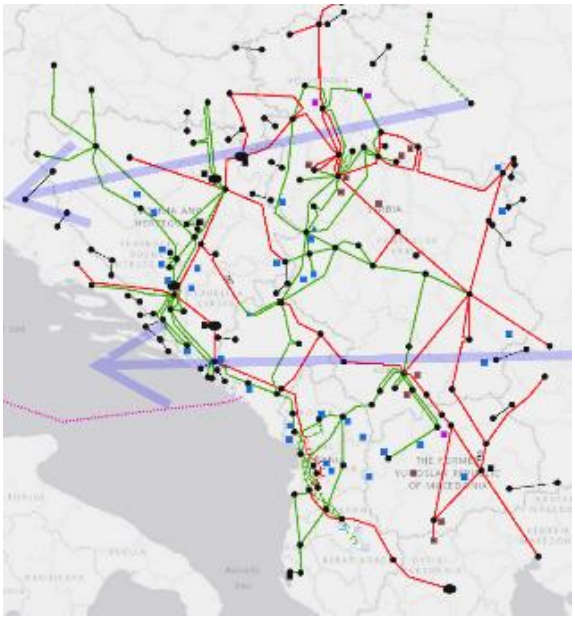
- Corridor 2b upgrading is a long-term development plan. It includes numerous projects outside of the WB6 region, as well as a new interconnection between Serbia and Bulgaria,

**Figure 5.1 Electricity transfer corridors**

1. Corridor North – South (in TYNDP identified as North East – South West) which in Serbia splits into two corridors:
   a) Hungary – Greece over Serbia, the North Macedonia and Albania, and
   b) Hungary – Italy, over Serbia and Montenegro, with important branch to BiH.



2. Corridor East – West which in Serbia splits into two corridors:
   a) Existing corridor Mid-Continental East (from Romania via Serbia and BiH to Croatia), and
   b) Future corridor East-West from Turkey and Bulgaria via West Balkans to Italy.



It is obvious that completion of the Transbalkan corridor is crucial for improvement of the regional connectivity in the Western Balkan, but also for the entire electricity transmission grid in Europe. Accordingly, this project is in the focus of the electricity transmission development plans (ENTSOE and national TYNDPs, PECI/PMI lists).

### 5.1.2 Energy Community PECI and PMI list for 2018

The basis for development of the PECI and PMI lists of priority projects in the Energy Community is in the Regulation (EU) 347/2013 for Energy Community, where it is defined that "*energy infrastructure" means any physical equipment or facility under the energy infrastructure categories which is located within the Contracting Parties or linking Contracting Parties, or linking Contracting Parties and Member States".*

In the Energy Community Ministerial meeting held on November 29th, 2018 two important decisions concerning electricity transmission have been adopted:

- Decision of the Ministerial Council of the Energy Community D/2018/11/MC/EnC on the establishment of the list of projects of Energy Community interest ("Energy Community list" or "PECI list"), and
- Recommendation of the Ministerial Council of the Energy Community R/2018/1/MC/EnC on Projects of mutual interest between Contracting Parties and Member States of the European Union ("PMI list").

Some of the projects in the electricity sector from the 2016 PECI list have been removed from the list in the assessment for 2018 [e.g. OHL Banjaluka (BiH) - Lika (CRO)], due to maturity issues and lack of support from both neighbouring project promoter sides. Other projects which were part of the PECI list 2016 and which are not part of the PECI list in 2018 have been completed in the meantime [such as e.g. 400kV OHL Tirana (ALB) – Pristina (KOS)] or for both reasons (such as 400kV OHL Pancevo (SER) – Resita (ROM) which is in the PMI category and has been completed in 2017, from Serbian side]. The latest PECI 2018 list was adopted in the Energy Community Ministerial meeting on November 29th, 2018 and published on the website of the Energy Community Secretariat[33]. The projects from this list are given in Table 5.1.

**Table 5.1 Electricity transmission projects from the adopted PECI 2018 list**

| | |
|---|---|
| El_01 | Transbalkan corridor |
| a | New 400 kV OHL SS Kragujevac 2 (RS) – SS Kraljevo 3 (RS), with voltage level upgrade in SS Kraljevo 3 (RS) to 400 kV voltage level |
| b | New double circuit 400 kV OHL SS Obrenovac (RS) – SS Bajina Basta (RS) with upgrade of SS Bajina Basta (RS) to 400 kV |
| c | New 400 kV interconnection between SS Bajina Basta (RS) - Visegrad (BA) - Pljevlja (ME) |
| d | Transbalkan corridor - section in Montenegro (OHL 400 kV Čevo-Pljevlja, OHL 2x400 kV and 400 kV Lastva-Čevo, SS 400/110/35 kV Lastva) |
| El_02 | 400 kV OHL Bitola (NM) - Elbasan (AL) |

[33] https://energy-community.org/regionalinitiatives/infrastructure/selection/2018.html

In the list of interest for EU (PMI list) for 2018 there were no projects between the countries from the Western Balkan region and EU member states.

Therefore, the list of electricity projects reviewed in this study is equal to the PECI 2018 list, consisting of four components of the Transbalkan corridor and the new interconnection between Albania and North Macedonia.

## 5.2 Assessment of projects

The review of the projects in this update of the connectivity gap analysis was done on the list of projects from PECI 2018 list. In this list there are 5 (five) project which are, due to a different presentation of individual projects[34], equivalent to 10 (ten) projects from the list reviewed in the 2016 study. In fact, except for the 400kV OHL project Banjaluka (BiH) - Lika (HR) which is not in the PMI list 2018 and consequently out of this review (this project was presented with two projects, component in Croatian and component in BiH in the 2016 study), and two projects which were completed since 2016 (400kV OHL Pancevo (SRB) – Resita (ROM) (at least from Serbian side) and 400kV OHL Tirana (ALB) – Pristina (KOS), the lists for the 2016 review and for this 2019 review are identical. The reviewed projects are presented in the table below.

Data about the projects were updated with the information from the relevant TSOs, IFIs and available documents. The general conclusion is that maturity of the projects significantly improved since last analysis in 2016. Practically all analysed projects made certain progress in this period, while 2 (two) of them have been completed and entered into operation.

**Table 5.2 Reviewed electricity transmission projects**

| Project name | PECI code | Comments |
|---|---|---|
| Transbalkan corridor section in Serbia - New 400 kV OHL SS Kragujevac 2 (RS) – SS Kraljevo 3 (RS), with voltage level upgrade in SS Kraljevo 3 (RS) to 400 kV voltage level | El_01 a | Since last update Design for construction was completed, tender for construction is on-going and construction will start in Q4/2019 |
| Transbalkan corridor section in Serbia - New double circuit 400 kV OHL SS Obrenovac (RS) – SS Bajina Basta (RS) with upgrade of SS Bajina Basta (RS) to 400 kV | El_01 b | Since last update the ToR for design was prepared and approved, financing provided and Design for construction is on-going |
| Transbalkan corridor regional section - New 400 kV interconnection between SS Bajina Basta (RS) - Visegrad (BA) - Pljevlja (ME) | El_01 c | Since last update the ToR for design was prepared and approved, financing provided and Design for construction is on-going |
| Transbalkan corridor section in Montenegro - OHL 400 kV Čevo-Pljevlja, OHL 2x400 kV and 400 kV Lastva-Čevo, SS 400/110/35 kV Lastva | El_01 d | Since last update SS Lastva is completed, OHL section Lastva – Cevo practically completed, OHL section Cevo-Pljevlja still under construction. |
| New 400 kV OHL Bitola (NM) - Elbasan (AL) | El_02 | Since last update Preliminary Design and ESIA have been completed. In Albania were completed preparations for design, while in North Macedonia design was completed and construction is about to start. |

The status of the reviewed projects is presented in the following paragraphs.

[34] In the 2016 study components of each OHL in individual countries were presented as separate projects (e.g. 400kV OHL Bajina Basta (SRB) – Pljevlja (MNE) – Visegrad (BiH) was presented with 3 (three) separate projects in the 2016 study).

### 5.2.1 El 01 - a: 400kV OHL Kragujevac - Kraljevo (SER)


**Type:** New 400kV OHL and associated substations

**From/To:** SS Kragujevac - SS Kraljevo (SER)

**Components:** New 400kV OHL Kragujevac - Kraljevo (SER) & upgrade of existing 220kV/110kV SS Kraljevo to 400kV

**Length:** 59.3 km

**Costs:** €28 million

**Start:** Q3/2017

**End:** Q3/2022

**Progress since 2016 connectivity study:**

Prefeasibility, feasibility and design phases for the project have been successfully completed. All necessary permits have been obtained, and currently all activities are focusing on the selection of the contractor for the OHL construction. It is expected that construction activities should start till the end of 2020 and completion is foreseen in the Q2/2022 (20 months implementation according to the design documentation and project implementation plan).

**Project status:**

Contracting for construction.

**Benefits:**

As part of the Trans-Balkan Corridor, the project is of the highest strategic importance for pan-European connectivity of electricity transmission infrastructure. The project is also of strategic importance for the connectivity of the WB6 area, as well as for the establishment and facilitation of the regional electricity wholesale and balancing market. The project is essential to be completed first to provide the technical system resilience for the other Trans-Balkan corridor projects to proceed, in particular for the implementation of the regional component of the Transbalkan Corridor, new 400kV OHL Bajina Basta – Pljevlja – Visegrad.

**Financing:**

Financing structure for this project has been completed. KfW is leading IFI for this project with the loan of 14.27 mil.€. The project received IPA II 2015 grant of 6.6 mil.€ that includes technical assistance for project documentation. Remaining funds of 7.13 mil.€ will be provided by EMS.

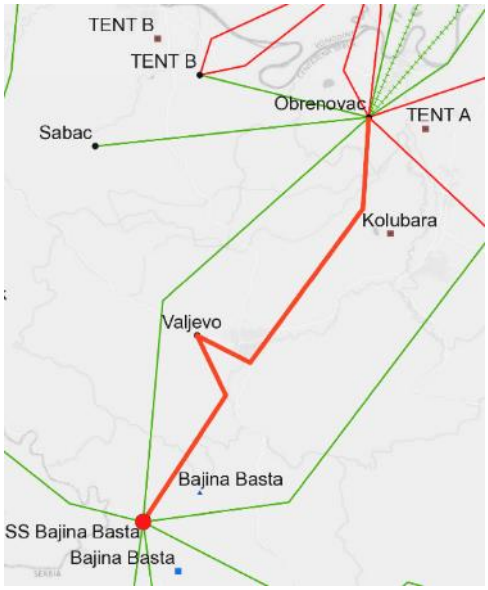
**Risks:**

There were no major risks recognised so far associated to the execution of this project. Since financing of this project has been agreed and all pre-construction phases completed, including all necessary permits and consents, this project does not share uncertainties and risks associated with the financing of the remaining sections of the Trans-Balkan Corridor.

**Expected development:**

Construction of the OHL is planned to start in the end of Q3/2020, and to be completed in the end of Q2/2022. Upgrading of the SS Kraljevo is due to begin in Q3/2020 and to end in Q4/2021

### 5.2.2 EI 01 - b: 400kV OHL Obrenovac–Bajina Bašta (SER)




**Type**: New double 400kV OHL and associated substations

**From/To:** SS Obrenovac – SS Bajina Bašta (SER)

**Components:** New 400kV OHL Obrenovac-Bajina Bašta (SER) and upgrade of the existing 220kV/35kV SS Bajina Bašta to 400kV

**Length:** 115 km

**Costs:** Estimated at €62.7million (€51.6 million OHL and €11.2 million SS)

**Start:** Q3/2022

**End:** Q3/2024 for SS and

Q4/2024 for OHL

**Progress since 2016 connectivity study:** Pre-Feasibility Study and Conceptual Design have been completed. Feasibility Study with Cost-Benefit Analysis (CBA) has also been completed. Preliminary Design and additional ESIA have been completed. Currently, from May 2019, is in progress technical assistance to EMS for development of the design for construction permit and design for construction for new double circuit 400kV OHL and design for construction permit for upgrade of the existing SS Bajina Basta (IPF7 subproject WB14-SRB-ENE-01).

**Project status:**

Design for construction**.**

**Benefits:**

The project is of the highest strategic importance for pan-European connectivity of electricity transmission infrastructure. It is of strategic importance for the connectivity of the WB6 area, as well as for the establishment and facilitation of the regional electricity wholesale and balancing market. This project will enable full utilization of the submarine HVDC cable between Montenegro and Italy. On top of that, by connecting two major generation nodes in Serbia and in the region as well (TPPs Nikola Tesla A and B with over 2500MW installed coal fired generation units and hydropower system Bajina Bašta with 1000MW installed, out of which 600MW pump storage), this project is of huge importance for improvement of security of supply in the area, as well as for optimal use of energy by better utilization of pump storages.

**Financing:**

The project has been rescheduled due to the unresolved financing agreement. Inadequate financial scheme offered by the WBIF and lead IFI to cover the negative financial NPV that JSC EMS has foreseen from this project. The application for IFI financing is foreseen after the proper investment grant is approved by WBIF. Development of the detailed design documentation is supported by a WBIF grant of € 0.8 million. An application for co-financing is a possibility from 2020.

**Risks:**

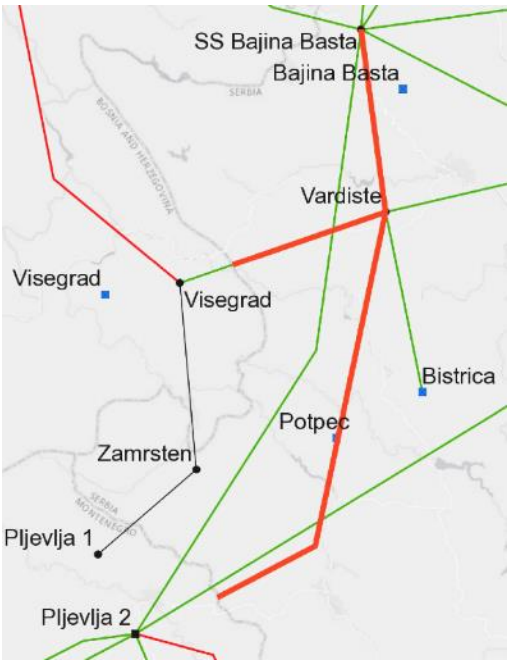
There are no risks associated with the project preparation and actual construction.

**Expected development:**

Detailed design for construction permit and design for construction for new double circuit 400kV OHL, and design for construction permit for upgrade of the existing SS Bajina Basta for construction permit, as well as update of ESIA started in May 2019 and should be completed by May 2021. Project

implementation could start in Q2/2022 and end in Q4/2024. An application for co-financing is a possibility from 2020.

### 5.2.3 EI 01 - c: 400kV OHL Bajina Bašta (SER) – Pljevlja (MNE) – Visegrad (BiH)




**Type:** New double 400kV OHL

**From/To:** SS Bajina Bašta (SER) to SS Pljevlja 2 (MNE) and to SS Visegrad (BiH)

**Components:** New 400kV OHL Bajina Bašta (SER) – Pljevlja (MNE) - Visegrad (BiH)

Upgrade of the SS Pljevlja 2

**Length:** 83.5km (SER) + 15km (MNE) + 17.3km (BiH)

**Costs:** Estimated at €47.8 mil. (SER) + €9 mil (MNE) + €9.5 mil (BiH)

**Start:** Q3/2020

**End:** Q2/2025

**Progress since 2016 connectivity study:** Feasibility Study and Conceptual Design have been completed. Feasibility Study with Cost-Benefit Analysis (CBA) has also been completed. Preliminary Design and additional ESIA have been completed. Currently, from September 2019, is in progress technical assistance for development of the design for construction permit and design for construction for new double circuit 400kV OHL and preliminary design for upgrade of the existing SS Pljevlja 2 (IPF7 subproject WB13-REG-ENE-01).

**Project status:**

Design for construction.

**Benefits:**

The project is of the highest strategic importance for pan-European connectivity of electricity transmission infrastructure. It is key component of the Transbalkan corridor and therefore of strategic importance for the connectivity of the Western Balkan region, as well as for the establishment and facilitation of the regional electricity wholesale and balancing market. This project will enable full utilization of the submarine HVDC cable between Montenegro and Italy.

**Financing:**

The project has been rescheduled due to the unresolved financing agreement for the sections on Serbian side. Inadequate financial scheme offered by the WBIF and lead IFI to cover the negative financial NPV that JSC EMS has foreseen from this project. The application for IFI financing is foreseen after the proper investment grant is approved by WBIF. Financing of the works in Montenegro is provided via KfW loan (part of the project for OHL Lastva-Pljevlja-Serbian border financed jointly with the development of the SS Lastva) and certain participation of the Montenegrin TSO (CGES). Financing of the sections in Serbia and BiH is not arranged yet. Applications for co-financing are a possibility from 2020.

**Project associated risks:**

Main risks for construction of this OHL are areas where new OHL route is using existing 220kV corridors. There are no other risks associated with the project preparation and actual construction. The only

foreseeable constraint may be financing issue in Serbia, due to the fact that numerous development projects of regional and pan-European significance, on top of regular development and maintenance costs associated with the internal transmission network in Serbia, present extremely high financial burden and risk for EMS in the years to come. EMS will apply for additional grant funds to overcome these restrictions.

**Expected development:**

Detailed technical design documentation is due to be completed by the end of 2021 followed by the development of the tender documentation for construction, tendering and selection of the contractor, which should be completed by the Q1/2022. Construction can start in Q3/2022 and end in Q2/2025. Applications for co-financing are a possibility from 2020.

### 5.2.4 El 01 - d: 400kV OHL Lastva – Pljevlja (MNE)


**Type:** New 400kV OHL and associated substation

**From/To:** SS Lastva - SS Pljevlja 2 (MNE)

**Components:**

- New double 400kV OHL Lastva – Čevo (MNE)
- New single 400kV OHL Čevo– Pljevlja (MNE)
- New 400/110kV SS Lastva

**Length:** 161.3km

**Costs:** €121.5 milliion

**Start:** 2015

**End:** 2025

**Progress since 2016 connectivity study:**

Construction of the SS Lastva was completed, including connection to the HVDC submarine cable converter station. Construction of the new double 400kV OHL Lastva - Cevo is almost completed. Construction of the new single 400kV OHL Cevo – Pljevlja is on-going.

**Project status:**

**Substation –** Completed

**OHL -** Construction**.**

**Project benefits:**

This project is part of the main pan-European and regional North-South electricity transmission Transbalkan corridor, linking central Europe with Italy over the submarine cable. Together with projects in Serbia along the same corridor, it is the only missing component to complete this major power transit route. In addition to high importance for the power system of Montenegro, this project also strengthens regional connections to Serbia, BiH, Kosovo and Albania, providing further support for regional electricity market development and facilitation of its operations.

**Project financing:**

The financing structure for the project has been completed. EBRD is leading IFI for this project, while KfW is the loan IFI for the €25 million loan. Project preparation was previously supported by WBIF grant of €3.5 million. Project execution will be supported by the 2015 EU Pre-Accession support (IPA II) grant with total value of 25 mil.€. Finally, the Montenegrin TSO (CGES) participates with €17 million of own funds.

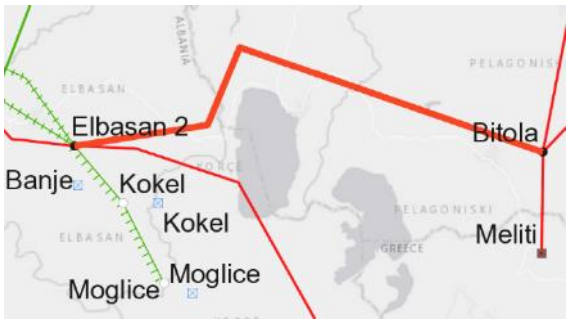
**Project associated risks:**

The only risks for implementation of this project are delays in construction due to the very difficult terrain and complex land acquisition, as well as complexity of the OHL layout near the termination point in the SS Pljevlja 2.

**Expected development:**

The components under construction should be commissioned by the end of 2022, but utilisation of this OHL can start only upon completion of the SS Pljevlja extension which is due by the end of 2023.

### 5.2.5 El 02: 400kV OHL Bitola (NM) – Elbasan (ALB)




**Type:** New 400kV OHL and associated substation

**From/To:** SS Bitola (NM) - SS Elbasan (ALB)

**Components:**

- New 400kV OHL Bitola (NM) – Elbasan (ALB)
- New 400/110kV SS Ohrid (NM)
- Compensation equipment in SS Elbasan

**Length:** 151 km (95km in NM and 56km in ALB)

**Costs:** €72.1 million (€42 million in NM and €70milion in ALB)

**Start:** Q1/2020 (NM); Q2/2021(ALB)

**End:** Q3/2022 (NM); Q4/2022 (ALB)

**Progress since 2016 connectivity study:**

**NM part:** Feasibility Study, including ESIA, and Preliminary Design have been completed. Border point of OHL connection with OST (Albanian TSO) has been determined and agreed. ESIA from Feasibility Study has been updated and approved, as a pre-condition for financing arrangements. Project is supported by the Ministry of Economy (Energy Department) and National Energy Regulatory Commission. The Main Design and Tender Documentation have been prepared and published and currently is on-going tender for selection of the contractor for construction of the OHL.

**AL part:** ESIA from Feasibility Study was updated and Environmental Declaration obtained. Selection of the Consultant for development of the Main Design and Tender Documentation, as well as for construction supervision was completed. Detailed design will be developed by the Contractor. Tender for design, engineering and construction of the OHLs and substation is on-going activities started.

**Project status:**

Construction (NM)

Design and construction (ALB)

**Benefits:**

This project provides improvement of the reliability of the regional electricity transmission network, and supports creation and facilitation of the regional electricity wholesale and balancing market. With this project, purely hydro power based generation facilities in the Albanian power system will get an opportunity to improve their efficiency combined with complementary predominantly thermal power systems in the North Macedonia and Kosovo.

**Financing:**

**NM part:** Financing structure for the project has been completed. EBRD is leading IFI for this project. Main financing source is €37 million corporate loan by EBRD, agreement has been signed in December 2015. Project preparation and supervision activities are financed by the IPA II grants (from EU-DG ENLARG and EBRD) with total value of €12 million.

**ALB part:** KfW is leading IFI for this project with €50 million loan. EU grant of € 14.3 million was approved to OST from IPA II 2016 for financing support of this project and of the project Elbasan-Fieri. OST will support development of both projects with €5 million of own funds. Additional grants have been approved for the development of detailed design by WBIF (600k€) and by KfW (600k€).

**Risks:**

**NM part:** There are no more risks related to preparations for project implementation since it is in the final stage. Concerning construction, the only major risk are possible delays due to the land acquisition issues. The land acquisition for OHL construction was not a precondition for the construction permit, so it will be done during the construction (section by section, following land acquisition progress). Changes in effective legislation that may have impact on project execution are not expected.

**ALB part:** The only recognised risk is relatively low prices for compensation of land acquisition (limited by the Law) which prevent OST to pay proper compensation to affected landowners and may cause time consuming procedures. Also, lack of cadastre in Albania makes land acquisition procedure more complex and time consuming.

**Expected development:**

**NM part:** Successful completion of the tender for selection of the contractor (tender will be closed on October 28th, 2019), supported by the PIU Consultant, is expected till the end of 2019. Contracting should be completed in Q1/2020 and works should start in the same quarter. According to the project implementation plan, duration of the works is 30 months which means that commissioning should be planned for Q3/2022.

**ALB part:** Contractor should be appointed by Q3/2020. Design and construction works should start in Q3/2020 and end, without potential delays, in Q4/2022.

## 5.3 Electricity projects summary

The review of the projects is summarised in the Table 5.3 below in which are presented changes in the status of the reviewed projects between the Connectivity study from 2016 and this 2019 update. The main conclusions from the review are as follows:

- Available data are very precise, so there are not any uncertainties concerning presenting status of individual electricity projects
- Overall progress of the electricity projects during this period was significant. Even for the single projects where formally it appeared that there was no progress, because it remained in the same category (OHL Lastva-Pljevlja in MNE), actual progress has been made within the same evaluation group.
- The risks for implementation of the projects and further delays can be summarised with inadequate financial scheme offered by the WBIF and lead IFI to cover the negative financial NPV that some of the project promoters foreseen from their projects, which are being built for the overall regional welfare. There are also a few potential risks of delays in construction, mainly due to the complexity of the land acquisition process.

**Table 5.3 Status and maturity of electricity projects reviewed**

| Project name | 2016 status | 2019 status | 2016 Maturity | 2019 Maturity | Eligibility for co-financing |
|---|---|---|---|---|---|
| Transbalkan corridor section in Serbia - New 400 kV OHL SS Kragujevac 2 (RS) – SS Kraljevo 3 (RS), with voltage level upgrade in SS Kraljevo 3 (RS) to 400 kV voltage level | Feasibility Study, Preliminary design ans ESIA completed. | Contracting of works | Presumed mature | De facto mature [4.4] | - |
| Transbalkan corridor section in Serbia - New double circuit 400 kV OHL SS Obrenovac (RS) – SS Bajina Basta (RS) with upgrade of SS Bajina Basta (RS) to 400 kV | Prefeasibility study completed. Feasibility Study, Preliminary design and ESIA ongoing. | Detailed design | De facto not mature | Presumed mature [3.2] | 2019[35] (KfW lead IFI) |
| Transbalkan corridor regional section - New 400 kV interconnection between SS Bajina Basta (RS) - Visegrad (BA) - Pljevlja (ME) | Feasibility Study with CBA completed. Preliminary Design and additional ESIA in progress. | Main design in progress | De facto not mature | Presumed mature [3.1] | 2021 (KfW lead IFI) |
| Transbalkan corridor section in Montenegro - OHL 400 kV Čevo-Pljevlja, OHL 2x400 kV and 400 kV Lastva-Čevo, SS 400/110/35 kV Lastva | Construction and supervision (no need for co-financing) | Construction and supervision (no need for co-financing) | De facto mature (under construction) | De facto mature (under construction) [4.5] | - |
| New 400 kV OHL Bitola (NM) - Elbasan (AL) | Feasibility study, Preliminary Design and ESIA (NM part) | Contracting of works (NM part, no need for co-financing) | Presumed mature (NM part) | De facto mature (NM part) [4.4] | - |
| | Feasibility study, Preliminary Design and ESIA (ALB part) | Tender for detailed design and construction (ALB part, no need for co-financing) | Presumed mature (ALB part) | De facto mature (ALB part) [4.3] | - |

It should be noted that two projects with three sections (OHL Pancevo-Resita, section in Serbia, OHL Tirana – Kosovo B section in Albania and OHL Tirana – Kosovo B section in Kosovo) from 2016 list have been successfully completed, and these OHL are already in operation. Also, OHL Banjaluka-Lika, section in BiH, was not in the PECI 2018 list. Accordingly, total number of projects in 2019, length of OHLs and value of investment are lower for the parameters of these 4 sections.

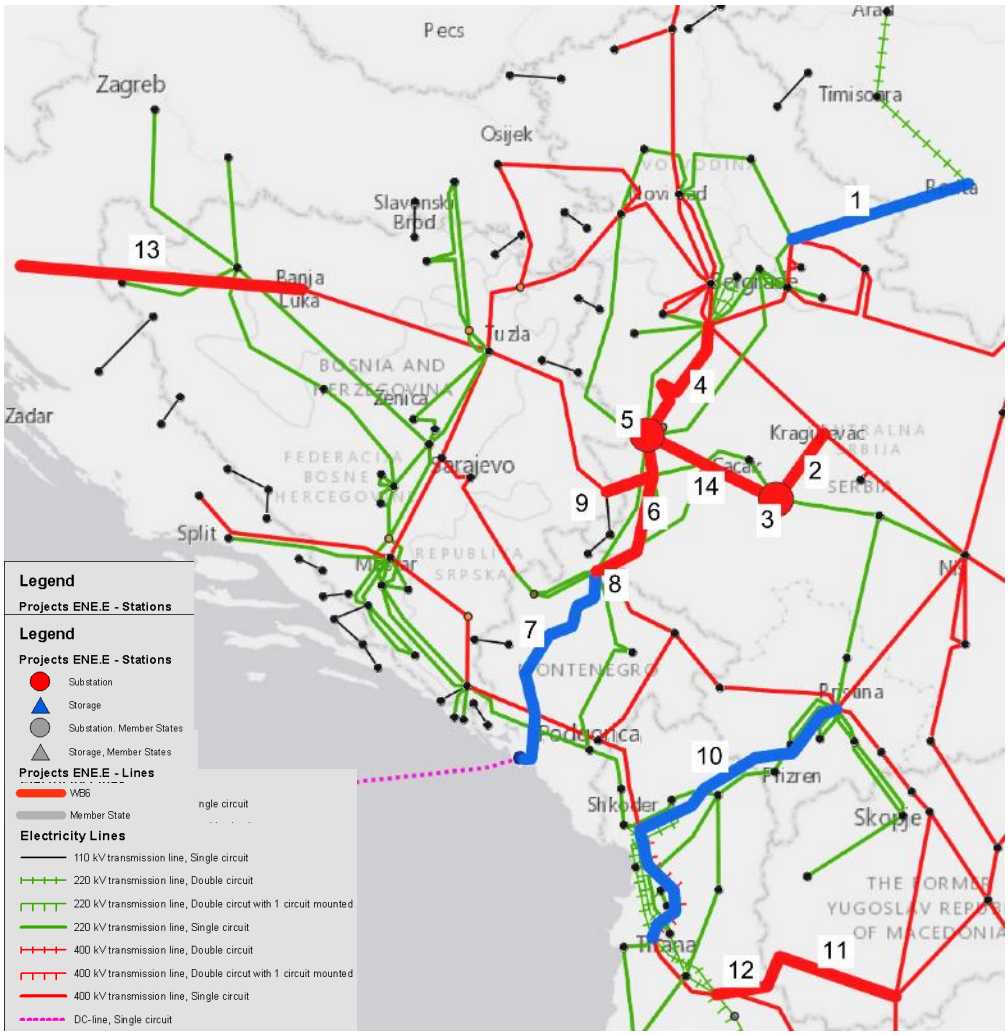
Comparison of number of projects is presented in the Table 5.4, with total OHL length and total investment by country for the years 2016 and 2019.

[35] INV grant application is submitted in the WBIF R04 and assessed positively – pending formal approval in Dec 2019.

**Table 5.4 Evolution of electricity projects between 2016 and 2019**

| | | ALB | BIH | KOS | MKD | MNE | SER | Total |
|---|---|---|---|---|---|---|---|---|
| Number of projects[36] | 2016 | 2 | 2 | 1 | 1 | 2 | 4 | **12** |
| | 2019 | 1 | 1 | 0 | 1 | 2 | 3 | **8** |
| Total OHL length (km) | 2016 | 217 | 127.3 | 81 | 95 | 176.3 | 325.8 | **1022.4** |
| | 2019 | 56 | 17.3 | 0 | 95 | 176.3 | 257.8 | **602.4** |
| Total investment (M€) | 2016 | 92.6 | 44.1 | 27 | 42 | 130.5 | 164.5 | **500.7** |
| | 2019 | 70 | 9.5 | 0 | 42 | 130.5 | 138.5 | **390.5** |

**Figure 5.2 Location of electricity interconnection projects**




[36] In Albania and in Kosovo one project was completed, (OHL Tirana – Kosovo B), in Serbia also one project was completed (OHL Pancevo – Resita), while in BiH one project dropped out of the PECI list.

# 6 Gas

## 6.1 Gap analysis

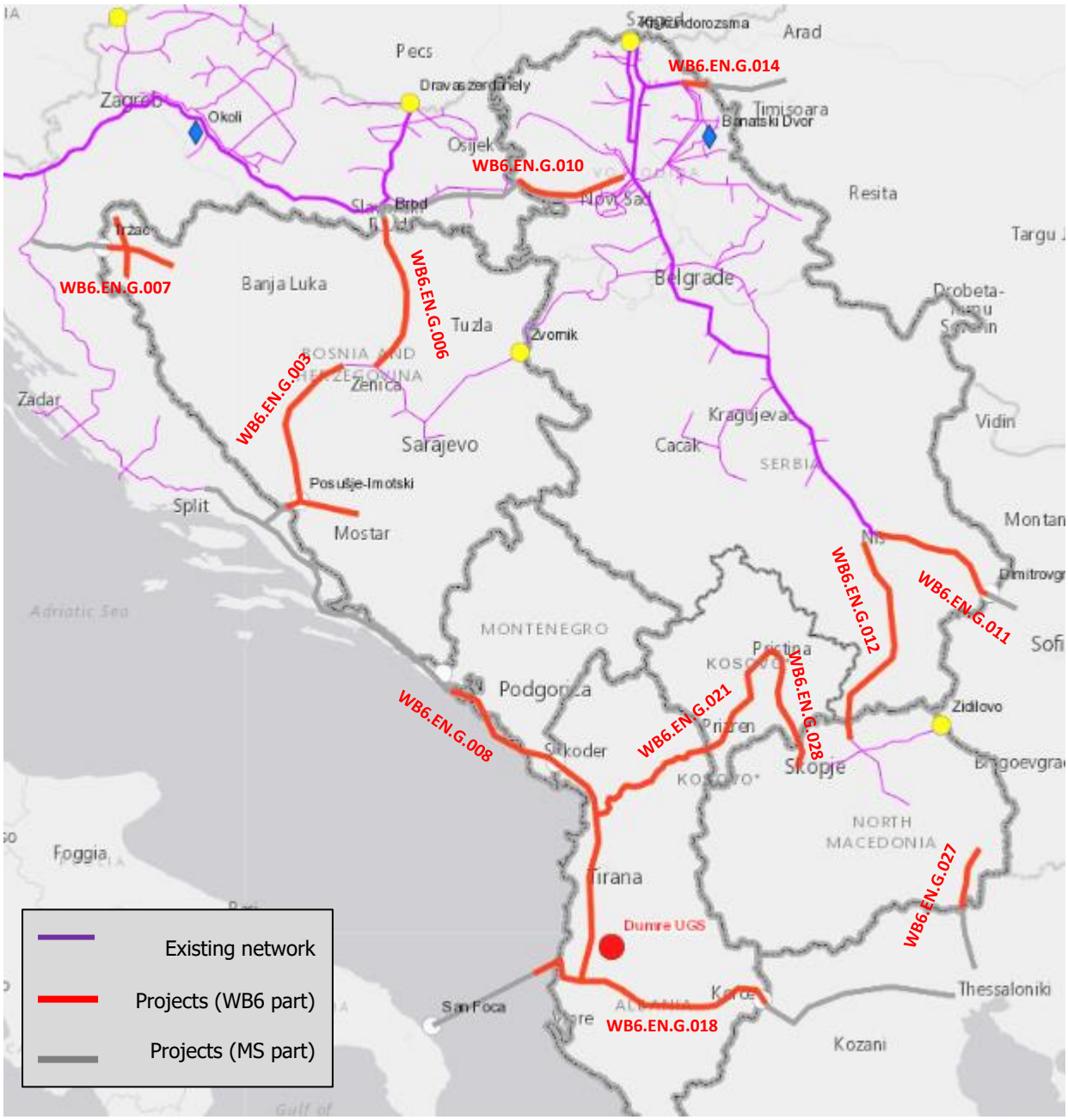
In the 2016 connectivity study a total of 20 gas projects (including a couple alternatives) were analysed. Out of that, 14 projects were also included in the 2016 ECS PECI list. The ECS PECI list was updated in 2018 and now includes 3 projects (that were within the above 20). In addition to PECI, in late 2016, a PMI (Projects of Mutual Interest[37]) list was also established. The 2018 PMI list includes additional 7 projects. In this study, an additional 3 (potentially) significant projects were added. Therefore, this study considered 13 gas projects. The resulting list of considered projects is shown in Table 6.1. and the projects are also shown on Figure 6.1.

**Table 6.1 Gas projects reviewed in this study**

| Project name | PECI/PMI code | Comments |
|---|---|---|
| Albania underground storage Dumre | positively screened by WBIF | 2 alternatives for Dumre, Feasibility study and ESIA expected to start in 2020. |
| BIH-HR south; Interconnection Pipeline BiH - HR (Zagvozd-Posusje- Travnik with a branch to Mostar) | gas_03 (PMI) | Preliminary design, ESIA, Feasibility study and tender documentation currently in progress. |
| BIH-HR north; Interconnection pipeline BiH-HR (Slobodnica-Brod-Zenica) | gas_01 (PMI) | No progress since last update. The project is lacking the political support from all entities in Bosnia & Herzegovina. |
| BIH-HR west; Interconnection Pipeline BiH - HR (Licka Jesenica-Trzac-Bosanska Krupa) | gas_02 (PMI) | No progress since last update. Project of local relevance. |
| IAP; Ionian Adriatic Pipeline | gas_16 (PMI) | Preliminary design and ESIA under development by WBIF. |
| SER-HR; Gas Interconnector Serbia Croatia | gas_10 (PMI) | Prefeasibility stage of project on Croatian side. Conceptual design ongoing in Serbia. |
| SER-BG; Gas Interconnector Serbia Bulgaria | gas_09 (PECI) | Main design and ESIA completed, Tendering documentation development in progress by CONNECTA, with expected completion in 2020. |
| MKD-SER; Interconnector of Republic of North Macedonia and Serbia | gas_11 (PECI) | Prefeasibility stage of development. No progress since last update. Application for FS and ESIA technical assistance was rejected by WBIF in 2019. |
| SER-ROM; Interconnector Serbia-Romania | gas_08 (PMI) | Conceptual design ongoing. No progress since last update. |
| TAP; Trans Adriatic Pipeline | PCI project | Construction is ongoing. Expected to be operational in 2020. |
| ALKOGAP; Albania - Kosovo Gas Pipeline | gas_13 (PECI) | Prefeasibility study completed. FS and ESIA development is pending completion of recently approved development of Kosovo Gas Master Plan. |
| MKD-GR; Interconnector of North Macedonia and Greece | gas_04b (PMI) | FS study completed in 2019, update of CBA ongoing. Main design and ESIA in progress, expected by mid 2020. Market test in progress. Update of FS requested by JASPERS. Co-investment application submitted to WBIF and approved in summer 2019?. No information available on the developments in Greece. |
| MKD-KOS; Interconnector of North Macedonia with Kosovo | supported by WBIF | TA approved for Gas Master Plan in 2019. |

[37] PMI list is intended to consider projects which include a ECS member state and a neighboring EC state.

**Figure 6.1 Map of gas projects reviewed**




## 6.2 Assessment of projects

Detailed assessment of the projects was conducted through the evaluation of existing documentation (mostly studies performed through previous technical assistance programmes in the region) and publicly available information. In addition to that updated questionnaires were distributed to the

beneficiaries to collect information or to confirm Consultant's information on the key project parameters and maturity status. As in 2016, the questionnaires were developed focusing on acquiring the information on the maturity and status of each of the shortlisted projects. The respective project fiches have been completed for each project and are available in the Annexe to this report or can be viewed online by accessing the GIS application. The key findings for each project are summarised below.

### 6.2.1 Albania underground storage Dumre

**Type:** Underground storage

**From/To:** Dumre (ALB)

**Components:** Underground gas storage

**Capacity:** 0,3/1,2 bcm/year (two values represent considered alternatives)

**Costs:** €68-73 million

**Start:** unknown

**End:** unknown

**Progress since 2016 connectivity study:**

Gas Master Plan for Albania was prepared in 2017 with Dumre identified as a potential underground gas storage project. The beneficiary and project promoter expect that the feasibility study and ESIA will commence in 2020 as the grant application has been positively screened at round 20 of WBIF GAF.

**Status:**

Identified in Gas Master Plan for Albania prepared in 2017. No further project related documentation was developed.

**Benefits:**

The project can serve as a regional gas storage covering the peak demand and balancing seasonal supply and could help Albania to meet N-1 criterion. An underground gas storage facility at Dumre in Albania would be a part of the SEE gas ring.

**Financing:**

Financing still to be determined subject to successful project development.

**Risks:**

The project is still in very early stage of development.

**Expected development:**

Feasibility study and ESIA are expected to start in 2020. Results of those will determine the future developments.

### 6.2.2 BiH – HR south: Interconnection pipeline Zagvozd – Posušje - Travnik with main branch to Mostar

**Type:** Interconnection pipeline BiH – HR (south)

**From/To:** Travnik / Zagvozd

**Components:** Zagvozd-Posušje-Travnik: Total 184 km (162 BiH, 22 HR); Option with additional route to Split: Split-Zagvozd-Posušje-Travnik: Total 236 km (162 BiH, 74 HR); Pipeline DN500

**Capacity**: 4 mcm/day

**Costs:** Total €116 million (€101 mil. BiH, €15 mil. HR); Additional €48 mil. for Split-Zagvozd (HR)

**Start:** unknown

**End:** 2023 (ENTSO-G TYNDP)

**Progress since 2016 connectivity study:**

CBA was completed through CONNECTA program in 2018. Feasibility study and ESIA are ongoing (funded through USAID grant) and are expected to be completed in 2020. Preliminary design and tender documentation development is in progress by CONNECTA. Expected completion is in 2020.

**Status:**

Project is in the prefeasibility phase. Prefeasibility study was completed in 2013 together with conceptual design. CBA was prepared and approved in 2018 while feasibility study, preliminary design and EIA are ongoing. Additional route from Zagvozd to Split, noted in CBA, is only considered in relation to IAP construction. USAID Grant of cca 0,5 Mill USD for FS and ESIA for BiH part of the project has been provided in 2019.

**Benefits:**

This project is of great interest for the development of the natural gas sector in Bosnia and Herzegovina, as its implementation would provide a new route of supply for Bosnia and Herzegovina with gas (south route), with a possibility of diversification of supply sources and increase in security of supply of the existing transportation system of Bosnia and Herzegovina. The construction of this gas pipeline(s) would enable the BiH gas transmission system to connect with the Croatian gas transmission system, and then with the potential route of the IAP Project. This direction implies the possibility to use the potential LNG terminal in Croatia for the needs of BH Gas Company, which adds additional value to the project. The project could potentially contribute to improving the air quality of Sarajevo, especially in winter.

**Financing:**

Financing still to be determined subject to successful project development (EBRD is lead IFI).

**Risks:**

The project is still in a relatively early stage of development, as the TA funding has been on hold for several years.

**Expected development:**

Further developments are dependent on the outcome of the feasibility study and the availability of grant funding and co-financing. An application for co-financing in the near future is a possibility if yellow book tender is used.

### 6.2.3 BiH – HR north: Interconnection pipeline Slobodnica – Brod - Zenica

**Type:** Interconnection pipeline BiH – HR (north)

**From/To:** Slobodnica / Zenica

**Components:** Total 146 km of pipeline DN700 and DN500 (140 BiH, 6 HR)

**Capacity**: 3,5 mcm/day

**Costs:** Total €95 million (€85 mil. BiH, €10 mil. HR)

**Start:** unknown

**End:** 2023 (ENTSO-G TYNDP)

**Progress since 2016 connectivity study:**

No progress since last update.

**Status:**

The project is in the prefeasibility phase, with prefeasibility study and conceptual design completed in 2006. Further activities by the developer (BH Gas) are stopped due to lack of support for the project from Republic of Srpska (as the interconnection partially crosses the territory of Republic of Srpska).

**Benefits:**

This project is a part of small SEE gas ring - connection Croatia south-BiH-Croatia north. This project is of great interest for the development of the natural gas sector in BiH, as its implementation would provide supply for the north-west part of BiH with gas, with a possibility of diversification of supply sources for BiH and an increase in security of supply in case it was extended to the existing transportation system of BiH.

**Financing:**

Financing still to be determined subject to successful project development.

**Risks:**

The project is still in a very early stage of development. Currently the main risk for further development lack of political support from all entities in BiH.

**Expected development:**

Further development mostly dependent on consensual political support to the project in BiH and grant funding for the project documentation.

### 6.2.4 BiH – HR west: Interconnection pipeline Licka Jesenica – Trzac – Bosanska Krupa

**Type:** Interconnection pipeline BiH – HR (west)

**From/To:** Lička Jesenica / Bosanska Krupa

**Components:** Total 110 km of pipeline DN500 and DN250 (80 BiH, 30 HR)

**Capacity:** 2 mcm/day

**Costs:** Total €49,2 million (€33,2 mil. BiH, €16 mil. HR)

**Start:** unknown

**End:** 2026 (ENTSO-G TYNDP)

**Progress since 2016 connectivity study:**

No progress since last update.

**Status:**

The project is in the pre-feasibility phase, with prefeasibility study and conceptual design completed in 2008. Further activities by the developer (BH Gas) are stopped due to unavailability of EU grant financing for project documentation.

**Benefits:**

The pipeline is of local interest and provides a new supply route to the west part of BiH (Unsko-Sanski kanton) which does not have natural gas supply.

**Financing:**

Financing still to be determined subject to successful project development.

**Risks:**

The project is still in a very early stage of development.

**Expected development:**

Further development is highly dependent on grant funding for the project documentation, through technical assistance. Beneficiary provided that BH Gas intends to apply for WBIF TA grant for feasibility study, ESIA and preliminary design.

### 6.2.5 IAP: Ionian Adriatic Pipeline

**Type:** Regional pipeline from TAP in Albania, crossing Montenegro, to Croatia

**From/To:** Fier / Split

**Components:** Total 511 km of pipeline DN800 (170 ALB, 96 MNE, 245 HR), including compressor station

**Capacity:** 20 mcm/day

**Costs:** Total IAP €618 million (€169 mil. ALB, €119 mil. MNE, €330 mil. HR)

**Start:** unknown

**End:** 2021 (ENTSO-G TYNDP) – 2023 Croatia; 2025 Montenegro; 2026 Albania – ECS PLIMA Transparency Platform

**Progress since 2016 connectivity study:**

No new project documentation was completed since last update. A WBIF grant for preliminary design and ESIA was approved in 2016, with ToR finally approved by beneficiaries in 2018. The documentation is expected to be completed by 2020.

**Status:**

The project is in the feasibility phase, with feasibility study and CBA completed in 2014.

**Benefits:**

The Ionian-Adriatic Pipeline Project (IAP) is part of the prospective SEE gas ring, is the most important regional project in the South Eastern Europe and is included in the Project of Mutual Interest (PMI) list. The pipeline will interconnect both the existing and planned gas transmission system of the Republic of Croatia with the Trans Adriatic Pipeline (TAP) or a similar project (Interconnector Turkey – Greece – Italy (ITGI). The project aims to establish a new supply route for natural gas from the Middle East and Caspian region, northwards along the Adriatic coast. The IAP project however is planned as a bi-directional pipeline, so the possible supply direction could also be north – south, from the strategically planned LNG terminal in Croatia, or other sources. The construction of this transmission pipeline would enable the gasification of Albania and Montenegro, southern Croatia and Bosnia and Herzegovina, providing a diversified and reliable natural gas supply.

**Financing:**

Financing still to be determined subject to successful project development.

**Risks:**

The main risks are related to the consistency of support of all governments relevant for IAP (Croatia, Montenegro and Albania) and to the positive commercial and market situation that would keep IAP feasible. It is possible the WB will re-evaluate the commercial aspects of IAP development.

**Expected development:**

Preliminary design and ESIA are to be completed by 2020. TAP will start with operation as well. Further developments are highly dependent on the market interest for IAP as a regional interconnection pipeline. Applications for co-financing in the near future are possible if yellow book tender procurement is to be used.

### 6.2.6 SER – CRO: Gas interconnector Serbia - Croatia

**Type:** Interconnection pipeline Serbia - Croatia

**From/To:** Gospođinci / Slobodnica

**Components:** Total 197 km of pipeline (95 SER, 102 HR) - DN800 (HR), DN600 (SER)

**Capacity:** 20 (4,1) mcm/day

**Costs:** Total €148 million (€60 mil. SER, €88 mil. HR)

**Start:** unknown

**End:** 2023 in Croatia, 2026 in Serbia (ENTSO-G TYNDP)

**Progress since 2016 connectivity study:**

No progress since last update.

**Status:**

The project is a part of the Croatian TSO, TYNDP and Serbian Energy Strategy (Action plan) and TSO Network Development Plan. In Serbia, conceptual design is in progress and it is expected by beneficiaries to be completed in 2022. In Croatia, basic design has been completed and ESIA approved.

**Benefits:**

Slobodnica-Gospođinci is the gas pipeline which will connect the Croatian and Serbian gas transmission systems and provide gas transmission in both directions, with a capacity up to 6 bcm/y. This pipeline would make possible the transit from the LNG solution in Croatia to Serbia, as well as the potential to operate the gas transmission in the opposite direction from new supplies. It provides the possibility of new gas source for the markets of Serbia, Romania and Bulgaria from the future LNG solution on the island of Krk and other sources. The project would be a part of SEE gas ring.

**Financing:**

Financing still to be determined subject to successful project development.

**Risks:**

Regular project development and project implementation risks. No major risks identified at this stage.

**Expected development:**

In Serbia, project is still in early phase with conceptual design ongoing and estimated completion in 2022. After its completion, further steps and dynamics of development is to be determined. Project doesn't seem to be a high priority.

### 6.2.7 SER – BG: Gas interconnector Serbia - Bulgaria

**Type:** Interconnection pipeline SER - BLG

**From/To:** Niš / Sofia-Dupnica

**Components:** Total 171 km of pipeline DN700 (109 SER, 62 BLG)

**Capacity:** 5 mcm/day

**Costs:** Total €132,5 million (€85,5 mil. SER, €47 mil. BLG)

**Start:** 2020 (construction start estimate)

**End:** 2022 (ENTSO-G TYNDP)

**Progress since 2016 connectivity study:**

Feasibility study, CBA, ESIA and main design were completed in 2019. Location permit was issued in 2019. Tender documentation development for Works and Supervision contracts is in progress by CONNECTA. Expected completion in early 2020.

**Status:**

Conceptual design was completed in 2012. After spatial planning documentation completed in 2016, feasibility study, CBA, ESIA and main design were completed in 2019. It is a part of the Serbian Energy Strategy (Action plan) and TSO Network Development Plan and Bulgarian TSO TYNDP (2015-2017), a priority project in the Bulgarian Energy Strategy 2020 and a part of the SEE gas ring

**Benefits:**

The project provides a new route of supply to Serbia at the same time as integrating Serbian existing and planned gas storage capacities into the Regional market.

**Financing:**

At this moment it is unclear whether the Bulgaria has secured the financing for this project. Serbia is expecting to secure financing for its section within the IPA pre-accession funds.

**Risks:**

No major risks recognized at this stage.

**Expected development:**

Tendering for Works in Serbia is expected to be according to the FIDIC Red book and PRAG rules with estimation of preparation of documents in 2020, when the project will be ready for co-financing absorption. Beneficiary is expecting construction to start in September 2020 with end of works in May 2022.

### 6.2.8 MKD – SER: Gas interconnector of the North Macedonia with Serbia

**Type:** Interconnection pipeline SER- MKD

**From/To:** Niš / Kumanovo

**Components:** Total 160 km of pipeline DN320 (42 SER, 118 MKD)

**Capacity:** 1,3 mcm/day

**Costs:** Total €72 million (€8,5 mil. SER, €63,5 mil. MKD)

**Start:** unknown

**End:** 2022 (ENTSO-G TYNDP)

**Progress since 2016 connectivity study:**

No new project documentation since last update. On North Macedonia side, application for technical assistance for feasibility study, ESIA and main design was sent. It was not approved in last round so application will be submitted again.

**Status:**

The pipeline part of the North Macedonia gasification strategy and the Serbian Energy Strategy (Action plan) and TSO Network Development Plan. On the North Macedonia side, the conceptual design was completed in 2010. On the Serbian side, the conceptual design is in progress and the beneficiary expects its completion by 2022.

**Benefits:**

The project provides a new route of supply to North Macedonia and possibly also Serbia, increasing the security of supply, diversifying the routes and sources of supply and implementing the regional gas market. It would form part of the SEE gas ring.

**Financing:**

Financing still to be determined subject to successful project development.

**Risks:**

Project is still in the early stage of development.

**Expected development:**

Further development of project documentation (feasibility, ESIA and CBA studies) could be funded through technical assistance programmes in the region.

### 6.2.9 SER – ROM: Gas interconnector Serbia - Romania

**Type:** Interconnection pipeline SER - ROM

**From/To:** Mokrin / Masioc

**Components:** Total 76 km of pipeline DN600 (13 SER, 63 ROM)

**Capacity:** 5 mcm/day

**Costs:** Total €46 million (€9,5 mil. SER, €36,5 mil. ROM)

**Start:** unknown

**End:** 2020 (?) (ENTSO-G TYNDP)

**Progress since 2016 connectivity study:**

No progress since last update.

**Status:**

The project is part of the Serbian Energy Strategy (Action plan) and TSO Network Development Plan. According to 2016 information, the Romanian side (Transgaz) generally supports the interconnection idea. In Serbia, conceptual design is in progress and it is expected by beneficiaries to be completed in 2020.

**Benefits:**

The pipeline is of local interest, increases the security of supply and brings additional diversification of routes and sources of supply. It will also assist implementation of the Regional natural gas market.

**Financing:**

Financing still to be determined subject to successful project development.

**Risks:**

No extraordinary risks identified at this stage.

**Expected development:**

In Serbia, project is still in early phase with conceptual design ongoing and estimated completion in 2020. After its completion, further steps and development will be determined. Therefore, the above stated "End" date in 2020 appears to be unrealistic, however no other official information is available.

### 6.2.10 TAP: Trans Adriatic pipeline

**Type:** Interconnection pipeline Greece-Albania-Italy

**From/To:** Greece-Albania-Italy

**Components:** Total 878 km of pipeline (550 GRE, 215 ALB, 105 offshore, 8 ITA) DN1200 (offshore DN900)

**Capacity:** 30 mcm/day

**Costs:** Total €4500 million (€1500 mil. in ALB)

**Start:** started

**End:** 2020

**Progress since 2016 connectivity study:**

Project is still under construction which is due for completion in late 2020. Backfilling of pipes is completed in Greece and Albania, while first offshore pipes were laid in Albanian waters in April 2019. In December 2018, TAP successfully completed financial close with EIB, EBRD, ECA facilities and commercial banks.

**Status:**

The project is under construction - almost 89% of project was completed at the end of July 2019. Backfilling of pipes is completed in Greece and Albania, while first offshore pipes were laid in Albanian waters in April 2019. In December 2018, TAP successfully completed financial close with EIB, EBRD, ECA facilities and commercial banks.

**Benefits:**

TAP's main objective is to open the Southern Gas Corridor, a key goal of the European Energy Policy, and strengthen the security of supply in the region by contributing to the diversification of the supply routes and sources in the region. By connecting Italy, Albania and Greece TAP will improve the flexibility of the system, thanks to the possibility of reverse flow and to the existence of other gas infrastructures such as gas storage (in Italy) and LNG terminals (in Italy and Greece). Most of all, TAP's physical reverse flow capabilities will contribute to market integration and interoperability.

**Financing:**

Financing closed by TAP consortium in December 2018.

**Risks:**

Regular construction risks: delay and cost overruns.

**Expected development:**

Construction expected to complete in 2020 followed by commissioning of TAP and gas deliveries starting to customers in Italy. Will facilitate the gasification of Albania and create preconditions for IAP.

### 6.2.11 ALKOGAP: Interconnector of Albania and Kosovo

**Type:** Interconnection pipeline between Albania and Kosovo

**From/To:** Milot / Pristina

**Components:** Total 212 km of pipeline DN600 (113 ALB, 99 KOS)

**Capacity:** 4 mcm/day

**Costs:** Total €211 million (€150 mil. ALB, €61 mil. KOS)

**Start:** unknown

**End:** 2027 (ENTSO-G TYNDP)

**Progress since 2016 connectivity study:**

Prefeasibility study was completed under IPF4 in 2018.

**Status:**

Project is in prefeasibility stage with prefeasibility report completed in 2018. Grant funding in WBIF round 15 has been requested for the feasibility study and ESIA for the amount of €1.750.000.

**Benefits:**

The project establishes the consumption potential of the natural gas at the industry and household sectors in Kosovo. The analysis and recommendations of the potential for connectivity are made in the regional natural gas network (TAP-IAP) studies. The project enhances the portfolio diversification of the energy sources and security of supply. It will have local (supplying gas to north east of Albania) and country impact securing gas supply to Kosovo.

**Financing:**

Financing still to be determined subject to successful project development.

**Risks:**

The project is dependent on IAP. In case IAP is not realized or is realized only with significant delay, the project might not be viable. There is alternative option to supply Kosovo* from North Macedonia which might prove to be more feasible. No extraordinary risks identified at this stage.

**Expected development:**

Further project documentation development (feasibility, ESIA and CBA studies) is currently on hold pending the development of a Gas Master Plan for Kosovo. It is expected to start in 2020 as it was recently approved by WBIF.

### 6.2.12 MKD – GR: Interconnector of the North Macedonia and Greece

**Type:** Interconnection pipeline between MKD and Greece

**From/To:** MKD-Štip / GR

**Components:** Total 124 km of pipeline DN700 (68 MKD, 56 GRE)

**Capacity:** 4,7 mcm/day

**Costs:** Total €86 million (€54 mil. MKD, €32 mil. GRE)

**Start:** unknown

**End:** 2020 (?) (ENTSO-G TYNDP)

**Progress since 2016 connectivity study:**

Feasibility study was completed in 2019 through beneficiary funding. ESIA, CBA update and main design are currently ongoing, through CONNECTA, with expected completion in mid 2020. Co-investment application has been submitted to WBIF investment round 4 and has been approved in 2019 by WBIF Steering Committee.

**Status:**

The North Macedonia section has the feasibility study completed in 2019 while main design, CBA update and ESIA are in progress. The pipeline is at the heart of the North Macedonia gasification strategy. No information is available on the developments in the respective Member States.

**Benefits:**

The pipeline would enable a new source of gas supply for North Macedonia which is currently supplied from only one source of limited capacity. It would enable North Macedonia to be supplied from Greece LNG or TAP and allow gasification of the territory around Radovis-Bogdanci-Strumica-Gevgelija.

**Financing**:

Co-financing application has been submitted by North Macedonia to WBIF. The application is positively assessed and investment grant was approved in December 2019.

**Risks:**

No extraordinary risks identified at this stage. No information available on the developments in the respective Member States.

**Expected development:**

On Macedonian part, main design and ESIA are expected to be completed in mid-2020. Tender documentation should follow. Construction start is planned for early 2021 and the co-financing application has been submitted to WBIF in 2019. Considering the above, the officially proclaimed "End" date in 2020 is apparently unrealistic.

### 6.2.13 MKD – KOS: Interconnector of the North Macedonia and Kosovo

**Type:** Interconnection pipeline between MKD and KOS

**From/To:** Skopje / Pristina

**Components:** Total 85 km of pipeline DN500 (16 MKD, 69 KOS)

**Capacity**: 4 mcm/day

**Costs:** Total €51 million (€11,5 mil. MKD, €39,5 mil. KOS)

**Start:** unknown

**End:** unknown

**Progress since 2016 connectivity study:**

MoU was signed between Ministry of Economy of North Macedonia and Ministry of Economic Development of Kosovo in February 2019 for the bilateral cooperation in energy sector and for the purpose of TA grant. Application for Gas Master Plan development has been approved by WBIF.

**Status:**

The North Macedonia section has completed conceptual design in 2009 and feasibility study with preliminary design in 2010. Currently the developments are on hold until the Gas Master Plan is developed. The project is included in List of priority projects in North Macedonia and is a part of the North Macedonia gasification strategy.

**Benefits:**

The pipeline is of local interest and will have country wide impact by securing gas supply to Kosovo. The pipeline would: establish the consumption potential of the natural gas at the industry and household sectors in Kosovo; enhance the portfolio diversification of the energy sources; increase the security of supply; and diversify routes and sources of supply. It has the potential to diversify the fuel mix of the electricity generation sector.

**Financing:**

Financing still to be determined subject to successful project development.

**Risks:**

No extraordinary risks identified at this stage.

**Expected development:**

Feasibility study and CBA for the project were expected to start in 2020, but are on hold until the Gas Master Plan is completed. Results of the Gas Master Plan will determine the future developments.

#### 6.2.14 Interconnections with Member States

During the original 2016 study an effort was made (through e-mails to national TSOs) to obtain the information on the status of interconnection projects on the side from neighbouring Member States (Bulgaria, Romania, Greece and Croatia). Unfortunately, very little information was received except for feedback from Bulgaria on the interconnection with Serbia. The updating exercise has used the new information where it was publicly available but no new attempts to collect information from Member States have been made.

## 6.3 Gas projects summary

The conclusions that can be drawn from the above detailed review of the listed gas projects are as follows:

- Overall the progress of gas interconnection projects since the last study update has been moderate. In the majority of cases, the overall level of project maturity is still low (projects are mostly in preparatory, pre-feasibility or feasibility phases).
- According to the definitions of project maturity as given in Chapter 1.4, only TAP is considered mature with two projects (Interconnectors BiH – HR South and SER-BG) being identified as presumed mature. In addition, interconnector MKD-GR are expected to reach the status of presumed mature by mid 2020. The IAP project will complete Preliminary Designs in 2020 and so may also be suitable for co-financing before 2024.
- As a result of the above, the existing documentation is scarce, and is mostly limited to studies developed through technical assistance programs in the region.
- Due to the low maturity of the projects, the remaining uncertainties are large (including exact routing, feasibility of the projects, future development plans, timing).
- Many of the projects are burdened by political issues that can significantly affect the project outcome.

The table below summarizes the changes between the projects analysed in 2016 Connectivity study compared to this 2019 update.

**Table 6.2 Evolution of gas projects from 2016 to 2019**

| | | ALB | BIH | KOS | MKD | MNE | SER | Total |
|---|---|---|---|---|---|---|---|---|
| **Number of projects** | **2016** | 6 | 3 | 3 | 5 | 2 | 6 | **18** |
| | **2019** | 4 | 3 | 2 | 3 | 1 | 4 | **13** |
| **Total pipeline length (km)** | **2016** | 649 | 374 | 199 | 334 | 254 | 617 | **2.427** |
| | **2019** | 498 | 382 | 168 | 202 | 96 | 259 | **1.605** |
| **Total investment (M€)** | **2016** | 2.163 | 206 | 93 | 235 | 212 | 361 | **3.270** |
| | **2019** | 1.892 | 219 | 101 | 129 | 119 | 164 | **2.623** |

The sum of projects does not correspond to total projects as given in last column as cross border projects are counted in all countries involved, however in Total column they are not double counted.

Taking into account the 2016 and 2019 connectivity gas project lists, we compare the evolution of the individual project maturity in 2016 and 2019. Last two columns (2016 Maturity and 2019 Maturity) are based on the available information on the project maturity and proposed classification criteria of maturity by WBIF secretariat and DG NEAR (WBIF maturity criteria).

**Table 6.3 Status and maturity of gas projects reviewed**

| Project name | 2016 status | 2019 status | 2016 Maturity | 2019 Maturity | Eligibility for co-financing |
|---|---|---|---|---|---|
| Albania underground storage Dumre | No project related documentation. | No project related documentation. Identified in 2017 Gas Master plan of ALB. | De facto not mature | De facto not mature [1.1] | NA |
| BIH-HR south ; Interconnection Pipeline BiH - HR (Zagvozd-Posusje-Travnik) | Prefeasibility studies | Prefeasibility studies and CBA completed. FS, ESIA, preliminary design and tender documentation ongoing. | De facto not mature | Presumed mature [2] | 2022 (EBRD) |
| BIH-HR north; Interconnection pipeline BiH - HR (Slobodnica-Brod-Zenica) | Prefeasibility studies | Prefeasibility studies | De facto not mature | De facto not mature [1.2] | NA |
| BIH-HR west; Interconnection Pipeline BiH - HR (Licka Jesenica TrzacBosanska Krupa) | Prefeasibility studies | Prefeasibility studies | De facto not mature | De facto not mature [1.2] | NA |
| IAP; Ionian Adriatic Pipeline | Feasibility studies | Feasibility studies. Preliminary design & ESIA in progress. | De facto not mature | De facto not mature [1.4] | NA |
| SER-HR; Gas Interconnector Serbia - Croatia | No project related documentation | Conceptual design in progress. | De facto not mature | De facto not mature [1.2] | NA |
| SER-BG; Gas Interconnector Serbia - Bulgaria | Prefeasibility study and Conceptual design | Feasibility study, CBA, ESIA and Main design | De facto not mature | Presumed mature [3.2] | 2020 (EU) |
| MKD-SER; Interconnector of North Macedonia and Serbia) | Prefeasibility studies | Prefeasibility studies | De facto not mature | De facto not mature [1.2] | NA |
| SER-ROM; Gas Interconnector Serbia - Romania | No project related documentation | Conceptual design ongoing. | De facto not mature | De facto not mature [1.2] | NA |
| TAP; Trans Adriatic Pipeline | Construction | Construction (89% of works completed) | De facto mature (under construction ) | De facto mature (under construction ) [4.5] | - |
| ALKOGAP; Albania-Kosovo Gas Pipeline | Prefeasibility (only evaluated in ALB GMP) | Prefeasibility studies. FS & ESIA to start in 2020. | De facto not mature | De facto not mature [1.2] | NA |
| MKD_GR; Interconnector of North Macedonia and Greece | Prefeasibility studies | Feasibility studies. ESIA, CBA & Main design in progress. | De facto not mature | Presumed mature [3.1] | 2021 |
| MKD-KOS; Interconnector of North Macedonia with Kosovo | Feasibility studies | Feasibility studies (should be updated). FS, ESIA & CBA to start in 2020. | De facto not mature | De facto not mature [1.4] | NA |

# 7 Conclusions

## 7.1 Process

The 2016 study identified the gaps in each of the networks that have the potential for improving the connectivity between beneficiaries in the Western Balkans, and also with neighbouring member states, and assessed their maturity. The networks are those for road, rail, inland waterways, electricity and gas and in all some 91 projects were inventoried and assessed with a project fiche summarising the status for each project being stored within a GIS application developed from the SEETIS platform.

The present 2019 update has been undertaken by re-assessing each of the projects and re-evaluating their maturity. This has been done by coordinators in each beneficiary country liaising with national institutions to update the project fiches which have then been reviewed by technical experts in each sector. The updated fiches have again been stored in the GIS application which has also been updated.

## 7.2 Transport

The gap analysis has reviewed all projects for compliance with the TEN-T standards assuming the Mediterranean, Orient/East-Med and Rhine/Danube Core Network Corridors are extended across the Western Balkans. The compliance ratios for the examined transport networks are summarised in Table 7.1.

**Table 7.1 Compliance with TEN-T standards on core corridors**

| Sector | TEN-T requirement | OEM Corridor | | MED Corridor | | Rhine-Danube Corridor | |
|---|---|---|---|---|---|---|---|
| | | Total Km | % | Total Km | % | Total Km | % |
| **Roads** | Motorway or expressway | 1,594 | 48.62 | 936 | 34.51 | - | - |
| **Railways** | Electrification | 1,602 | 79.77 | 689 | 73.73 | - | - |
| | Axle load | 1,602 | 86.59 | 689 | 77.36 | - | - |
| | Operating speed | 1,602 | 45.06 | 689 | 11.61 | - | - |
| | Maximum train length | 1,602 | 0.00 | 689 | 0.00 | - | - |
| | Track gauge | 1,602 | 100.00 | 689 | 100.00 | - | - |
| | ERTMS (full deployment) | 1,602 | 0.00 | 689 | 0.00 | - | - |
| **Inland Waterways** | ECMT Class IV | - | - | - | - | 1,372 | 47.59 |
| **Maritime & IWW ports** | Connection to rail network, inland waterways & road network | - | - | 2 ports | 100.00 | 4 ports | 100.00 |

Overall the gap analysis identified some 31 projects in the road sector, 23 in the rail sector and 7 for inland waterways. The study of each of these 61 projects has concluded that 11 implementation projects may be mature for WBIF grant financing in the road sector by 2024, 13 in the rail sector and 2 along the Rhine/Danube IWW corridor.

### 7.2.1 Road

The projects judged to be mature for co-financing are summarised in Table 7.2.

**Table 7.2 Road projects maturity progressing to potential grant (co)financing**

| # | Project | Country | TEN-T Standard to be met | Investment Cost (M€) | Status | Maturity Level | Eligible for co-financing by[38] |
|---|---|---|---|---|---|---|---|
| OEM 19 | Construction of road section Pristina-Merdare | KOS | Motorway in good condition | 275 | PFS, FS, PD and ESIA are completed | Presumed mature | 2021 |
| MED 2a | Construction of motorway section Odzak-Vukosavlje-Podnovlje and Podnovlje-Johovac | BIH | Motorway in good condition | 209 | PFS, FS, PD, ESIA, Spatial Planning are completed. | Presumed mature | 2024 |
| MED 3 | Construction of motorway section Doboj South – Žepče South | BIH | Motorway in good condition | 405 | PFS, FS, PD, ESIA, Spatial Planning are completed; DD, Land property issues, TD, Construction and other permits are ongoing | Presumed mature | 2021 |
| MED 5b | Completion of motorway section Tarcin-Konjic, subsection Tunnel Ivan-Ovcari | BIH | Motorway in good condition | 261 | PFS, PD and Spatial Planning are completed. FS, ESIA, DD are ongoing. | Presumed mature | 2022 |
| MED 5c | Completion of motorway section Tarcin-Konjic, subsection Ovcari-Konjic | BIH | Motorway in good condition | 132 | PFS, FS, PD, Spatial Planning are completed; ESIA, DD are ongoing. | Presumed mature | 2022 |
| MED 6a | Construction of motorway section Konjic (IC Ovčari) – Mostar North | BIH | Motorway in good condition | 365 | PFS, FS, PD, ESIA and Spatial planning are completed. | Presumed mature | 2022 |
| MED 6b | Construction of motorway section Konjic (IC Ovčari) – Mostar North, Prenj Tunnel | BIH | Motorway in good condition | 248 | PFS, FS, PD, ESIA and Spatial planning are completed. | Presumed mature | 2021 |
| MED 7a | Completion of motorway section Mostar | BIH | Motorway in good condition | 284 | PFS, FS, PD, Spatial Planning are completed; | Presumed mature | 2024 |

[38] Formal approval of an investment grant is indicated at end of a year and so following signing procedure and/or tendering, construction works may commence in the following year..

| # | Project | Country | TEN-T Standard to be met | Investment Cost (M€) | Status | Maturity Level | Eligible for co-financing by[38] |
|---|---|---|---|---|---|---|---|
| | North- Mostar South | | | | ESIA and DD are ongoing | | |
| MED 7b | Completion of motorway section Mostar South-Kvanj Tunnel | BIH | Motorway in good condition | 72 | PFS, FS, PD, Spatial Planning, TD are completed; ESIA and Land property issues are ongoing | Presumed mature | 2020 |
| MED 10c | Construction of AIH, Section *Tivat Bypass* | MNE | Expressway in good condition | 96 | PD, DD are completed; PFS, FS are ongoing | Presumed mature | *Beyond 2024* |
| MED 10d | Construction of AIH, Section *Budva Bypass* | MNE | Expressway in good condition | 241 | PFS, FS, PD are completed; ESIA, DD, TD are ongoing | Presumed mature | *2019*[39] |
| **MED 10f** | Construction of AIH, Section Sozina-Stari Bar, *Bar Bypass* | MNE | Expressway in good condition | 241 | PD is completed; PFS, FS are ongoing | Presumed mature | *Beyond 2024* |
| MED 11b | Construction of AIH, Section Lezhe (Balldre)-Milot | ALB | Motorway in good condition | 162 | PD, TD are completed; PFS, FS are ongoing | Presumed mature | *PPP* |
| MED 11d | Construction of AIH, Upgrade of Thumane-Vore-Kashar | ALB | Motorway in good condition | 141 | PFS, PD, DD are completed; FS is ongoing | Presumed mature | NA[40] |
| MED 12 | Construction of Tirana bypass (Kashar-Vaqarr-Mullet) | ALB | Motorway in good condition | 146 | FS, PD, ESIA are completed; Spatial Planning, Land property issues, DD are ongoing | Presumed mature | 2021 |

[39] However, additional grant funding sources are sought.

[40] PPP scheme being re-assessed.

### 7.2.2 Rail

The projects judged to be mature for co-financing are summarised in Table 7.3.

**Table 7.3 Rail projects maturity progressing to potential grant (co)financing**

| # | Project | Country | TEN-T Standard to be met | Investment Cost (M€) | Status | Maturity Level | Eligible for co-financing by |
|---|---|---|---|---|---|---|---|
| OEM 1b | Modernisation of the Nis-Presevo railway line, Section Brestovac-Presevo (Border with North Macedonia) | SRB | Maximum train length | 160 | FS, PD, ESIA pending to start | Presumed not mature | 2023 |
| OEM 2 | Reconstruction, modernisation and construction of second track on section Stalac-Djunis of railway line Belgrade-Nis | SRB | Maximum train length | 150 | PFS, FS, PD, ESIA, Spatial Planning are completed. | Presumed mature | 2022 |
| OEM 4 | Modernization and reconstruction of railway line Velika Plana - Stalac and Djunis-Trupale | SRB | Maximum train length | 563 | FS, PD, ESIA are ongoing | Presumed not mature | 2023, 2024 and beyond 2024[41] |
| OEM 6 | Rehabilitation - modernisation of railway section Tabanovci - Dracevo along Corridor X | MKD | Electrification (Tabanovci-Kumanovo), Operating speed, maximum train length | 38 | FS, PD, ESIA, DD are completed | Presumed mature | NA |
| OEM 7 | Reconstruction of railway section Dracevo – Veles along corridor X | MKD | Operating Speed, Maximum train length | NA | PFS, FS, PD, ESIA are completed | Presumed mature | NA |
| OEM 13 | Reconstruction and modernization of railway line Vrbnica-Bar | MNE | Operating speed, maximum train length | NA | DDs ongoing, tendering, construction works ongoing | De facto mature | 2020-2023[41] |
| OEM 15b | Modernization of single-track railway line Nis-Dimitrovgrad-Bulgarian border, Nis Bypass Section | SRB | Maximum train length | 129 | PFS, FS, ESIA and Spatial Planning are completed; PD and Land property issues are ongoing | De facto mature | 2020 |
| MED 1 | Rehabilitation and modernization works of railway section Bosanski Samac – Podlugovi | BIH | Operating speed, maximum train length | 129 | FS, PD, DD, Land property issues | Presumed mature | 2021 |

[41] More than two investment grants may be applied for different sections and stages of implementation.

| # | Project | Country | TEN-T Standard to be met | Investment Cost (M€) | Status | Maturity Level | Eligible for co-financing by |
|---|---|---|---|---|---|---|---|
| MED 2 | Overhaul of railway section Podlugovi - Sarajevo | BIH | Operating speed, maximum train length | 23 | FS, PD, DD are ongoing | Presumed mature | 2023 |
| MED 4 | Modernization of Railway Line Stara Pazova-Sid-Border with Croatia | SRB | Maximum train length | 250 | FS, PD, ESIA pending to start | Presumed not mature | 2024 |
| MED 6 | Improvement of railway link Durres - Vora - Shkodra - Hani i Hotit | ALB | Electrification, axle load, operating speed, maximum train length | 249 | PFS, FS and Spatial planning are completed; PD and ESIA are ongoing | Presumed not mature | 2021 |
| MED 7 | Reconstruction and Modernisation of Railway line Podgorica - Tuzi - Border with Albania | MNE | Electrification, Operating speed, maximum train length | 33 | CD, Draft FS and ESIA pending to start | Presumed not mature | 2024 |

### 7.2.3 Inland Waterways

The projects judged to be mature for co-financing are summarised in Table 7.4.

**Table 7.4 Inland Waterways projects maturity progressing to potential grant (co)financing**

| | Project | Country | Investment Cost (M€) | Status | Maturity Level | Eligible for co-financing by |
|---|---|---|---|---|---|---|
| 6 | Rehabilitation and improvement of the Sava river waterway | BiH | 21 | PFS, FS and PD are completed; ESIA is ongoing | Presumed mature | NA |
| 7 | Demining of the Sava River right bank from the confluence of Drina river up to the confluence of Una river | BiH | 26 | DDs to be revised | Presumed mature | 2020 |

## 7.3 Energy

### 7.3.1 Electricity

The projects judged to be mature (and eligible) for co-financing by 2024 are summarised in Table 7.5.

**Table 7.5 Electricity projects maturity progressing to potential grant (co)financing**

| Project name | Country | Inv. Cost (M€) | Status | Maturity Level | Eligible for co-financing by |
|---|---|---|---|---|---|
| Transbalkan corridor section in Serbia - New double circuit 400 kV OHL SS Obrenovac (RS) – SS Bajina Basta (RS) with upgrade of SS Bajina Basta (RS) to 400 kV | SER | 62.73 | Detailed design | Presumed mature | 2019[35] |
| Transbalkan corridor regional section - New 400 kV interconnection between SS Bajina Basta (RS) - Visegrad (BA) - Pljevlja (ME) | SER | 47.075 | Main design in progress | Presumed mature | 2021 |
| Transbalkan corridor regional section - New 400 kV interconnection between SS Bajina Basta (RS) - Visegrad (BA) - Pljevlja (ME) | BIH | 8.015 | Main design in progress | Presumed mature | NA |

### 7.3.2 Gas

The projects judged to be mature for co-financing are summarised in Table 7.6.

**Table 7.6 Gas projects maturity progressing to potential grant (co)financing**

| Project name | Country | Inv. Cost (M€) | Status | Maturity Level | Eligible for co-financing by |
|---|---|---|---|---|---|
| BIH-HR south; Interconnection Pipeline BiH - HR (Zagvozd-Posusje-Travnik) | BIH | 101 | FS, ESIA, PD and tender documentation ongoing | Presumed not mature | 2022 |
| SER-BG; Gas Interconnector Serbia - Bulgaria | SER | 47 | Feasibility study, CBA, ESIA and Main design | Presumed mature | 2020 |
| MKD_GR; Interconnector of North Macedonia and Greece | MKD | 54 | Feasibility studies. ESIA, CBA & Main design in progress. | Presumed mature | 2021 |

# Annex: Project fiches

**Separate document**

Financed under specific grant agreement no.2015/368-253 from the EU IPA II Multi-Beneficiary Programme for Albania, Bosnia and Herzegovina, North Macedonia, Kosovo*, Montenegro and Serbia

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/199 and the ICJ opinion on the Kosovo declaration of independence.

**Western Balkans Investment Facility**
**Infrastructure Project Facility**
**Technical Assistance 5 (IPF 5)**

TA2015030 R0 IPA

# Connectivity Networks Gap Analysis Update

# Final Report

**March 2020**

• IPF 5

A project implemented
by the WYG : IPF 5 Consortium

# TRA.M – Transport.Road

| ID | Project title | Country |
|---|---|---|
| WB.TR.M.01 | Orient/East Med Corridor (CX), Completion of Belgrade bypass, reconstruction and construction of Ostruznica bridge over Sava river (Sector 3, LOT 3.2, IC Orlovaca Strazevica tunnel) in Serbia to meet with motorways TEN T standard | SER |
| WB.TR.M.08 | Orient/East Med Corridor (CX), Completion of Belgrade bypass, Sector 6: Strazevica Bubanj Potok | SER |
| WB.TR.M.09 | Orient/East Med Corridor (CX), Completion of Belgrade bypass, reconstruction and upgrade of road sections between Ostruznica and Strazevica (Sector B4, section IC Ostruznica IC Orlovaca and Sector B5, section IC Orlovaca Starzevica tunnel) in Serbia to meet with motorways TEN T standard | SER |
| WB.TR.M.10 | Orient/East Med Corridor (CX), Construction of road sections between Grdelica and Presevo in Serbia to meet with motorways TEN T standard | SER |
| WB.TR.M.11 | Orient/East Med Corridor (CX), Rehabilitation of the road sections between Bubanj Potok and Grdelica in Serbia to meet with motorways TEN T standard | SER |
| WB.TR.M.15 | Orient/East Med Corridor, Completion of Belgrade South Adriatic motorway, construction of the road section Surcin Obrenovac with the new Sava bridge to meet with motorways TEN T standards | SER |
| WB.TR.M.17 | Orient/East Med Corridor, Completion of Belgrade South Adriatic motorway, construction of the road section Obrenovac Ub to meet with motorways TEN T standards | SER |
| WB.TR.M.18 | Orient/East Med Corridor, Completion of Belgrade South Adriatic motorway, construction of the road section Ub Lajkovac to meet with motorways TEN T standards | SER |
| WB.TR.M.19 | Orient/East Med Corridor, Completion of Belgrade South Adriatic motorway, construction of the road section Lajkovac Ljig to meet with motorways TEN T standards | SER |
| WB.TR.M.27 | Orient/East Med Corridor, Completion of Belgrade South Adriatic motorway, Pozega Boljare road sections (border with Montenegro) | SER |
| WB.TR.M.28 | Orient/East Med Corridor, Completion of Belgrade South Adriatic motorway, construction of the road section Ljig Preljina to meet with motorways TEN T standards | SER |
| WB.TR.M.29 | Orient/East Med Corridor, Completion of Belgrade South Adriatic motorway, construction of the road section Preljina Pozega to meet with motorways TEN T standards | SER |
| WB.TR.M.32 | Orient/East Med Corridor (Road R7), construction of the Nis Merdare E 80 highway, Sector Nis Plocnik | SER |
| WB.TR.M.36 | Orient/East Med Corridor (Road R7), construction of the Nis Merdare E 80 highway, Sector Plocnik Merdare | SER |
| WB.TR.M.16 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (AIC), Section Budva Bypass | MNE |
| WB.TR.M.21 | Orient/East Med Corridor, Completion of Bar Boljare Highway (Road Route 4), section Matesevo Andrijevica | MNE |
| WB.TR.M.22 | Orient/East Med Corridor, Completion of Bar Boljare Highway (Road Route 4), construction of Podgorica Bypass (Capital Smokovac Farmaci) | MNE |
| WB.TR.M.23 | Orient/East Med Corridor, Completion of Bar Boljare Highway (Road Route 4), section Matesevo Podgorica (Smokovac) | MNE |
| WB.TR.M.24 | Orient/East Med Corridor, Completion of Bar Boljare Highway (Road Route 4), section Djurmani Farmaci | MNE |
| WB.TR.M.25 | Orient/East Med Corridor, Completion of Bar Boljare Highway (Road Route 4), section Andrijevica Boljare | MNE |
| WB.TR.M.26 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (AIC), Verige (Boka Bay) Bridge | MNE |
| WB.TR.M.37 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (AIC), Section Border with Croatia (Debeli Brijeg) Bijela, Herceg Novi Bypass | MNE |
| WB.TR.M.38 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (AIC), Section Tivat Bypass | MNE |
| WB.TR.M.39 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (AIC), Section Budva Bypass Sozina | MNE |
| WB.TR.M.40 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (AIC), Section Sozina Stari Bar, Bar Bypass | MNE |

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|---|---|---|
| WB.TR.M.41 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (AIC), Section Stari Bar border with Albania | MNE |
| WB.TR.M.12 | Orient/East Med Corridor (Road Route 6a), Construction of motorway A4 Skopje Blace, Section IC Stenkovec IC Blace | MKD |
| WB.TR.M.13 | Orient/East Med Corridor (CX), Reconstruction of road section between Demir Kapija and Smokvica to meet with motorways TEN T standard | MKD |
| WB.TR.M.14 | Orient/East Med Corridor (CX), Rehabilitation of the road section between Kumanovo and Miladinovci in MKD to meet with motorways TEN T standard | MKD |
| WB.TR.M.33 | Orient/East Med Corridor: North Macedonia Bulgaria (CVIII) Road Interconnection, reconstruction of road section from Kriva Palanka to Deve Bair | MKD |
| WB.TR.M.34 | Orient/East Med Corridor: North Macedonia Bulgaria (CVIII) Road Interconnection, reconstruction of road section from Rankovce to Kriva Palanka | MKD |
| WB.TR.M.35 | Orient/East Med Corridor: North Macedonia Bulgaria (CVIII) Road Interconnection, rehabilitation of the road section from Kumanovo to Rankovce | MKD |
| WB.TR.M.30 | Orient/East Med Corridor (Road R7), Construction of the road sections Pristina – Border with North Macedonia | KOS |
| WB.TR.M.31 | Orient/East Med Corridor (Road R7), Construction of the motorway section Pristina Merdare | KOS |
| WB.TR.M.02 | Mediterranean Corridor (Road CVc), Construction of the motorway section Odzak Svilaj, border crossing and cross border bridge Svilaj over Sava River | BIH |
| WB.TR.M.03 | Mediterranean Corridor: Bosnia and Herzegovina – Croatia R2a Road Interconnection Banja Luka Gradiska and the Sava border bridge | BIH |
| WB.TR.M.04 | Mediterranean Corridor (Road CVc), Construction of the motorway section Johovac Rudanka | BIH |
| WB.TR.M.05 | Mediterranean Corridor (Road CVc), Construction of the motorway section Rudanka Doboj South | BIH |
| WB.TR.M.06 | Mediterranean Corridor (Road CVc), Construction of the motorway section Doboj South Žepče South | BIH |
| WB.TR.M.07 | Mediterranean Corridor (Road CVc), Construction of the motorway section Konjic (IC Ovčari) – Mostar North | BIH |
| WB.TR.M.42 | Mediterranean Corridor (Road CVc), Construction of the motorway sections Odzak (Svilaj) Vukosavlje Podnovlje and Podnovlje Johovac | BIH |
| WB.TR.M.43 | Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South Zenica North, subsection Zepce South Poprikuse Nemila | BIH |
| WB.TR.M.44 | Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South Zenica North, subsection Nemila Donja Gracanica, part Nemila Vranduk | BIH |
| WB.TR.M.45 | Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South Zenica North subsection Nemila Donja Gracanica, part Vranduk Ponirak | BIH |
| WB.TR.M.46 | Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South Zenica North, subsection Nemila Donja Gracanica, part Ponirak Vraca | BIH |
| WB.TR.M.47 | Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South Zenica North, subsection Nemila Donja Gracanica, part Vraca Zenica North | BIH |
| WB.TR.M.48 | Mediterranean Corridor (Road CVc), Completion of motorway section Tarcin Konjic, subsection Tarcin Tunnel Ivan | BIH |
| WB.TR.M.49 | Mediterranean Corridor (Road CVc), Completion of motorway section Tarcin Konjic, subsection Tunnel Ivan Ovcari | BIH |
| WB.TR.M.50 | Mediterranean Corridor (Road CVc), Completion of motorway section Tarcin Konjic, subsection Ovcari Konjic | BIH |
| WB.TR.M.51 | Mediterranean Corridor (Road CVc), Construction of the motorway section Konjic (IC Ovčari) – Mostar North, Prenj Tunnel | BIH |
| WB.TR.M.52 | Mediterranean Corridor (Road CVc), Completion of motorway section Mostar North Mostar South | BIH |
| WB.TR.M.53 | Mediterranean Corridor (Road CVc), Completion of motorway section Mostar South Kvanj Tunnel | BIH |
| WB.TR.M.54 | Mediterranean Corridor (Road CVc), Completion of motorway section Kvanj Tunnel Buna | BIH |
| WB.TR.M.55 | Mediterranean Corridor (Road CVc), Completion of motorway section Buna Počitelj | BIH |

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| WB.TR.M.56 | Mediterranean Corridor (Road CVc), Completion of motorway section Počitelj Zvirovici | BIH |
| WB.TR.M.20 | Mediterranean Corridor (Road CVIII), Construction of Tirana Bypass (Kashar Vaqarr Mullet) | ALB |
| WB.TR.M.57 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection, Section Murriqan Lezhe (Balldre) | ALB |
| WB.TR.M.58 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (Road 2b), Section Lezhe (Balldre) Milot | ALB |
| WB.TR.M.59 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (Road 2b), Section Milot Thumane | ALB |
| WB.TR.M.60 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (Road 2b), Section Thumane Kashar | ALB |
| WB.TR.M.61 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection, Sections Kashar Lekaj and Lekaj Konjat | ALB |
| WB.TR.M.62 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection, Sections Konjat Lushnje and Lushnje Fier (Bypass) | ALB |
| WB.TR.M.63 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (Road 2c), Section Fier Bypass | ALB |
| WB.TR.M.64 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (Road 2c), Sections Fier bypass Levan Pocem and Pocem Memaliaj | ALB |
| WB.TR.M.65 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (Road 2c), Sections Memaliaj Subashi Bridge and Subashi Bridge Gjirokastra Bypass | ALB |
| WB.TR.M.66 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (Road 2c), Gjirokastra Bypass | ALB |
| WB.TR.M.67 | Mediterranean Corridor: Montenegro Croatia Albania R1 Road Interconnection (Road 2c), Section Gjirokaster bypass Kakavije | ALB |

# TRA.R – Transport.Rail

| ID | Project title | Country |
|---|---|---|
| WB.TR.R.05 | Orient/East Med Corridor (CXb), Reconstruction of the Railway Line Batajnica Stara Pazova | SER |
| WB.TR.R.06 | Mediterranean Corridor (CX), Modernization of the Railway Line Stara Pazova – Sid – Croatian border | SER |
| WB.TR.R.07 | Orient/East Med Corridor (CXb), Reconstruction of the Railway Line Novi Beograd – Zemun – Batajnica | SER |
| WB.TR.R.08 | Orient/East Med Corridor (CXb), Reconstruction and modernisation of the railway line Stara Pazova Novi Sad | SER |
| WB.TR.R.09 | Orient/East Med Corridor (CX), Reconstruction, modernisation and construction of the second track on the section Stalac Djunis of the railway line Beograd Nis | SER |
| WB.TR.R.10 | Orient/East Med Corridor (CX), Modernisation for the contemporary double track traffic of the single track section of the railway line Resnik Klenje Mali Pozarevac Velika Plana | SER |
| WB.TR.R.11 | Orient/East Med Corridor: Serbia North Macedonia CX Rail Interconnection, Modernisation of the Nis Presevo railway line, Section Nis Brestovac | SER |
| WB.TR.R.12 | Orient/East Med Corridor (CX), Modernization and Reconstruction of the Railway Line Velika Plana Stalac and Djunis Trupale | SER |
| WB.TR.R.16 | Orient/East Med Corridor (CXb), Reconstruction and modernisation of the railway line Novi Sad Subotica border with Hungary (Kelebija) | SER |
| WB.TR.R.17 | Orient/East Med Corridor: Serbia North Macedonia CX Rail Interconnection, Modernisation of the Nis Presevo railway line, Sections from Brestovac to Presevo (Border with North Macedonia) | SER |
| WB.TR.R.19 | Orient/East Med Corridor (Rail R10), Reconstruction and Modernization of the railway line Kraljevo Rudnica | SER |
| WB.TR.R.21 | Orient/East Med Corridor (Rail R11), Reconstruction and Modernization of the railway line Stalac – Kraljevo | SER |
| WB.TR.R.26 | Orient/East Med Corridor (Rail R4), Rehabilitation of the railway line Resnik Vrbnica, sections Valjevo Vrbnica to meet with the TEN T standards | SER |
| WB.TR.R.28 | Orient/East Med Corridor: Serbia – Bulgaria CXc Rail Interconnection (Modernization of the single track railway line Nis – Dimitrovgrad – Bulgarian border, Section Sicevo – Stanicenje – Dimitrovgrad) | SER |
| WB.TR.R.29 | Orient/East Med Corridor: Serbia – Bulgaria CXc Rail Interconnection (Modernization of the single track railway line Nis – Dimitrovgrad – Bulgarian border, Nis Bypass Section) | SER |
| WB.TR.R.23 | Mediterranean Corridor: Montenegro – Albania (Route 2) Rail Interconnection, Reconstruction and Modernisation of Railway line Podgorica Tuzi Cross Border with Albania | MNE |
| WB.TR.R.24 | Orient/East Med Corridor: Montenegro Serbia (Route 4) Rail Interconnection, Bar – Vrbnica, Signaling Podgorica node and Bridges | MNE |
| WB.TR.R.25 | Orient/East Med Corridor: Montenegro Serbia (Route 4) Rail Interconnection, Bar – Vrbnica, Reconstruction and modernisation:<br>1) Rehabilitation of Train Track (superstructure), Culverts, Regulation of watercourse, reconstruction of steel bridges<br>2) Rehabilitation of Slopes<br>3) Rehabilitation of landslides, tunnels, concrete bridges and electrical works | MNE |
| WB.TR.R.13 | Orient/East Med Corridor (CX), Reconstruction of the railway section Dracevo – Veles | MKD |
| WB.TR.R.14 | Orient/East Med Corridor (CX), rehabilitation and modernisation of the railway section Tabanovci Dracevo | MKD |
| WB.TR.R.15 | Orient/East Med Corridor (CX), rehabilitation and modernisation of the railway section Veles Gevgelija | MKD |
| WB.TR.R.18 | Orient/East Med Corridor (Rail Route 10), Rehabilitation and modernization of the railway section Blace – Gjorce Petrov to meet with the TEN T standards | MKD |
| WB.TR.R.27 | Orient/East Med Corridor: Construction of Rail Corridor VIII in North Macedonia, railway section Beljakovce – Kriva Palanka – Border with Bulgaria | MKD |
| WB.TR.R.20 | Orient/East Med Corridor (Rail R10), General Rehabilitation of Railway Route 10 (admin. line with Serbia Leshak –Fushë Kosovë – Hani i Elezit – Border with North Macedonia) | KOS |
| WB.TR.R.01 | Mediterranean Corridor (Rail CVc), Overhaul of the railway section Podlugovi Sarajevo | BIH |

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|---|---|---|
| WB.TR.R.02 | Mediterranean Corridor (Rail CVc), Rehabilitation and modernization works of the railway section Bosanski Samac – Podlugovi to meet with the TEN T standards | BIH |
| WB.TR.R.03 | Mediterranean Corridor (Rail CVc), Rehabilitation and modernization works of the railway section Sarajevo – Capljina to meet with the TEN T standards | BIH |
| WB.TR.R.04 | Mediterranean Corridor (Rail CVIII), Modernisation of the railway line Tirana Durres | ALB |
| WB.TR.R.22 | Mediterranean Corridor (Rail R2), Improvement of the railway link Durres Vora Shkodra Hani & Hotit | ALB |

# TRA.W – Transport.Inland Waterways

| ID | Project title | Country |
|---|---|---|
| WB.TR.W.01 | River training and dredging works on critical sectors on the SRB CRO joint stretch of the Danube River | SRB |
| WB.TR.W.02 | River training and dredging works on critical sectors on the sectors on the Danube river in Serbia between Backa Palanka and Belgrade | SRB |
| WB.TR.W.06 | River training and dredging works on critical sectors on the Sava river | SRB |
| WB.TR.W.07 | Rhine Danube Corridor, Belgrade Port | SRB |
| WB.TR.W.04 | Rehabilitation and improvement of the Sava river waterway | BIH |
| WB.TR.W.05 | Demining of the Sava River right bank from the confluence of Drina river of the confluence of Una river | BIH |
| WB.TR.W.03 | Reconstruction and modernisation of River Port of Brcko | BIH |

# ENE.E – Energy.Electricity

| ID | Project title | Country |
|---|---|---|
| WB6.EN.E.01-1 | 400kV OHL Bajina Bašta (RS) - Višegrad (BA) - Pljevlja (ME) / SRB part | SER |
| WB6.EN.E.02 | 400 kV OHL Kragujevac - Kraljevo (RS) | SER |
| WB6.EN.E.05 | 400kV OHL Bajina Bašta - Obrenovac (RS) | SER |
| WB6.EN.E.07 | 400kV OHL Pancevo (RS) - Resita (RO) / SRB part | SER |
| WB6.EN.E.17 | Upgrade of the existing 220 kV OHL Niš  Kruševac (RS) to 400 kV OHL | SER |
| WB6.EN.E.19 | 400kV OHL Kruševac  Kraljevo (RS) | SER |
| WB6.EN.E.20 | 400kV OHL Bajina Bašta  Kraljevo (RS) | SER |
| WB6.EN.E.22 | 400kV OHL Pančevo  Belgrade West (RS) | SER |
| WB6.EN.E.03 | Upgrade of the existing 220/110kV SS Kraljevo 3 (RS) to 400kV | SER |
| WB6.EN.E.06 | Upgrade of the existing 220/110kV SS Bajina Bašta to 400kV | SER |
| WB6.EN.E.18 | Upgrade of the existing 220/110kV SS Kruševac 1 (RS) to 400kV | SER |
| WB6.EN.E.21 | 400/110kV SS Belgrade West (RS) | SER |
| WB6.EN.E.28 | PSHPP Djerdap 3 (Phase 1) | SER |
| WB6.EN.E.29 | PSHPP Bistrica | SER |
| WB6.EN.E.01-2 | 400kV OHL Bajina Bašta (RS) - Višegrad (BA) - Pljevlja (ME) / MNE part | MNE |
| WB6.EN.E.04 | 400 kV OHL Pljevlja - Lastva (MNE) | MNE |
| WB6.EN.E.11-1 | 400kV OHL Bitola (MK) - Elbasan (AL) / MKD part, including SS Ohrid | MKD |
| WB6.EN.E.01-3 | 400kV OHL Bajina Bašta (RS) - Višegrad (BA) - Pljevlja (ME) / BIH part | BIH |
| WB6.EN.E.13 | 400kV OHL Banja Luka (BA) - Lika (HR) / BIH part | BIH |
| WB6.EN.E.11-2 | 400kV OHL Bitola (MK) - Elbasan (AL) / ALB part | ALB |
| WB6.EN.E.12 | 400 kV OHL Tirana (ALB) - Pristina (Kosovo*) | MULTI |
| WB6.EN.E.23 | Upgrade of the existing  220 kV OHL Đakovo (HR) - Tuzla (BA) to 400 kV | MULTI |
| WB6.EN.E.24 | Upgrade of the existing 220 kV OHL Đakovo (HR) - Gradačac (BA) to 400 kV | MULTI |
| WB6.EN.E.25 | 400kV OHL Ernestinovo (HR) - Sombor (RS) | MULTI |
| WB6.EN.E.26 | Upgrade of the existing 400 kV OHL Portile de Fier (RO) - Djerdap (RS) to double circuit | MULTI |
| WB6.EN.E.27 | 400kV OHL Sofia West (BG) - Niš (RS) | MULTI |

# ENE.G – Energy.Gas

| ID | Project title | Country |
|---|---|---|
| WB6.EN.G.001-2 | Albania underground storage Dumre A2 | ALB |
| WB6.EN.G.003 | Interconnection Pipeline BiH - HR (Ploce-Mostar-Sarajevo / Zagvozd-Posusje- Travnik) | BIH |
| WB6.EN.G.006 | Interconnection pipeline BiH HR (Slobodnica Brod Zenica) | BIH |
| WB6.EN.G.007 | Interconnection Pipeline BiH - HR (Licka Jesenica-Trzac-Bosanska Krupa) | BIH |
| WB6.EN.G.008 | Ionian Adriatic Pipeline (IAP) – Montenegro and Albania | MULTI |
| WB6.EN.G.010 | Gas Interconnector Serbia Croatia | SER |
| WB6.EN.G.011 | Gas Interconnector Serbia Bulgaria | SER |
| WB6.EN.G.012 | Interconnector of the former Yugoslav Republic of Macedonia with Kosovo*, Albania and Serbia (MKD - SER part) | MULTI |
| WB6.EN.G.014 | Interconnector Serbia Romania | SER |
| WB6.EN.G.018 | Trans Adriatic Pipeline (TAP) | ALB |
| WB6.EN.G.021 | Albania - Kosovo* Gas Pipeline (ALKOGAP) | MULTI |
| WB6.EN.G.027 | Interconnector of North Macedonia with Bulgaria and Greece (GR - MKD part) | MKD |
| WB6.EN.G.028 | Interconnector of North Macedonia with Kosovo, Albania and Serbia (MKD - KOS part) | MULTI |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor (CX), Completion of Belgrade bypass, reconstruction and construction of Ostruznica bridge over Sava river (Sector 3, LOT 3.2, IC Orlovaca-Strazevica tunnel) in Serbia to meet with motorways TEN-T standard***

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Completion of Belgrade bypass, reconstruction and construction of |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | |
| To | |
| Gap rationale | Upgrade to the full motorway profile - new motorway structure |
| Country | SER |
| Lead Project Beneficiary | PE Roads of Serbia |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.01 |
| SEETO Code | Corridor X |
| European Route Code | E70 |
| Other Project/LOT Code | Belgrade Bypass B3 |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this project is pre-identified as part of the Orient/East-Med Corridor. Being part of the Belgrade Bypass, upgrade to full motorway profile on the entire length of the Belgrade Bypass is considered one of high priorities in completion of the OEM Core Corridor. |
| Strategic relevance | Belgrade bypass ring road being on the OEM Core Corridor (Corridor X) is included in the Spatial Plan of Serbia by 2020 and also in the General Plan of the City of Belgrade by 2021. Upgrade to the full motorway profile will satisfy TEN-T standards for motorways. After being completed, Belgrade Bypass will re-route Corridor X around the City and will move transit traffic and transport of dangerous goods from the City area (unburdening existing motorway section which becames intercity highway). |

| | |
|---|---|
| General description | The second half of the bridge profile in length of 1,964m is being built within Phase II of the Bypass construction, between IC Dobanovci and IC Orlovaca. The construction includes also the left motorway profile behind the bridge to IC Ostruznica zone, in length of 1,000 meters and fitting the two ramps. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | --- |
| Availability of alternative clean fuels** | --- |
| Tolling system** | |
| Intelligent Transport Systems** | --- |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | --- |
| Emergency line width** | --- |
| Fence installed** | --- |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 01/2016 | 07/2019 |
| Further project preparation considerations | The project is fully prepared and construction contract was signed 13/01/2016. Therefore, no further preparation activities are envisaged. Works started on 19/01/2016 and should have been finished in 2018, but the completion is delayed, partly due to presence of UXOs in Sava river and also due to challenging construction technology. | | |
| Risks identified | Implementation delays (presence of UXOs in the river); | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 29,204,723 |
| Total investment | | 0 |
| Investment financing considerations | Value of investment for the Ostruznica second bridge structure is RSD 3.57 billion (€29.204m), and is financed through EIB loan (€100 million worth of EIB loans signed in 2007 and 2010 for the bypass sections from Batajnica to Bubanj potok). | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor (CX), Completion of Belgrade bypass, Sector 6: Strazevica-Bubanj Potok***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Completion of Belgrade bypass, Sector 6: Strazevica-Bubanj Potok |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Strazevica |
| To | Bubanj Potok |
| Gap rationale | Missing link - new motorway |
| Country | SER |
| Lead Project Beneficiary | PE Roads of Serbia |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.08 |
| SEETO Code | Corridor X |
| European Route Code | E70 |
| Other Project/LOT Code | Belgrade Bypass B6 |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this project is pre-identified as part of the Orient/East-Med Corridor. |
| | |

| | |
|---|---|
| Strategic relevance | The motorway is a part of core international road network and in Serbia, it conects Coridor Xc (E-75: from Hungarian border) to Coridor X (E-70: Croatian border at Batrovci to Belgrade), Route 4 (E-763: Belgrade, Pozega, Montenegrin border), and again to Coridor X (E-75, Belgrade, Niš, Preševo, border with Former Yugoslav Republic of Macedonia), and is classified in the European Agreement on Main International Traffic Arteries.<br>Hence, SEETO MAP 2016 included this project on the Priority project list - Projects eligible for funding. it is designated as one of major transport axes of strategic importance for Republic of Serbia as presented in "Strategy of Railway, Road, Water, Air and Intermodal Transport Development from 2008-2015 in the Republic of Serbia" and is foreseen to be upgraded in all sections to motorway category by Strategy of uniform regional development of Serbia; Strategic planning: The Spatial Plan of Serbia, 2010-2020. After being completed, Belgrade Bypass will re-route Corridor X around the City and will move transit traffic and transport of dangerous goods from the City area (unburdening existing motorway section which became intercity highway). |
| General description | The B6 sector includes construction of full motorway profile in new alignment (both carriageways) from Strazevica tunnel (745m long, two separated tubes) to IC Bubanj potok, in total length of 9.6 km. Within, it also includes Beli potok tunnel (373m long), ICs Avala and Bubanj potok, and two bridges (No 16 and 17). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of Belgrade Bypass motorway between Batajnica and Bubanj Potok (Sector 6 is part of it) is expected to enhance transit transport activities, both passenger and freight, reduce significantly travel times, increase LOS and road safety. Belgrade will benefit in lowering traffic congestion on street network, in lowering traffic noise and in environmental improvement. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2011 | 01/2012 |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | 04/2011 | |
| Tender documentation | C | | |
| Construction and other permits | WiP | | |
| Construction & supervision of works contracts | WiP | 07/2018 | 07/2021 |
| Further project preparation considerations | The feasibility study is provided for Belgrade Bypass in its whole lenght (in 1980-is and later updated under EAR in 2005). Preparation of the project completed except the further section C Bubanj Potok-Vinca Bridge-Pancevo. Construction works commenced officialy in July 2018 with 36 months contracted duration. | | |
| Risks identified | Potential implementation delay or unsyhronised implementation of the interchange Bubanj Potok, which foreseen to be implemented and technicaly harmonised within the Section C (Bubanj Potok-Vinca bridge-Pancevo, which being part of the Belgrade-Pancevo-Vrsac motorway). | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 136,542,529 |
| Total investment | | 142,786,573 |

| | |
|---|---|
| Investment financing considerations | Works are funded by share of 85% from Chinese Eksim bank loan (Loan Agreement signed 18/09/2018, effectively from 18/12/2018) and 15% of own Serbia's contribution. The financing in value of total €207 million ($225.63 million = CNY/RMB 1,436,850,000, 20 years repayment, wih 5 years grace period, 2.5% interest rate) relates to sections B4, B5 (construction of left motorway profile for these two) and B6 (both lanes to be constructed), for total 20.4km of missing bypass elements to the full motorway profile. MoU between Gov. of Serbia and Sinohydro (consortia with Azvirt) signed July 2016 (Annex signed in July 2017, Annex 3 in 06/09/2018). Commercial contract (value €207 million) for the construction of Section B lots 4,5,6, between the Government of Serbia as Financer, Roads of Serbia, JSD, as Investor and Power Construction Corporation of China, Ltd. as Constructor, was signed in Riga during the 1+16 Summit of China and Central and East Europe Countries 06/11/2016 (Annex signed in Sept 2017). MoU between MCTI and PE RoS sigend Oct 2017 (Annex 1 in 06/09/2018) to allow early commencement of works. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor (CX), Completion of Belgrade bypass, reconstruction and upgrade of road sections between Ostruznica and Strazevica (Sector B4, section IC Ostruznica-IC Orlovaca and Sector B5, section IC Orlovaca-Starzevica tunnel) in Serbia to meet with motorways TEN-T standard***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Completion of Belgrade bypass, reconstruction and upgrade of road |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Ostruznica |
| To | Strazevica tunnel |
| Gap rationale | Upgrade to the full motorway profile |
| Country | SER |
| Lead Project Beneficiary | PE Roads of Serbia |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.09 |
| SEETO Code | Corridor X |
| European Route Code | E70 |
| Other Project/LOT Code | Belgrade Bypass B4 and B5 |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this project is pre-identified as part of the Orient/East-Med Corridor. Being part of the Belgrade Bypass, upgrade to full motorway profile on the entire length of the Belgrade Bypass is considered one of high priorities in completion of the OEM Core Corridor. |
| Strategic relevance | Belgrade bypass ring road being on the OEM Core Corridor (Corridor X) is included in the Spatial Plan of Serbia by 2020 and also in the General Plan of the City of Belgrade by 2021. Upgrade to the full motorway profile will satisfy TEN-T standards for motorways. After being completed, Belgrade Bypass will re-route Corridor X around the City and will move transit traffic and transport of dangerous goods from the City area (unburdening existing motorway section which becames intercity highway). |

| | |
|---|---|
| General description | The two sections from Ostruznica-Orlovaca interchange-Tunnel Strazevica being part of the Belgrade Bypass ring road (Sector B4 and B5) were previously existing only in the semi-motorway profile, which constructed under Stage I in 2008 and June 2012, respectively. Current construction contract therefore for the sector B4 include left motorway carriageway from the Sava bridge (Ostruznica) to IC Orlovaca, in length of 7.7km. It also includes equiping the two tunnels (Lipak, 665m and Zeleznik, 699m), construction of three bridges (No 9, 10 and 11 in the Phase II) and completion of IC Orlovaca (Phase II). Current construction contract for the following sector B5 include left motorway carriageway from the IC Orlovaca to Strazevica tunnel (including completion of the tunnel - Phase II) in length of 3.1km. Beside the motorway alignment and the another Strazevica tunnel tube (all for the left side) it also includes three bridges (No 13, 14 and 15). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of Belgrade Bypass motorway between Batajnica and Bubanj Potok (Sectors 4 and 5 are part of it) is expected to enhance transit transport activities, both passenger and freight, reduce significantly travel times, increase LOS and road safety. Belgrade will benefit in lowering traffic congestion on street network, in lowering traffic noise and in environmental improvement. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | 04/2011 | |
| Tender documentation | C | | |
| Construction and other permits | C | 07/2016 | |
| Construction & supervision of works contracts | WiP | 07/2018 | 07/2021 |
| Further project preparation considerations | in the Phase I, Section B5 of Belgrade bypass was opened to traffic in May 2012. Main designs prepared in 2011 (Sector 5, Orlovaca Intershange-Strazevica) and Dec 2012 (Orlovaca Interchange, Sector 4) and revised by the State Revision Committee. However, these designs needed to be updated as per the latest changes in the national legislation. Preparation of the technical documentation completed in 2017, procurement completed mid 2018 and the works started. | | |
| Risks identified | Potential implementation delay | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 63,085,059 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | As per the main designs prepared, estimated investment cost for the subsection Orlovaca Interchange-Strazevica is €8.15 million while estimated investment cost for the Orlovaca Interchange alone is approx. €5 million. Works are funded by share of 85% from Chinese Eksim bank loan (Loan Agreement signed 18/09/2018, effectively from 18/12/2018) and 15% of own Serbia's contribution. The financing in value of total €207 million ($225.63 million = CNY/RMB 1,436,850,000, 20 years repayment, wih 5 years grace period, 2.5% interest rate) relates to sections B4, B5 (construction of left motorway profile for these two) and B6 (both lanes to be constructed), for total 20.4km of missing bypass elements to the full motorway profile. MoU between Gov. of Serbia and Sinohydro (consortia with Azvirt) signed July 2016 (Annex signed in July 2017, Annex 3 in 06/09/2018). Commercial contract (value €207 million) for the construction of Section B lots 4,5,6, between the Government of Serbia as Financer, Roads of Serbia, JSD, as Investor and Power Construction Corporation of China, Ltd. as Constructor, was signed in Riga during the 1+16 Summit of China and Central and East Europe Countries 06/11/2016 (Annex signed in Sept 2017). MoU between MCTI and PE RoS sigend Oct 2017 (Annex 1 in 06/09/2018) to allow early commencement of works. Additional note: Phase I of the bypass construction was supported by IFIs financing (EIB framework loan €180 m in total for Belgrade Bypass of which 2nd tranche €40 m signed 27/09/2010 for B5 section). Phase I of the B5 section received also EU grant funds (IPA 2007, €1.7 m) for SofW (except tunnels). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor (CX), Construction of road sections between Grdelica and Presevo in Serbia to meet with motorways TEN-T standard***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Construction of road sections between Grdelica and Presevo in Serbia to |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Grdelica |
| To | Presevo |
| Gap rationale | Link constructed - new motorway |
| Country | SER |
| Lead Project Beneficiary | PE Roads of Serbia |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.10 |
| SEETO Code | Corridor X |
| European Route Code | E75 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Corridor X is the main backbone of the TEN network in the Western Balkans. Realisation of the project will allow completion of the main missing link on Corridor X in the Western Balkans on the route from Salzburg (or Budapest - branch Xb) via Belgrade to Thessaloniki (X) or Igoumenitsa via Egnatia (branch Xd). |
| Strategic relevance | Together with several LOTs on the Corridor Xc (east) section Nis-Dimitrovgrad (Bulgarian border), this part of the main Corridor X axis, being on the (south) section from Nis to Presevo (border with Former Yugoslav Republic of Macedonia) is remaining to be constructed as per full motorway profile. Being part of the main Corridor X axis this section is of highest importance for Serbia recignized in the Spatial Plan of Serbia, all other regional strategic and executable spatial plans, General Transport Master Plan, Serbian National Plan for Road/Rail Infrastructure Development, etc. As such, it was one of the key priorities in the core road network defined by the South East Europe Transport Observatory (SEETO). |

| | |
|---|---|
| General description | The project - construction of the remaining motorway sections (Corridor X) from Grabovnica to Levosoje is now completed. Several sections of the E-75 motorway (south) were already in operation (opened for traffic in full motorway profile in Nov 2015, April 2016). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The subject of this project is to increase transport efficiency and improve traffic safety on this project section of the Corridor X, between Nis and FYR Macedonia border, and to improve road management and road safety in Serbia. |
| Climate change mitigation and adaptation aspects | List of mitigation measures with Monitoring Plan (for all phases - designing, construction, operation) was prepared as part of the EIA study (in line with WB OP) for the corridor from Grabovica to Levosoje. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | 04/2009 |
| Valid spatial planning documents | C | 07/2011 | 06/2012 |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | C | 01/2011 | 05/2019 |
| Further project preparation considerations | This sector was also supported through WBIF as €4.5 million provided for the project covering two sectors in Serbia, 98 km along E80 between Nis and Dimitrovgrad (East) and 75 km on E75 between Grabovnica and Levosoje (South). The project management and special studies provided for these two sections of which €3 million is managed by the EIB (geotechnical and structural expertise, detailed design, quantity surveying and traffic management systems) and €1.5 million by EBRD. Overall technical assistance is coordinated with the World Bank which is also a co-financier for the project. The project was considered fully prepared and also all construction works are now completed in 2019. Completion Grabovnica-Grdelica (5.5km) on 11/04/2016, Grdelica-Predejane tunnel-Caricina dolina-Manajle tunnel-Vladicin Han (26.3km) on 18/05/2019, Vladicin Han-Prevalac-Suvi Dol-Donji Neradovac (26.3km) on 28/11/2015, Srpska Kuca-Levosoje (8.06km) in 12/2018. | | |
| Risks identified | The construction is completed. However, there may be potential defficiencies discovered in the DNP. The risk is low, though. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 365,488,478 |
| Total investment | | 365,488,478 |

| | |
|---|---|
| Investment financing considerations | To finance the project, Serbia has signed Financing Agreements with EIB, EBRD and World Bank. Also, two sections/LOTs were to be funded through HIPERB Plan (Hellenic Plan for the Economic Reconstruction of the Balkans). Of the later two, one is constructed and in operation, while for the other one construction contract was terminated and new tender for construction launched in 2015 (funded through budget of Serbia). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor (CX), Rehabilitation of the road sections between Bubanj Potok and Grdelica in Serbia to meet with motorways TEN-T standard***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Rehabilitation of the road sections between Bubanj Potok and Grdelica in |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Bubanj Potok |
| To | Grdelica |
| Gap rationale | Upgrade toward full compliance with the TEN-T standards |
| Country | SER |
| Lead Project Beneficiary | PE Roads of Serbia |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.11 |
| SEETO Code | Corridor X |
| European Route Code | E75 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | --- |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | | |
| Feasibility study (incl. CBA) | --- | | |
| Preliminary Design | --- | | |
| Environmental and Social Impact Assessment | --- | | |
| Valid spatial planning documents | --- | | |
| Land property resolved | --- | | |
| Main design / detailed design | --- | | |
| Tender documentation | --- | | |
| Construction and other permits | --- | | |
| Construction & supervision of works contracts | --- | | |
| Further project preparation considerations | | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | --- | 0 |
| Environmental and Social Impact Assessment | --- | 0 |
| Valid spatial planning documents | --- | 0 |
| Land property | --- | 0 |
| Main design / detailed design | --- | 0 |
| Tender documentation | --- | 0 |
| Construction and other permits | --- | 0 |
| Construction & supervision of works contracts | --- | 0 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road section Surcin-Obrenovac with the new Sava bridge to meet with motorways TEN-T standards***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Belgrade (Surcin) |
| To | Obrenovac |
| Gap rationale | Missing link - new motorway |
| Country | SER |
| Lead Project Beneficiary | |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.15 |
| SEETO Code | Route 4 |
| European Route Code | E-763 |
| Other Project/LOT Code | Sector I, Section 2 |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of the OEM Core Corridor and being SEETO Route 4, this motorway link is to provide connection to the Mediterranean Corridor (Adriatic-Ionnian motorway). The project will provide better connectivity of the Adriatic and Ionian coast with Corridors X and VII. |
| Strategic relevance | The section is on the motorway route connecting large parts of Central and Eastern Europe with the Mediterranean region. It has been identified on the list of priority new development projects in the General Master Plan for Transport in Serbia, 2009, and in the Spatial Plan of Serbia 2010-2020, Serbian National Plan for Road/Rail Infrastructure Development and is part of the SEETO Core Network. |

| | |
|---|---|
| General description | The section include 17.6km od the full motorway profile (2x2 traffic lanes and emergency lanes) with the new concrete bridge over Sava river and Kolubara confluence 1,581m long, 29m wide, including access ramps (370m over Sava river, with largest span of 175m and 24.5m above the waterway). Works started 01/03/2017 with construction period contracted 32 months. Total number of structures on the section (divided into five construction sectors) is seven bridges and four overpassess. It includes one railway overpass (Ostruznica-Batajnica rail line) and interchanges Surcin and Obrenovac. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | --- |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | A shorter link between north parts of Serbia and Montenegro (Adriatic coast); Interconnects Central and East European countries with Mediterranean area; Savings (travel time, vehicle operating costs, costs of traffic accidents, etc). |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 05/2017 | 12/2019 |
| Further project preparation considerations | Feasibility study and preliminary design are finished in 2011 (as per national legislation and approved by the State Revision Committee in June 2012). On 18th June 2016 Ministry of Construction, Transport and Infrastructure signed Agreement with China Communications and Construction Company for preparation of the detail design and construction of the section Surcin-Obrenovac. Preparation of the technical documentation to tendering completed and the works started on site 5th May 2017 (contracted duration - 4 months for designing and construction period 32 months). | | |
| Risks identified | Construction phase risks may relate to financial (unforseen price changes). However, these are to be timely foreseen, if any, and mitigated. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 2,138,130 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 208,000,000 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | Main Constructor is CCCC with 49% share of local sub-contractors. Works are financed through Chinese Eksim bank loan $2198.62 million (Loan Agreement signed 06/11/2016) and State budget. Commercial construction contract in value of $233.67 million (€208m) signed on 18/06/2016 (effective March 2017). The bridge component is estimated to cost €103million. The Loan Agreement became operational in February 2017. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road section Obrenovac-Ub to meet with motorways TEN-T standards***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Obrenovac |
| To | Ub |
| Gap rationale | Link constructed - new motorway |
| Country | SER |
| Lead Project Beneficiary | |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.17 |
| SEETO Code | Route 4 |
| European Route Code | E-763 |
| Other Project/LOT Code | Sector I, Section 3 |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of the OEM Core Corridor and being SEETO Route 4, this motorway link is to provide connection to the Mediterranean Corridor (Adriatic-Ionnian motorway). The project will provide better connectivity of the Adriatic and Ionian coast with Corridors X and VII. |
| Strategic relevance | The section is on the motorway route connecting large parts of Central and Eastern Europe with the Mediterranean region. It has been identified on the list of priority new development projects in the General Master Plan for Transport in Serbia, 2009, and in the Spatial Plan of Serbia 2010-2020, Serbian National Plan for Road/Rail Infrastructure Development and is part of the SEETO Core Network. |
| General description | The section is 26.2 km long. Construction is completed and it is fully operational. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | --- |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | A shorter link between north parts of Serbia and Montenegro (Adriatic coast); Interconnects Central and East European countries with Mediterranean area; Savings (travel time, vehicle operating costs, costs of traffic accidents, etc). |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | C | 06/2014 | 08/2019 |
| Further project preparation considerations | Works contracted and were due to be finished in 37 months (25/12/2018). Implementation was completed end-2018 but section not opened for traffic until August 2019 as the adjacent sections were not completed or sanation of defects done. | | |
| Risks identified | No remaining risks. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 250,980,256 |
| Total investment | | 0 |
| Investment financing considerations | This section and section Lajkovac-Ljig are financed with China EXIM bank loan (ratified November 2013, $301 million, 20 years with 5 years grace period, interest rate 2.5%) and 10% State budget. Commercial construction contract signed 13/05/2013 (value of construction contract $333,75 million) and Annexed 14/09/2018 (extension of the completion date to 25/12/2018). Chinese main contractor with 40% works assgned to local sub-constructors. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road section Ub-Lajkovac to meet with motorways TEN-T standards***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Ub |
| To | Lajkovac |
| Gap rationale | Link constructed - new motorway |
| Country | SER |
| Lead Project Beneficiary | Corridors of Serbia Ltd |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.18 |
| SEETO Code | Route 4 |
| European Route Code | E-763 |
| Other Project/LOT Code | Sector I, Section 4 |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of the OEM Core Corridor and being SEETO Route 4, this motorway link is to provide connection to the Mediterranean Corridor (Adriatic-Ionnian motorway). The project will provide better connectivity of the Adriatic and Ionian coast with Corridors X and VII. |
| Strategic relevance | The section is on the motorway route connecting large parts of Central and Eastern Europe with the Mediterranean region. It has been identified on the list of priority new development projects in the General Master Plan for Transport in Serbia, 2009, and in the Spatial Plan of Serbia 2010-2020, Serbian National Plan for Road/Rail Infrastructure Development and is part of the SEETO Core Network. |
| General description | The section is 12.5 km long. Construction is completed and it is fully operational. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | --- |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | A shorter link between north parts of Serbia and Montenegro (Adriatic coast); Interconnects Central and East European countries with Mediterranean area; Savings (travel time, vehicle operating costs, costs of traffic accidents, etc). |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | C | 07/2010 | 08/2019 |
| Further project preparation considerations | Construction started in August 2010 (the contract signed 02/07/2010) and completed 30/06/2014. Although construction works on the section were completed (following a number of issues and delays during the construction), large parts of the section (more than 2.5km) have found to be in poor condition in 2017 and so are needing complete or partial reconstruction (due to poor material used in combination with lack of maintenance in the period since handover, sanation works had to be performed and these started in August 2018. The aim is to open this section to traffic alltogether with the two adjacent ones. | | |
| Risks identified | No remaining risks. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 83,000,000 |
| Total investment | | 0 |
| Investment financing considerations | Construction was financed with the State budget (€73 million) and so are sanation works for 2.5 km of the motorway section (in value of additional approx. €10 million). | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road section Lajkovac-Ljig to meet with motorways TEN-T standards***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Lajkovac |
| To | Ljig |
| Gap rationale | Link constructed - new motorway |
| Country | SER |
| Lead Project Beneficiary | Corridors of Serbia Ltd |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.19 |
| SEETO Code | Route 4 |
| European Route Code | E-763 |
| Other Project/LOT Code | Sector I, Section 5 |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of the OEM Core Corridor and being SEETO Route 4, this motorway link is to provide connection to the Mediterranean Corridor (Adriatic-Ionnian motorway). The project will provide better connectivity of the Adriatic and Ionian coast with Corridors X and VII. |
| Strategic relevance | The section is on the motorway route connecting large parts of Central and Eastern Europe with the Mediterranean region. It has been identified on the list of priority new development projects in the General Master Plan for Transport in Serbia, 2009, and in the Spatial Plan of Serbia 2010-2020, Serbian National Plan for Road/Rail Infrastructure Development and is part of the SEETO Core Network. |
| General description | The section is 20.3 km long. Construction is completed and it is fully operational. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | --- |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | A shorter link between north parts of Serbia and Montenegro (Adriatic coast); Interconnects Central and East European countries with Mediterranean area; Savings (travel time, vehicle operating costs, costs of traffic accidents, etc). |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | C | 06/2014 | 08/2019 |
| Further project preparation considerations | Construction was due to be finished in 37 months (25/12/2018). Works are completed in August 2019 (the remaining three kilometers of the alignment, including Brancic tunnel, 990m long fihished in 2019). | | |
| Risks identified | No remaining risks. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 194,462,482 |
| Total investment | | 0 |
| Investment financing considerations | This section and section Obrenovac-Ub are financed with China EXIM bank loan (ratified November 2013, $301 million, 20 years with 5 years grace period, interest rate 2.5%) and 10% State budget. Commercial construction contract signed 13/05/2013 (construction contract value is $333,75 million) and Annexed 14/09/2018 (extension of the completion date to 25/12/2018). Chinese main contractor with 40% works assgned to local sub-constructors. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, Pozega-Boljare road sections (border with Montenegro)***

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, Pozega-Boljare road sections |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Pozega |
| To | Border with Montenegro |
| Gap rationale | Missing link - new motorway |
| Country | SER |
| Lead Project Beneficiary | PE Roads of Serbia |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.27 |
| SEETO Code | Route 4 |
| European Route Code | E763 |
| Other Project/LOT Code | Sector III |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of the OEM Core Corridor and being SEETO Route 4, this motorway link is to provide connection to the Mediterranean Corridor (Adriatic-Ionnian motorway). The project will provide better connectivity of the Adriatic and Ionian coast with Corridors X and VII. |
| Strategic relevance | As this section will be on the motorway route connecting large parts of Central and Eastern Europe with the Mediterranean region, it is identified on the SEETO Core Network and is on the list of priority new development projects in the General Master Plan for Transport in Serbia (2009), in the Spatial Plan of Serbia 2010-2020 and Serbian National Plan for Road/Rail Infrastructure Development 2008-2015. Construction of this section will improve road connection between Serbia and Montenegro (port of Bar). The Project is included in the country's SPP. |
| General description | This section of the motorway Belgrade – South Adriatic Sea (E-763) between Pozega and Boljare (border with Montenegro) will be 107 km long (97 bridges, 22 km in total and 27 km in total length for 51 tunnel). |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | --- |
| Emergency line width** | --- |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | A shorter link between north parts of Serbia and Montenegro (Adriatic coast); Interconnects Central and East European countries with Mediterranean area; Savings (travel time, vehicle operating costs, costs of traffic accidents, etc). |
| Climate change mitigation and adaptation aspects | Environmental issues (including air pollution, climate characteristics, etc.) will be specially addressed as part of the Environmental and Social Impact Assessment to be prepared. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 06/2007 | 02/2008 |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | WiP | 12/2017 | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The Memorandum of Cooperation signed in Jan 2014 implied that G.I.D.C. Ltd JV (established in Aug 2013) would have been financing spatial planning and technical documentation preparation. However, mutual termination agreement for this MoC signed in 4Q 2014. Serbian Government decision on preparation of the Spatial Plan adopted 30 Oct 2015 (procured through PE Roads of Serbia). This was done in 4Q 2017 and the preparation is ongoing (the Decision is published in Official Gazette RS No 78/2017, contract is signed in Dec 2017, early public consultations were held Feb/March 2018 and its finalilsation is expected end 2019). Once the Special Purpose Spatial Plan for Infrastructure Corridor is adopted, some other spatial plans (regional, municipal, general urban) are to be updated accordingly, though this doesn‘t affect the project preparation. Prefeasibility study and Conceptual (General) Design that are prepared in Feb 2008 were in line with national legislation at the time (in Serbian only, approved by State Revision Committe May 2008). Activities on preparation of the feasibility study, preliminary design and EIA are to kick-off following the Annex signed with the implementation partner (estimated time needed for completion of these activities is 18 months) on basis of the optimal alignment option to be elaborated by the Spatial plan. The Schematic Design under preparation, which to facilitate issue of the Location Conditions. As per the Annex of the MoU signed with the Chinese contractor CCCC (signed 29/03/2018) the remainder of the technical documentation is being financed by this implementation partner (it’s subsidiary CRBC). | | |
| Risks identified | Although the project is in early preparatory status, some of main risks identified are: Difficulties in coordinating various stakeholders; Possible delays in project preparation stages; Lack of regional/bi-lateral coordination as implementation and/or feasibility dependable on construction timeline of the section(s) in Montenegro; Required measures for mitigation of environmental impacts may imply higher costs than initially foreseen; Land acquisition issues. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 3,750,000 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 103,690 |
| Land property | Yes | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 1,830,900,000 |
| Total investment | | 1,885,000,000 |
| Investment financing considerations | Back in Aug 2013 Memorandum on Cooperation signed between Serbian ministry responsible for construction at the time and Global Capital Advisors, United Arab Emirates, establishing G.I.D.C. Ltd Joint Venture. This Memorandum was foreseeing financing and project preparation. Another MoC signed in Jan 2014 with G.I.D.C. Ltd JV. However, it was mutually terminated in 4Q 2014. It was foreseen by the Beneficiary at the time that financial need for the project preparation would be approx. €57 million, which is some 3% of the total investment, with aim to financing mainly through an international aid. However, MoU was later signed (in Nov 2017, and the Annex signed 29/03/2018) with China Communications Construction Company Ltd for cooperation in Pozega-Boljare motorway implementation (financing, construction, operation and maintenance model) and negotiations are ongoing. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road section Ljig-Preljina to meet with motorways TEN-T standards***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Ljig |
| To | Preljina |
| Gap rationale | Link constructed - new motorway |
| Country | SER |
| Lead Project Beneficiary | Corridors of Serbia Ltd |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.28 |
| SEETO Code | Route 4 |
| European Route Code | E-763 |
| Other Project/LOT Code | Sector II |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of the OEM Core Corridor and being SEETO Route 4, this motorway link is to provide connection to the Mediterranean Corridor (Adriatic-Ionnian motorway). The project will provide better connectivity of the Adriatic and Ionian coast with Corridors X and VII. |
| Strategic relevance | The section is on the motorway route connecting large parts of Central and Eastern Europe with the Mediterranean region. It has been identified on the list of priority new development projects in the General Master Plan for Transport in Serbia, 2009, and in the Spatial Plan of Serbia 2010-2020, Serbian National Plan for Road/Rail Infrastructure Development and is part of the SEETO Core Network. |
| General description | This section 40.36 km long was consisted of three (implementation) sub-sections: Donji Banjani-Boljkovci (L=10.72 km), Boljkovci-Takovo (12.57 km), Takovo-Preljina (17.07 km). The alignment include 66 bridges and four large fully equiped tunnels. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | --- |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | A shorter link between north parts of Serbia and Montenegro (Adriatic coast); Interconnects Central and East European countries with Mediterranean area; Savings (travel time, vehicle operating costs, costs of traffic accidents, etc). |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | C | | 01/2016 |
| Further project preparation considerations | Project was fully prepared, construction works are finished and the section is under operation (open for traffic) since November 7th 2016. | | |
| Risks identified | No remaining risks. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 308,000,000 |
| Total investment | | 0 |
| Investment financing considerations | Financed with loan from Azerbeijan (€300 million) and State budget. Financing Agreement signed 02/02/2012). Azeri main contractor with local sub-contractors. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

***Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road section Preljina-Pozega to meet with motorways TEN-T standards***

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Belgrade-South Adriatic motorway, construction of the road |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Preljina |
| To | Pozega |
| Gap rationale | Missing link - new motorway |
| Country | SER |
| Lead Project Beneficiary | |
| Proponent | Ministry of Construction, 2 and Infrastructure |
| Project ID/number | WB.TR.M.29 |
| SEETO Code | Route 4 |
| European Route Code | E-761 |
| Other Project/LOT Code | Sector II |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of the OEM Core Corridor and being SEETO Route 4, this motorway link is to provide connection to the Mediterranean Corridor (Adriatic-Ionnian motorway). The project will provide better connectivity of the Adriatic and Ionian coast with Corridors X and VII. |
| Strategic relevance | The section is on the motorway route connecting large parts of Central and Eastern Europe with the Mediterranean region. It has been identified on the list of priority new development projects in the General Master Plan for Transport in Serbia, 2009, and in the Spatial Plan of Serbia 2010-2020, Serbian National Plan for Road/Rail Infrastructure Development and is part of the SEETO Core Network. |

| | |
|---|---|
| General description | Section Preljina to Požega (30.9km of the new motorway is under construction) is divided into three sub-sections. The first one streches from Preljina to Prijevor along the Čemernica River and in the small part next to the Western Morava it has 8.27 kilometers. According to the design, it contains a tunnel "Trbusani", 250 meters long, three overpasses, as well as a bridge over Čemernica. From Prijevor to Lucana it should have the second sub-section 15.51 kilometers long, with 20 more bridges that will add up to more than three kilometers of structures in total. The construction of the "Laz" tunnel of 1,750 meters is also planned, an interchange in Pakakovac and three overpasses. The third sub-section from Lučani to Požega will stretch to 7.18 kilometers, with three bridges, a tunnel of 2,040 meters long, an interchange in Lučani and a bridge over the Bjelica river. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | --- |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | A shorter link between north parts of Serbia and Montenegro (Adriatic coast); Interconnects Central and East European countries with Mediterranean area; Savings (travel time, vehicle operating costs, costs of traffic accidents, etc). |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | 07/2019 |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 05/2019 | |
| Further project preparation considerations | Design-Build contract with CCCC signed 27/11/2017 sets 6 months for completion of designs and 36 months construction period. Preparation of the technical documentation now completed and the works started. | | |
| Risks identified | Construction phase risks may relate to financial (unforseen price changes). However, these are to be timely foreseen, if any, and mitigated. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 450,000,000 |
| Total investment | | 0 |
| Investment financing considerations | Gov. of Serbia formed Working Group together with China Communication Construction Company Ltd for implementation of E-763 sections Preljina-Pozega and Pozega-Boljare (financing, construction, operation and maintenance models). Negotiations completed in Nov 2017 for Preljina-Pozega section and Commercial Contract (Design-Build) signed 27/11/2017 (Contract value $523.53 million). | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor (Road R7), construction of the Nis-Merdare E-80 highway, Sector Nis-Plocnik*

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor (Road R7), construction of the Nis-Merdare E-80 highway, Sector Nis-Plocnik |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Nis (Merosina) |
| To | Plocnik (Beloljin) |
| Gap rationale | Co-financing approved, Missing link - new motorway |
| Country | SER |
| Lead Project Beneficiary | Corridors of Serbia Ltd |
| Proponent | Ministry of Construction, 2 and Infrastructure, Department for Management of EU funded projects |
| Project ID/number | WB.TR.M.32 |
| SEETO Code | Route 7 |
| European Route Code | E80 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this project is pre-identified as part of the Orient/East-Med Corridor and which extending the core network corridor to the Western Balkans. Hence, the project is included in the Serbia's SPP. |
| Strategic relevance | The route is designated as one of major transport axes of strategic importance for Republic of Serbia as presented in "Strategy of Railway, Road, Water, Air and Intermodal Transport Development (2008-2015) in the Republic of Serbia" and is foreseen to be upgraded to motorway category by Strategy of uniform regional development of Serbia; Also it is on the list of priority new development projects in the General Master Plan for Transport in Serbia, 2009 and strategicaly planned in the Spatial Plan of Serbia (2010-2020). This route is included in the Priority project List of the SEETO Five Year MAP 2014-2018, together with the adjacent link in Kosovo*, Pristina to Merdare. Hence the SEETO MAP 2016 includes the motorway on the Priority Project List – Projects for Preparation (as a part of the Core Network). The Project is included in the country's SPP. |

| | |
|---|---|
| General description | This branch of E-80 motorway 77 km long is to connect to Corridor Xc (Nis-Pirot-Dimitrovgrad-Bulgarian border E-80/M-1.12, IA-4), and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route was coded M-25, and today IB-35 as classified within the Serbian network of category I (main) roads. The new motorway will improve road connection between Bulgaria, Serbia, Albania and former Yugoslav Republic of Macedonia through Kosovo*. The particular section (sector) includes the first 40 km, from Niš to Pločnik, of which approx. 33 km will be constructed in the Phase I. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Open |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 1 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Nis and Pristina through the administrative crossing point Merdare is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (Albania to Serbia through Kosovo*), both passenger and freight. |
| Climate change mitigation and adaptation aspects | Following preparation of EIA and ESIA studies, for a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed (incl. optimisation of alignment) |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 11/2014 | 08/2015 |
| Feasibility study (incl. CBA) | C | 01/2016 | 06/2019 |
| Preliminary Design | C | 01/2016 | 06/2019 |
| Environmental and Social Impact Assessment | WiP | 01/2016 | |
| Valid spatial planning documents | C | 07/2016 | 11/2017 |
| Land property resolved | WiP | 03/2018 | |
| Main design / detailed design | WiP | 06/2019 | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Project preparation is mainly supported through EU grants (technical documentation) - WB10-SER-TRA-02 (CD and PFS), WB13-SER-TRA-01 (PD, FS and EIA/ESIA). Beneficiary has contributed with procuring spatial planning documentation from own funds, in parallel with the later TA. WB18-SRB-TRA-01 is also approved and the TA (MD, DD and tender dossier) started in June 2019. Upon completion of the Design for Construction Permit (subject to RSA, Technical Control and State Revision), the Permit will be issued, Detailed Design completed (also subject to RSA) together with the tender documents and tendering for works may commence. Tendering for several LOTs may not be at the same time (the aim is to tender 1st and possibly 2nd LOT end of 2020, all Red FIDIC conditions apart from the equipment for tunnels that will be procured with Yellow FIDIC conditions). | | |
| Risks identified | Mainly related to construction group/set of risks. | | |

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| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 425,000 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 1,500,000 |
| Environmental and Social Impact Assessment | No | 200,000 |
| Valid spatial planning documents | No | 111,640 |
| Land property | No | 21,950,000 |
| Main design / detailed design | No | 4,800,000 |
| Tender documentation | No | 24,000 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 225,989,360 |
| Total investment | | 255,000,000 |

| | |
|---|---|
| Investment financing considerations | Beneficiary applied for the EU investment co-financing (€40.6 million, approved through WBIF IG03) and negotiated with EIB and EBRD for (sovereign) loan financing (approx. €100 million and indicatively up to €80 million, respectively). The WBIF INV Grant Agreement and the EIB Loan Agreement (€100 m) are signed 12/09/2019. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor (Road R7), construction of the Nis-Merdare E-80 highway, Sector Plocnik-Merdare*

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor (Road R7), construction of the Nis-Merdare E-80 highway, Sector |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Plocnik (Beloljin) |
| To | Merdare (admin. crossing) |
| Gap rationale | Missing link - new motorway |
| Country | SER |
| Lead Project Beneficiary | Corridors of Serbia Ltd |
| Proponent | Ministry of Construction, 2 and Infrastructure, Department for Management of EU funded projects |
| Project ID/number | WB.TR.M.36 |
| SEETO Code | Route 8 |
| European Route Code | E81 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this project is pre-identified as part of the Orient/East-Med Corridor and which extending the core network corridor to the Western Balkans. Hence, the project is included in the Serbia's SPP. |
| Strategic relevance | The route is designated as one of major transport axes of strategic importance for Republic of Serbia as presented in "Strategy of Railway, Road, Water, Air and Intermodal Transport Development (2008-2015) in the Republic of Serbia" and is foreseen to be upgraded to motorway category by Strategy of uniform regional development of Serbia; Also it is on the list of priority new development projects in the General Master Plan for Transport in Serbia, 2009 and strategicaly planned in the Spatial Plan of Serbia (2010-2020). This route is included in the Priority project List of the SEETO Five Year MAP 2014-2018, together with the adjacent link in Kosovo*, Pristina to Merdare. Hence the SEETO MAP 2016 includes the motorway on the Priority Project List – Projects for Preparation (as a part of the Core Network). The Project is included in the country's SPP. |

| | |
|---|---|
| General description | This branch of E-80 motorway 77 km long is to connect to Corridor Xc (Nis-Pirot-Dimitrovgrad-Bulgarian border E-80/M-1.12, IA-4), and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route was coded M-25, and today IB-35 as classified within the Serbian network of category I (main) roads. The new motorway will improve road connection between Bulgaria, Serbia, Albania and former Yugoslav Republic of Macedonia through Kosovo*. The project's scope comprises the motorway section between Plocnik and Merdare administrative crossing to Kosovo, in length of approx 37.4 km. The alignment is dominantly in hilly/mountainous terrain. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | No |
| Tolling system** | Yes-Open |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 100 km/h |
| No of traffic lanes per direction** | --- |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Nis and Pristina through the administrative crossing point Merdare is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (Albania to Serbia through Kosovo*), both passenger and freight. |
| Climate change mitigation and adaptation aspects | Given that EIA/ESIA pending for preparation, appropriate assessments are yet to be made following finalisation of the preliminary design. However, for a given alignment which in line with strategic spatial plans, there are no areas which would restrict th |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 11/2014 | 08/2015 |
| Feasibility study (incl. CBA) | WiP | 08/2017 | |
| Preliminary Design | WiP | 08/2017 | |
| Environmental and Social Impact Assessment | WiP | 10/2017 | |
| Valid spatial planning documents | WiP | 06/2018 | 08/2019 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The pre-feasibility study and general design are provided in 2015 through WBIF support (IPF TA, WB10-SER-TRA-02) while ongoing technical assistance in 2017/2019 (WB15-SER-TRA-01) is related to preparation of the preliminary design, feasibility study and EIA/ESIA package for Plocnik-Merdare sector. PD is drafted and completion of deliverables are following formal adoption of the Spatial Plan (Aug 2019). As project preparation and implementation is staged (semi-motorway is planned in first phase), it is yet uncertain whether next stage of the project preparation for this sector is envisaged in the midterm plans. | | |
| Risks identified | Obtaining approvals and permits delays project preparation; Potential expropriation issues; Potential financial gap on the project to limit financing options; Political relations with Kosovo* including administrative and other transport and/or trade restrictions introduced. | | |

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| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 475,000 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 2,000,000 |
| Environmental and Social Impact Assessment | No | 195,000 |
| Valid spatial planning documents | No | 105,000 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 0 |
| Investment financing considerations | Project is yet at early stage of project preparation. Feasibility indicate construction of subsections Kursumlija-Rudare-Merdare beyond 2035. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section Budva Bypass*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section Budva |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Kotor IC (Bratesici) |
| To | Petrovac IC (Vrijesno) |
| Gap rationale | Co-financing approved, Missing link - new expressway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.16 |
| SEETO Code | Route 1 |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Montenegrin territory, section from Croatian border to Albanian border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor into the Western Balkans region. |
| | |

| | |
|---|---|
| Strategic relevance | The project is part of the Adriatic-Ionian Road Corridor that shall connect Central Europe and North Italy with the Balkans in South East Europe, over Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Albania and Greece. The Adriatic-Ionian highway, known as the Blue Corridor, is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Montenegro will be app. 109km, or ca. 7% of the total length of the motorway. The project is included in the Montenegro's national SPP: "The Spatial Plan of Montenegro to 2020", State Road Development and Maintenance Strategy of Montenegro; Regional Development Strategy of Montenegro for the period 2014-2020; National Development Plan 2013-2016; etc. The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |
| General description | The Adriatic-Ionian Road Corridor is planned as a dual-carriageway expressway with two traffic lanes per direction, emergency lanes, and design speed of 80 km/h. The section starts from the area of Kotor I/C (end of Tivat Bypass), bypassing the town of Budva, and ends at the area of Petrovac. Its length is approximately 30 km including new alignment. The section is located mainly on difficult terrain (hilly/mountainous). Of the 30 km long bypass, phase 1 (phased construction option) construction include 13km with 3 interchanges (4.5km of ramps), 8.6km of access roads (connections to the existing road network, 2.3km+0.6km+5.7km respectively). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 2-Rural road with separate direction carriageways |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.25 m |
| Emergency line width** | 1.75 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |
| Climate change mitigation and adaptation aspects | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2016 | 10/2017 |
| Feasibility study (incl. CBA) | C | 06/2016 | 10/2017 |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | WiP | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | WiP | 07/2019 | |
| Tender documentation | WiP | 07/2019 | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Beside preliminary feasibility assessments that were made under the study "Montenegrin Coastal Bypasses Feasibility Study" (WB10-MNE-TRA-02), design solutions and preffered alignment option are confirmed through Conceptual Design with PFS (and incl. FA with CBA) that is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01). Completion of the Preliminary Design was done through CONNECTA (CONNECTA-TRA-INFR-MNE-PD-01) and detailed design (for the middle section only) is progressing through the two TA grants approved (WB18-MNE-TRA-01 and WB19-MNE-TRA-01). | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 240,527,717 |
| Total investment | | 0 |
| Investment financing considerations | The INV grant is approved in amount of €41.5 m. KfW loan financing is considered for indicative amount of €50 million. Further loan financing and other grant funding sources are sought. However, due to current country‘s limited borrowing capacities, financing is not yet secured. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor, Completion of Bar-Boljare Highway (Road Route 4), section Matesevo-Andrijevica*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Bar-Boljare Highway (Road Route 4), section |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Matesevo |
| To | Andrijevica |
| Gap rationale | Missing link - new motorway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.21 |
| SEETO Code | Route 4 |
| European Route Code | E763 |
| Other Project/LOT Code | Sector III, subsection 4A |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | This road corridor is part of SEETO Route 4 connecting Romania (Vršac) with Serbia (Belgrade) and Montenegro (Podgorica & Bar) and has also been officially pre-identified as part of the TEN-T Orient/East-Med Corridor, extending the EU Core Network Corridor into the Western Balkans region. |
| Strategic relevance | This road corridor (Route 4) is designated as one of the major transport axes of strategic importance for the Republic of Montenegro, as presented in the “Transport Development Strategy of Montenegro”, and is foreseen to be upgraded in all sections to motorway category by the Strategy for Regional Development of Montenegro 2014-2020, etc. Hence, the project is included in Montenegro’s National SPP (2017), supported also by the Spatial Plan of Montenegro to 2020 (2008); the Detailed Spatial Plan for Bar-Boljare Highway (2008); the State Road Development and Maintenance Strategy of Montenegro (2008); the Economic Reform Programme for Montenegro 2017-2019; Montenegro Development Horizons 2015-2018; National Development Plan 2013-2016; and the Pre-Accession Economic Programme for Montenegro 2013-2016. |

| | |
|---|---|
| General description | The Bar-Boljare Highway (BBH), approximately 170 km long, crosses the entire Montenegro, from the port of Bar in the Adriatic coast, via the capital city of Podgorica to the border with Serbia, and onwards via the motorway Pozega-Belgrade with the TEN-T OEM Corridor to Romania and Central Europe. The BBH will also link the ports on the Adriatic Sea with South Italy and the Danube (Corridor VII and Corridor X). The corridor is planned as a dual-carriageway with two traffic lanes per direction, emergency lanes, and design speed of 100-120 km/h. The section Matesevo-Andrijevica, approx. 21 km long, is planned to be constructed under Stage II of the defined implementation plan for BBH. It extends across the mountainous part of Montenegro, between Matesevo (altitude 1,200 m) and Andrijevica (altitude 730 m). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 100 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of BBH is expected to enhance transit transport activities, both passenger and freight, reduce significantly travel times, increase levels of service and road safety. The port of Bar will be connected with Core TEN-T Corridors, as well as European Corridors X and VII. Benefits assessed in the existing documentation comprise: improved traffic interconnection and integration of the southern, central and northern region of Montenegro; connection to the network of Pan-European corridors & TEN-T; encouraging mobility (market mobility, access to jobs, education and health) in the directly affected region (connected Montenegrin municipalities) for better utilization of economic potentials (tourism, agriculture, forestry, etc.); and achieving more balanced demographic development of Montenegro. |
| Climate change mitigation and adaptation aspects | Environmental issues (including air pollution, climate characteristics, etc.) will be specially addressed as part of the Environmental and Social Impact Assessment to be prepared. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 03/2007 | 03/2008 |
| Feasibility study (incl. CBA) | WiP | 03/2019 | |
| Preliminary Design | WiP | 01/2019 | |
| Environmental and Social Impact Assessment | WiP | 01/2019 | |
| Valid spatial planning documents | C | 12/2003 | 10/2008 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The Detailed Spatial Plan of Bar-Boljare Highway was adopted in 2008. The Conceptual Design and Pre-feasibility study are provided for the entire BBH.<br>WBIF supports the project preparation by providing technical assistance in preparation of the Feasibility Study, incl. CBA and Preliminary ESIA for the entire BBH axis (grant WB18-MNE-TRA-02), as well as of the PD and ESIA for the section Matesevo-Andrijevica (grant WB17-MNE-TRA-02).<br>Intention is to tender construction works as per FIDIC standards, compatible with the national legal system. The Law on Bar-Boljare Motorway (08.12.2014) facilitates preparation of detailed designs separately and successively per motorway segments and/or structures. | | |
| Risks identified | Specific project preparation risk is related to changed geological, hydrological and ecological conditions compared to the existing General Design (Conceptual Design). Project implementation is dependent of future financial considerations. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 3,275,000 |
| Environmental and Social Impact Assessment | Yes | 150,000 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 10,550,000 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 281,190,000 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | Beneficiary is negotiating with EBRD for financing the investment. The plan includes also applying to WBIF for INV grant once the project is mature. |

| TAB 8 - OTHER ASPECTS | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor, Completion of Bar-Boljare Highway (Road Route 4), construction of Podgorica Bypass (Capital-Smokovac-Farmaci)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Bar-Boljare Highway (Road Route 4), construction of Podgorica |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Smokovac |
| To | Farmaci (Podgorica) |
| Gap rationale | Missing link - new motorway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.22 |
| SEETO Code | Route 4 |
| European Route Code | E763 |
| Other Project/LOT Code | Sector I, subsection 2 |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | This motorway section bypassing Montenegro‘s capital is on the SEETO Route 4, (Vršac (Romanian border) – Belgrade (Serbia) – Podgorica (Montenegro) – Bar (Montenegro), and also being part of the Orient/East-Med Corridor. Therefore, following a meetings of WB6 Transport Ministers and EU Transport Commissioner, it is pre-identified as part of the TEN-T Pan-European Core Corridor extending through Western Balkans. |
| Strategic relevance | TThis road corridor (Route 4) is designated as one of the major transport axes of strategic importance for the Republic of Montenegro, as presented in the “Transport Development Strategy of Montenegro”, and is foreseen to be upgraded in all sections to motorway category by the Strategy for Regional Development of Montenegro 2014-2020, etc. Hence, the project is included in Montenegro’s National SPP (2017), supported also by the Spatial Plan of Montenegro to 2020 (2008); the Detailed Spatial Plan for Bar-Boljare Highway (2008); the State Road Development and Maintenance Strategy of Montenegro (2008); the Economic Reform Programme for Montenegro 2017-2019; Montenegro Development Horizons 2015-2018; National Development Plan 2013-2016; and the Pre-Accession Economic Programme for Montenegro 2013-2016. This section is to complement urban transit route as the bypass of the capital city Podgorica, one of the key remaining bottlenecks in Montenegro on the motorway leading to the Adriatic Sea. |

| | |
|---|---|
| General description | The Bar-Boljare Highway (BBH), approximately 170 km long, crosses the entire Montenegro, from the port of Bar in the Adriatic coast, via the capital city of Podgorica to the border with Serbia, and onwards via the motorway Pozega-Belgrade with the TEN-T OEM Corridor to Romania and Central Europe. The BBH will also link the ports on the Adriatic Sea with South Italy and the Danube (Corridor VII and Corridor X). The corridor is planned as a dual-carriageway with two traffic lanes per direction, emergency lanes, and design speed of 100-120 km/h. The Podgorica Bypass (section Smokovac-Tolosi-Farmaci), approx. 18 km long, is planned to be constructed under Stage II of the defined implementation plan for BBH, together with the section Mateševo-Andrijevica. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 100 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of the entire BBH is expected to enhance transit transport activities, both passenger and freight, reduce significantly travel times, increase levels of service and road safety. The port of Bar will be connected with Core TEN-T Corridors, as well as European Corridors X and VII.<br>The specific project will have positive impacts on traffic flow as it will divert traffic away from the commercial and residential centre of Podgorica including nine major traffic-light controlled junctions. This should contribute to the reduction of the air pollution and traffic congestion in the city centre, reduction in numbers of traffic accidents involving pedestrians and reduction of risks associated with transportation of dangerous goods through urban areas. |
| Climate change mitigation and adaptation aspects | Environmental issues (including air pollution, climate characteristics, etc.) will be specially addressed as part of the Environmental and Social Impact Assessment to be prepared. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 03/2007 | 03/2008 |
| Feasibility study (incl. CBA) | WiP | 03/2019 | |
| Preliminary Design | WiP | 11/2018 | |
| Environmental and Social Impact Assessment | WiP | 11/2018 | |
| Valid spatial planning documents | C | 12/2004 | 10/2008 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The Conceptual Design and Pre-feasibility study are provided for the entire BBH.<br>WBIF supports the project preparation by providing technical assistance in preparation of the Feasibility Study, incl. CBA and Preliminary ESIA for the entire BBH axis (grant WB18-MNE-TRA-02), as well as of the PD and ESIA for the Podgorica Bypass (grant WB17-MNE-TRA-03).<br>Intention is to tender construction works as per FIDIC standards, compatible with the national legal system. The Law on Bar-Boljare Motorway (08.12.2014) facilitates preparation of detailed designs separately and successively per motorway segments and/or structures. | | |
| Risks identified | Specific project preparation risk is related to changed geological, hydrological and ecological conditions compared to the existing General Design (Conceptual Design). Project implementation is dependent of future financial considerations. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 2,575,000 |
| Environmental and Social Impact Assessment | Yes | 140,000 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 8,400,000 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 222,329,270 |
| Total investment | | 0 |
| Investment financing considerations | Yet no tangible financing considerations. | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor, Completion of Bar-Boljare Highway (Road Route 4), section Matesevo-Podgorica (Smokovac)*

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Bar-Boljare Highway (Road Route 4), section |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Matesevo |
| To | Podgorica (Smokovac) |
| Gap rationale | Missing link - new motorway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.23 |
| SEETO Code | Route 4 |
| European Route Code | E763 |
| Other Project/LOT Code | Sector II, subsections 3A and 3B |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | This motorway section being part of SEETO Route 4, (Vršac (Romanian border) – Belgrade (Serbia) – Podgorica (Montenegro) – Bar (Montenegro), and alsoon the Orient/East-Med Corridor. Therefore, following a meetings of WB6 Transport Ministers and EU Transport Commissioner, it is pre-identified as part of the TEN-T Pan-European Core Corridor extending through Western Balkans. |
| Strategic relevance | The Route 4, is designated as one of major transport axes of strategic importance for Republic of Montenegro as presented in “Transport Development Strategy of the Republic of Montenegro” and is foreseen to be upgraded in all sections to motorway category by Strategy of Uniform Regional Development of Montenegro - Regional Development Strategy of Montenegro for the period 2014-2020, etc. Hence, the project is included in the Montenegro‘s SPP (Dec 2015); “The Spatial Plan of Montenegro to 2020”; State Road Development and Maintenance Strategy of Montenegro; Montenegro Economic Reform Programme 2015-2017; Development Directions of Montenegro 2015-2018; National Development Plan 2013-2016 ; Pre-Accession Economic Programme for Montenegro 2013-2016. |

| | |
|---|---|
| General description | The motorway Bar – Boljare (Serbian border), approximately 169 km long, intersects transversely the entire Montenegro, and will link Montenegro, from the Adriatic coast, across the Capital Podgorica to the border with Serbia, and onwards via the motorway Pozega - Belgrade with TEN-T core corridor to Romania and Central Europe. The Bar-Boljare motorway will also link the ports on the Adriatic Sea with ports on the Danube (Corridor VII and Corridor X). This section Smokovac (Podgorica) – Matesevo, approx. 41 km long (including tunnel Vjeternik 3 km long and Moracica bridge 1 km long), is considered of highest priority and is already under construction since 2016 (construction contract signed in 2015). Therefore this being first section (Phase I) of this motorway route to be implemented in Montenegro. However, as Smokovac interchange was added to the section (and the construction contract) in 2019, total length is increased to approx. 42.5km. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 100 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of Route 4, as motorway on section Bar– Boljari (Serbian border) is expected to enhance transit transport activities, both passenger and freight, reduce significantly travel times, increase LOS and road safety. Port Bar will be connected with corridor X and VII and with EU Core Network.<br>Benefits assessed in the existing documentation are: Improved traffic interconnection and integration of the southern, central and northern region of Montenegro; Connection to the network of Pan-European corridors; Encouraging mobility (market mobility, access to jobs, education and health) in the directly gravitating region (Montenegrin municipalities directly connected) for better utilization of economic potentials (tourism, agriculture, forestry, etc.); achieving more balanced demographic development of Montenegro. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 03/2007 | 03/2008 |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | 12/2005 | 10/2008 |
| Land property resolved | C | | |
| Main design / detailed design | C | 05/2015 | 12/2016 |
| Tender documentation | C | | |
| Construction and other permits | C | | 04/2019 |
| Construction & supervision of works contracts | WiP | 05/2015 | 11/2020 |
| Further project preparation considerations | National Parliament of Montenegro adopted Law on Bar-Boljare Motorway (08.12.2014). Construction contract is signed and construction started mid 2016 (YELLOW Fidic). Main Designs were successively prepared for 15 segments/structures and construction started (starting with the two most difficult structures for which construction period will be longest (tunnel Vjeternik and Moracica bridge). Although construction was due to be completed 11 May 2019, it is prolonged (inclusion of additional works such as lightning/electrification and interchange Smokovac) to Sept 2020. | | |
| Risks identified | No remaining risks. | | |

**TAB 7 - FINANCING**

| | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 904,600,000 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | Contract for designing and construction of the section Smokovac-Uvac-Matesevo (in value of €809 million) was signed in 26/02/2015 between Montenegrin Government (Ministry of Transport and Maritime) and Chinese company China Communications Construction Company Ltd. (CCCC) and China Road and Bridge Corporation (CRBC). Contract for preferential loan for financing is signed 30/10/2014 between Montenegrin Government (Ministry of Finance) and Chinese EXIM Bank. Government approved additional works in January 2019 (electric works, tolling station and inclusion of the Smokovac interchange into the construction contract) in total value of €95 million. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor, Completion of Bar-Boljare Highway (Road Route 4), section Djurmani - Farmaci*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Bar-Boljare Highway (Road Route 4), section Djurmani - Farmaci |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Djurmani (Bar) |
| To | Farmaci (Podgorica) |
| Gap rationale | Missing link - new motorway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.24 |
| SEETO Code | Route 4 |
| European Route Code | E763 |
| Other Project/LOT Code | Sector I, subsections 1 and 2 |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | This motorway section being part of SEETO Route 4, Vršac (Romanian border) – Belgrade (Serbia) – Podgorica (Montenegro) – Bar (Montenegro), and also being part of the Orient/East-Med Corridor. Therefore, following a meetings of WB6 Transport Ministers and EU Transport Commissioner, it is pre-identified as part of the TEN-T Pan-European Core Corridor extending the EU Core Network Corridor through the Western Balkans. |
| Strategic relevance | The Route 4, is designated as one of major transport axes of strategic importance for Republic of Montenegro as presented in Transport Development Strategy of the Republic of Montenegro and is foreseen to be upgraded in all sections to motorway category by Strategy of Uniform Regional Development of Montenegro - Regional Development Strategy of Montenegro for the period 2014-2020, etc. Hence, the project is included in the Montenegro‘s SPP (2017); The Spatial Plan of Montenegro to 2020 (2008); State Road Development and Maintenance Strategy of Montenegro (2008); Economic Reform Programme for Montenegro 2017-2019; Montenegro Development Horizons 2015-2018; National Development Plan 2013-2016 ; Pre-Accession Economic Programme for Montenegro 2013-2016. |

| | |
|---|---|
| General description | The Bar-Boljare Highway (BBH), approximately 170 km long, crosses the entire Montenegro, from the port of Bar in the Adriatic coast, via the capital city of Podgorica to the border with Serbia, and onwards via the motorway Pozega-Belgrade with the TEN-T OEM Corridor to Romania and Central Europe. The BBH will also link the ports on the Adriatic Sea with South Italy and the Danube (Corridor VII and Corridor X). The corridor is planned as a dual-carriageway with two traffic lanes per direction, emergency lanes, and design speed of 100-120 km/h. This section Djurmani (Bar)-Farmaci (Podgorica), approx. 34 km long, is planned to be constructed under the last phase (Stage IV) of the defined implementation plan for BBH. However, it is noted that part of this section is built (approx. 10 km under operation) as semi motorway link from Djurmani to intersection with M2 state road, including the Sozina tunnel (4.2 km long). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 100 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of BBH is expected to enhance transit transport activities, both passenger and freight, reduce significantly travel times, increase levels of service and road safety. The port of Bar will be connected with Core TEN-T Corridors, as well as European Corridors X and VII. Benefits assessed in the existing documentation comprise: improved traffic interconnection and integration of the southern, central and northern region of Montenegro; connection to the network of Pan-European corridors & TEN-T; encouraging mobility (market mobility, access to jobs, education and health) in the directly affected region (connected Montenegrin municipalities) for better utilization of economic potentials (tourism, agriculture, forestry, etc.); and achieving more balanced demographic development of Montenegro. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 03/2007 | 03/2008 |
| Feasibility study (incl. CBA) | WiP | 03/2019 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | C | 12/2006 | 10/2008 |
| Land property resolved | WiP | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The Detailed Spatial Plan of the Bar - Boljare (Serbian border) motorway was adopted in 2008. The Conceptual Design as well as (pre)feasibility study are provided for whole section of motorway Bar – Boljare. National Parliament of Montenegro adopted Law on Bar-Boljare Motorway (08/12/2014). WBIF supports the project preparation through the grant WB18-MNE-TRA-02 providing technical assistance in preparation of the Feasibility Study, including CBA and Preliminary ESIA for the entire BBH axis. | | |
| Risks identified | The main risks are related to potential implementation delays related to securing financing of construction including financing and construction of the previous phases (northern sections), having in mind that it is considered that this section is to be constructed last. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 441,000,000 |
| Investment financing considerations | Yet no tangible financing considerations. | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor, Completion of Bar-Boljare Highway (Road Route 4), section Andrijevica - Boljare*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor, Completion of Bar-Boljare Highway (Road Route 4), section Andrijevica - Boljare |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Andrijevica |
| To | Boljare |
| Gap rationale | Missing link - new motorway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.25 |
| SEETO Code | Route 4 |
| European Route Code | E763 |
| Other Project/LOT Code | Sector III, subsections 4B and 5 |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | This motorway section being part of SEETO Route 4, (Vršac (Romanian border) – Belgrade (Serbia) – Podgorica (Montenegro) – Bar (Montenegro), and on the Orient/East-Med Corridor. Therefore, following a meetings of WB6 Transport Ministers and EU Transport Commissioner, it is pre-identified as part of the TEN-T Pan-European Core Corridor extending through Western Balkans. |
| Strategic relevance | The Route 4, is designated as one of major transport axes of strategic importance for Republic of Montenegro as presented in “Transport Development Strategy of the Republic of Montenegro” and is foreseen to be upgraded in all sections to motorway category by Strategy of Uniform Regional Development of Montenegro - Regional Development Strategy of Montenegro for the period 2014-2020, etc. Hence, the project is included in the Montenegro‘s SPP (Dec 2015); “The Spatial Plan of Montenegro to 2020”; State Road Development and Maintenance Strategy of Montenegro; Montenegro Economic Reform Programme 2015-2017; Development Directions of Montenegro 2015-2018; National Development Plan 2013-2016 ; Pre-Accession Economic Programme for Montenegro 2013-2016. |

| | |
|---|---|
| General description | The motorway Bar – Boljare (Serbian border), approximately 169 km long, intersects transversely the entire Montenegro, and will link Montenegro, from the Adriatic coast, across the Capital Podgorica to the border with Serbia, and onwards via the motorway Pozega - Belgrade with TEN-T core corridor to Romania and Central Europe. The Bar-Boljare motorway will also link the ports on the Adriatic Sea with ports on the Danube (Corridor VII and Corridor X). This section Andrijevica – Boljare (Serbian border), approx. 52 km long (subsection 4B Andrijevica-Berane 11 km, subsection 5 Berane-Boljari 41 km), is planned to be constructed in Phase III, following sections Smokovac – Mateševo (that is currently under construction), and section Mateševo – Andrijevica that is planed to be constructed in Phase II. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 100 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of Route 4, as motorway on section Bar– Boljari (Serbian border) is expected to enhance transit transport activities, both passenger and freight, reduce significantly travel times, increase LOS and road safety. Port Bar will be connected with corridor X and VII and with EU Core Network.<br>Benefits assessed in the existing documentation are: Improved traffic interconnection and integration of the southern, central and northern region of Montenegro; Connection to the network of Pan-European corridors; Encouraging mobility (market mobility, access to jobs, education and health) in the directly gravitating region (Montenegrin municipalities directly connected) for better utilization of economic potentials (tourism, agriculture, forestry, etc.); achieving more balanced demographic development of Montenegro. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 03/2007 | 03/2008 |
| Feasibility study (incl. CBA) | WiP | 03/2019 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | C | 12/2007 | 10/2008 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The Detailed Spatial Plan of the Bar - Boljare (Serbian border) motorway was adopted in 2008. The Conceptual Design as well as (pre)feasibility study were previously provided for the whole corridor of BBH. National Parliament of Montenegro adopted Law on Bar-Boljare Motorway (08/12/2014). Spatial-planning conditions for further preparation (technical documentation) of the sections from Matesevo to Boljare are issued 30/12/2015. WBIF supports the project preparation through the grant WB18-MNE-TRA-02 providing technical assistance in preparation of the Feasibility Study, including CBA and Preliminary ESIA for the entire BBH axis. | | |
| Risks identified | The main risks are related to potential implementation delay related to securing financing of construction, including financing and construction of the previous phases (middle sections) and the section Pozega-Boljare in Serbia. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 731,000,000 |
| Investment financing considerations | Yet no tangible financing considerations. | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Verige (Boka Bay) Bridge*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Verige (Boka Bay) |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | St. Nedelja (H. Novi) |
| To | Opatovo (Tivat) |
| Gap rationale | Missing link - new expressway structure |
| Country | MNE |
| Lead Project Beneficiary | Monteput d.o.o., Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.26 |
| SEETO Code | Route 1 |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Montenegrin territory, section from Croatian border to Albanian border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor into the Western Balkans region. |
| | |

| | |
|---|---|
| Strategic relevance | The project is part of the Adriatic-Ionian Road Corridor that shall connect Central Europe and North Italy with the Balkans in South East Europe, over Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Albania and Greece. The Adriatic-Ionian highway, known as the Blue Corridor, is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Montenegro will be app. 109km, or ca. 7% of the total length of the motorway. The project is included in the Montenegro's national SPP: "The Spatial Plan of Montenegro to 2020", State Road Development and Maintenance Strategy of Montenegro; Regional Development Strategy of Montenegro for the period 2014-2020; National Development Plan 2013-2016; etc. The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |
| General description | The Adriatic-Ionian Road Corridor is planned as a dual-carriageway expressway with two traffic lanes per direction, emergency lanes, and design speed of 80 km/h. This section comprises the new Verige Bridge over Boka bay, near the existing ferry line Kamenari – Lepetani. Its length is 1,265 m, while the maximum sea depth at the bay is approx. 60m. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 2-Rural road with separate direction carriageways |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | C | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Detailed Design for the new bridge was prepared back in 2004 with feasibility study (not to EU/IFI standards) in 2005. FS (with CBA) for entire corridor being prepared under WB14-REG-TRA-01. | | |
| Risks identified | Main risks are related to potential delays related to issues with financing and acceptance of environmental and social impact assessments. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 228,144,307 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section Border with Croatia (Debeli Brijeg)-Bijela, Herceg Novi Bypass*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Debeli Brijeg (Border with Croatia) |
| To | Bijela (Boka Bay bridge) |
| Gap rationale | Missing link - new expressway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.37 |
| SEETO Code | Route 1 |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian motorway in Montenegro territory, section from Bosnia and Herzegovina border to Albanian border, is pre-identified as part of the Mediterranean Corridor and which extending the EU Core Network corridor to the Western Balkans, following a meetings of WB6 Transport Ministers and EU Transport Commissioner. |
| | |

| | |
|---|---|
| Strategic relevance | The Adriatic-Ionian motorway/expressway is to connect Mid Europe and North Italy with Balkans in South East Europe, over Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Albania and Greece. The Adriatic-Ionian motorway, known as the Blue Corridor, is planned to stretch along the eastern shore of the Adriatic and Ionian seas, spanning the western coast of the Balkan peninsula (from Trieste in Italy to Calamity, Greece). Estimated length of the motorway is about 1,550 km, and section in Montenegro will be ~95km, or ~6% of the total length of the motorway. Hence, the project is included in the Montenegro's SPP: "The Spatial Plan of Montenegro to 2020", State Road Development and Maintenance Strategy of Montenegro; Regional Development Strategy of Montenegro for the period 2014-2020; National Development Plan 2013-2016; etc. The motorway/expressway is included in SEETO's Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The Project is endorsed by a Memorandum of Understanding (MoU signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian motorway with also Italy, Slovenia and Greece being part of the cross-border infrastructure initiative. |
| General description | Adriatic – Ionian motorway is planned as two separate carriageways with two traffic lanes each, with appropriate emergency lanes, and design speed of 80 km/h. The section starts from the border with Croatia at Debeli Brijeg and ends at the area of Bijela (start of Verige Bridge), forming thus the Herceg Novi Bypass. Its length is approximately 18.9 km including new alignment. The section is located mainly on difficult terrain (hilly/mountainous). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 2-Rural road with separate direction carriageways |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.25 m |
| Emergency line width** | 1.75 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Beside some preliminary feasibility assessments that were made under the study "Montenegrin Coastal Bypasses Feasibility Study" (WB10-MNE-TRA-02), to date only Conceptual Design with PFS is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01). The delivareble from the above TA is also FS with CBA for entire corridor. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Montenegro) and further potential delays related to issues with financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 305,789,474 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section Tivat Bypass*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section Tivat |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Verige Bridge (Lepetani) |
| To | Kotor IC (Bratesici) |
| Gap rationale | Missing link - new expressway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.38 |
| SEETO Code | Route 1 |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Montenegrin territory, section from Croatian border to Albanian border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor into the Western Balkans region. |
| | |

| | |
|---|---|
| Strategic relevance | The project is part of the Adriatic-Ionian Road Corridor that shall connect Central Europe and North Italy with the Balkans in South East Europe, over Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Albania and Greece. The Adriatic-Ionian highway, known as the Blue Corridor, is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Montenegro will be app. 109km, or ca. 7% of the total length of the motorway. The project is included in the Montenegro's national SPP: "The Spatial Plan of Montenegro to 2020", State Road Development and Maintenance Strategy of Montenegro; Regional Development Strategy of Montenegro for the period 2014-2020; National Development Plan 2013-2016; etc. The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |
| General description | The Adriatic-Ionian Road Corridor is planned as a dual-carriageway expressway with two traffic lanes per direction, emergency lanes, and design speed of 80 km/h. The section starts from the end of Verige Bridge (Lepetani area) and ends at Kotor I/C, forming thus the Tivat Bypass. Its length is approximately 9.1 km including new alignment. The section is located mainly on difficult terrain (hilly/mountainous). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 2-Rural road with separate direction carriageways |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.25 m |
| Emergency line width** | 1.75 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | C | | 12/2010 |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | C | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Preliminary Design has been prepared in period 2009-2011. FS for entire corridor being prepared under WB14-REG-TRA-01. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Montenegro) and further potential delays related to issues with financing. | | |

**TAB 7 - FINANCING**

| | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 95,986,292 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section Budva Bypass-Sozina*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section Budva |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Petrovac IC (Vrijesno) |
| To | Sozina IC (Djurmani) |
| Gap rationale | Missing link - new expressway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.39 |
| SEETO Code | Route 2 |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Montenegrin territory, section from Croatian border to Albanian border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor into the Western Balkans region. |
| | |

| | |
|---|---|
| Strategic relevance | The project is part of the Adriatic-Ionian Road Corridor that shall connect Central Europe and North Italy with the Balkans in South East Europe, over Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Albania and Greece. The Adriatic-Ionian highway, known as the Blue Corridor, is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Montenegro will be app. 109km, or ca. 7% of the total length of the motorway. The project is included in the Montenegro's national SPP: "The Spatial Plan of Montenegro to 2020", State Road Development and Maintenance Strategy of Montenegro; Regional Development Strategy of Montenegro for the period 2014-2020; National Development Plan 2013-2016; etc. The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |
| General description | The Adriatic-Ionian Road Corridor is planned as a dual-carriageway expressway with two traffic lanes per direction, emergency lanes, and design speed of 80 km/h. The section starts from the end of Budva Bypass (Petrovac area) and ends at the area of Sozina I/C (Djurnani). Its length is approximately 9.8 km including new alignment. The section is located mainly on very difficult terrain (hilly/mountainous). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 2-Rural road with separate direction carriageways |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.25 m |
| Emergency line width** | 1.75 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | To date only Conceptual Design with PFS is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01). | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Montenegro) and further potential delays related to issues with financing. | | |

**TAB 7 - FINANCING**

| | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 272,397,531 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section Sozina-Stari Bar, Bar Bypass*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Sozina IC (Djurmani) |
| To | IC Stari Bar |
| Gap rationale | Missing link - new expressway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.40 |
| SEETO Code | Route 2b |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Montenegrin territory, section from Croatian border to Albanian border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor into the Western Balkans region. |
| | |

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|---|---|
| Strategic relevance | The project is part of the Adriatic-Ionian Road Corridor that shall connect Central Europe and North Italy with the Balkans in South East Europe, over Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Albania and Greece. The Adriatic-Ionian highway, known as the Blue Corridor, is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Montenegro will be app. 109km, or ca. 7% of the total length of the motorway. The project is included in the Montenegro's national SPP: "The Spatial Plan of Montenegro to 2020", State Road Development and Maintenance Strategy of Montenegro; Regional Development Strategy of Montenegro for the period 2014-2020; National Development Plan 2013-2016; etc. The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |
| General description | The Adriatic-Ionian Road Corridor is planned as a dual-carriageway expressway with two traffic lanes per direction, emergency lanes, and design speed of 80 km/h. The section starts from the area of Djurmani (Sozina I/C) and ends at the area of Stari Bar I/C, forming thus the Bar Bypass. Its length is approximately 15.8 km including new alignment. The section is located mainly on very difficult terrain (hilly/mountainous). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 2-Rural road with separate direction carriageways |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.25 m |
| Emergency line width** | 1.75 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Beside some preliminary feasibility assessments that were made under the study "Montenegrin Coastal Bypasses Feasibility Study" (WB10-MNE-TRA-02) and the preliminary design that was made in period 2012-2016, conceptual design with PFS for entire corridor is being finalised under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01). | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Montenegro) and further potential delays related to issues with financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 241,290,322 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## ***Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section Stari Bar-border with Albania***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (AIC), Section Stari |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | IC Stari Bar |
| To | Border with Albania (Sukobin) |
| Gap rationale | Missing link - new expressway |
| Country | MNE |
| Lead Project Beneficiary | Ministry of 2 and Maritime Affairs of Montenegro (MTMA), Traffic directorate (TD) |
| Proponent | Ministry of 2 and Maritime Affairs of Montenegro (MTMA) |
| Project ID/number | WB.TR.M.41 |
| SEETO Code | Route 2b |
| European Route Code | |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Montenegrin territory, section from Croatian border to Albanian border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor into the Western Balkans region. |
| | |

| | |
|---|---|
| Strategic relevance | The project is part of the Adriatic-Ionian Road Corridor that shall connect Central Europe and North Italy with the Balkans in South East Europe, over Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Albania and Greece. The Adriatic-Ionian highway, known as the Blue Corridor, is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Montenegro will be app. 109km, or ca. 7% of the total length of the motorway. The project is included in the Montenegro's national SPP: "The Spatial Plan of Montenegro to 2020", State Road Development and Maintenance Strategy of Montenegro; Regional Development Strategy of Montenegro for the period 2014-2020; National Development Plan 2013-2016; etc. The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |
| General description | The Adriatic-Ionian Road Corridor is planned as a dual-carriageway expressway with two traffic lanes per direction, emergency lanes, and design speed of 80 km/h. The section starts from the area of Stari Bar (Old Bar I/C) and ends at the border crossing with Albania at Sukobin. Its length is approximately 25.5 km including new alignment. Part of the section is located on difficult terrain (~55%) and the rest on easy/very easy terrain. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 2-Rural road with separate direction carriageways |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.25 m |
| Emergency line width** | 1.75 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | WBIF supports the project preparation through the grant approved in Round 14 (WB14-REG-TRA-01, 3.5M€) providing technical assistance in preparation of the Feasibility Study (started in November 2017), including CBA, Preliminary ESIA and Conceptual Design for the entire Adriatic-Ionian Road Corridor. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (both in Montenegro and Albania) and further potential delays related to issues with financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 113,084,997 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor (Road Route 6a), Construction of motorway A4 Skopje - Blace, Section IC Stenkovec-IC Blace*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (Road Route 6a), Construction of motorway A4 Skopje - Blace, Section IC |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | IC Stenkovec |
| To | BC Blace |
| Gap rationale | Co-financing approved, Missing link - new motorway |
| Country | MKD |
| Lead Project Beneficiary | The Public Enterprise for State Roads |
| Proponent | Ministry of 2 and Communications of North Macedonia |
| Project ID/number | WB.TR.M.12 |
| SEETO Code | Route 6 |
| European Route Code | E65 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this project is pre-identified as part of the Orient/East-Med Corridor and which extending the core network corridor to the Western Balkans. Motorway A4, Section Interchange “Stenkovec” – Blace, Border crossing with Kosovo is part of the SEE Core Network, Route 6A – Ribarevina (MNG)– Ribarice (SER) – Pristina (KOS) – Skopje (MKD). The Route 6A connects the Route 4 and the Route 7 with the Corridor VIII. |
| Strategic relevance | The project is contributing to the transport development goals set in National Transport Strategy 2007-2017 and NTS 2018-2030 and is part of the Five-year program for construction, reconstruction, rehabilitation and maintenance of state roads, adopted by the Government for the period 2013-2017. The project-proposal is included in the national SPP. |

| | |
|---|---|
| General description | The section 12.427 km long is consisted of two subsections. The subsection 1 is approx. 2 km long and starts from BP "Blace" to the first interchange "Blace" (chainage from km 0+000 to km 1+900), ie the connection with the local road to the village Blace (funds for construction and monitoring are provided from the budget of the Public Enterprise for State Roads and its implementation is expected to start sooner). The subsection 2 is approx. 10.5 km long, between the interchange "Blace" to Skopje (the "Stenkovec" intersection) with chainage from km 1+900 to km 12+427, with more complex construction as will have 4 tunnels with a length of about 4 km, 8 bridges and other supporting facilities. The implementation of this section is expected to last three years. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | No |
| Tolling system** | Yes-Open |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 100 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The project implementation is expected to reduce significantly travel times, increase level of service and road safety and enhance regional transport activities, both passenger and freight. |
| Climate change mitigation and adaptation aspects | The possible impacts that may occur during the construction will be mitigated by means of appropriate stipulated measures. The Project will consider environmental implications so that negative impacts on environment are either avoided or mitigated during |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 04/2015 | |
| Feasibility study (incl. CBA) | C | 07/2015 | |
| Preliminary Design | WiP | 07/2015 | |
| Environmental and Social Impact Assessment | WiP | 01/2019 | |
| Valid spatial planning documents | WiP | | |
| Land property resolved | NS | | |
| Main design / detailed design | WiP | 02/2018 | |
| Tender documentation | WiP | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The previous design (main design level) for a dual-carriageway two-lane motorway from Stenkovec to Blace was prepared in 2001/2002, from km 1+173 up to 10+675. This (main) design was developed for design speed of 100km/h. The other two segments – from km 0+000 to 1+173 and from 10+675 up to the end, at km 12+427.82, were prepared to preliminary design level. Still, under WB9-MKD-TRA-01 TA new/updated Preliminary Design and Feasibility Study, with Strategic Environmental Assessment are prepared in 2017 (though, PD for S2 is under finalisation within WB18-MKD-TRA-01). Detailed design for the S1 is now completed, while preparation of the DD for S2 is ongoing (the existing DD from 2002 for 2nd subsection was outdated and could‘n be used - field investigations to be provided as per currently applicable rules and standards), full ESIA and tender documents will be prepared within WB18-MKD-TRA-01 TA (WP pending approval for increasing the grant budget). Tender for SofW for the Subsection 1 is launched 07/03/2019 (18 months construction period) and supervision consultant is selected. Works tender for this section is expected to be launched by end 2019. | | |
| Risks identified | The Project is endorsed by the MoF and MoTC and EBRD expressed interest to finance the project. Major issues to construction phase are not expected. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 154,737 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 580,264 |
| Environmental and Social Impact Assessment | No | 338,684 |
| Valid spatial planning documents | No | 15,625 |
| Land property | No | 4,375,000 |
| Main design / detailed design | No | 2,300,000 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 110,000,000 |
| Total investment | | 0 |
| Investment financing considerations | The works and supervision for the subsection 1 are secured with own (PESR) budget. For the subsection 2 Beneficiary intends to secure financing through EBRD loan (indicative €73 million) and WBIF INV (co-financing) grant (WB-IG04-MKD-TRA-02, €27.2 m, positively assessed and presented July 2019 in Poznan - to be formaly approved Dec 2019). | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor (CX), Reconstruction of road section between Demir Kapija and Smokvica to meet with motorways TEN-T standard*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Reconstruction of road section between Demir Kapija and Smokvica to |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Demir Kapija |
| To | Udovo (Smokvica) |
| Gap rationale | Missing link - new motorway |
| Country | MKD |
| Lead Project Beneficiary | The Public Enterprise for State Roads |
| Proponent | Ministry of 2 and Communications of North Macedonia |
| Project ID/number | WB.TR.M.13 |
| SEETO Code | Corridor X |
| European Route Code | E75 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | This motorway section is on the Corridor X (Salzburg (or Budapest - branch Xb) via Belgrade to Thessaloniki (X) or Igoumenitsa via Egnatia (branch Xd)) and on of the Orient/East-Med Corridor. Therefore, following a meetings of WB6 Transport Ministers and EU Transport Commissioner, it is pre-identified as part of the TEN-T Pan-European Core Corridor extending through Western Balkans. |
| Strategic relevance | Given that the section is on the Corridor X, it is considered of high national and regional priority and a road infrastructure backbone in the WB6 and SEE region. Hence, the Corridor X motorway is included in strategic documents such as: Sector Operational Programme for Transport 2014-2020; Country Partnership Strategy for the North Macedonia for the Period of FY2015-FY2018, World Bank, 2014; National Transport Strategy 2007-2017, Ministry of Transport and Communications. |
| General description | This motorway section is located in the central – south part of North Macedonia, on territories of Demir Kapija and Gevgelija municipalities. The Project include construction of the new motorway section from Demir Kapija to Smokvica in a length of 28.18 km and in accordance with European standards, thus completing the main axis of the Corridor X in North Macedonia. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Open |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The project implementation is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (western and northern and central Europe, Serbia, North Macedonia, Grecee and Turkey), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience will be considered in this process. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | C | | 08/2010 |
| Preliminary Design | C | | 06/2007 |
| Environmental and Social Impact Assessment | C | 07/2007 | 11/2010 |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | C | 08/2012 | 02/2018 |
| Further project preparation considerations | €650,000 in grant financing provided from the EBRD ‘s Bank’s Shareholder Special Fund for TA. The project is constructed and section in operation. Supervision of works contract (Red FIDIC) signed June 2012 and finished Feb 2019 (incl. Defect Notification Period). | | |
| Risks identified | Risks related to the ongoing construction not significant, though potential delays in completion may occur. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 1,200,000 |
| Environmental and Social Impact Assessment | No | 80,000 |
| Valid spatial planning documents | No | 32,000 |
| Land property | No | 10,000,000 |
| Main design / detailed design | No | 5,300,000 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 230,000,000 |
| Total investment | | 0 |
| Investment financing considerations | No further financing requirements. Of the total investments, €130 million is EIB loan, €45 million is grant from EU’s IPA, further €107 million loan have been provided by EBRD and the remainder was provided from the state’s budget. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor (CX), Rehabilitation of the road section between Kumanovo and Miladinovci in MKD to meet with motorways TEN-T standard*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Rehabilitation of the road section between Kumanovo and Miladinovci in |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Kumanovo |
| To | Miladinovci |
| Gap rationale | Upgrade toward full compliance with the TEN-T standards |
| Country | MKD |
| Lead Project Beneficiary | The Public Enterprise for State Roads |
| Proponent | Ministry of 2 and Communications of North Macedonia |
| Project ID/number | WB.TR.M.14 |
| SEETO Code | Corridor X |
| European Route Code | E75 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | This motorway section is on the Corridor X (Salzburg (or Budapest - branch Xb) via Belgrade to Thessaloniki (X) or Igoumenitsa via Egnatia (branch Xd)) and on of the Orient/East-Med Corridor. Therefore, following a meetings of WB6 Transport Ministers and EU Transport Commissioner, it is pre-identified as part of the TEN-T Pan-European Core Corridor extending through Western Balkans. |
| Strategic relevance | Given that the section is on the Corridor X, it is considered of high national and regional priority and a road infrastructure backbone in the WB6 and SEE region. Hence, the Corridor X motorway is included in strategic documents such as: Sector Operational Programme for Transport 2014-2020; Country Partnership Strategy for North Macedonia for the Period of FY2015-FY2018, World Bank, 2014; National Transport Strategy 2007-2017 and 2018-2030, Ministry of Transport and Communications. |
| General description | The project relates to pavement rehabilitation/reconstruction, replacement of traffic signalisation and equipment. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Open |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The reconstruction of a existing motorway between Kumanovo and Miladinovci is expected to increase LOS and road safety. |
| Climate change mitigation and adaptation aspects | Reduction of road traffic pollution expected as result of significantly improved pavement condition. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | -/- | | |
| Preliminary Design | -/- | | |
| Environmental and Social Impact Assessment | -/- | | |
| Valid spatial planning documents | -/- | | |
| Land property resolved | -/- | | |
| Main design / detailed design | C | 07/2013 | 03/2014 |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | C | 12/2015 | 04/2018 |
| Further project preparation considerations | The construction is completed (works on the right carriageway were completed on 11/07/2017 while works on the left carriageway on 17/04/2018). | | |
| Risks identified | Risks related to the construction were not significant (proper temporary organisation of traffic during construction works mittigated potential incidents). | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 770,575 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 14,079,476 |
| Total investment | | 0 |
| Investment financing considerations | Works financed with support of IPA I. No further financing requirements. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor: North Macedonia-Bulgaria (CVIII) Road Interconnection, reconstruction of road section from Kriva Palanka to Deve Bair*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor: North Macedonia-Bulgaria (CVIII) Road Interconnection, reconstruction of road |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Kriva Palanka |
| To | Deve Bair |
| Gap rationale | Co-financing approved, Upgrade toward full compliance with the TEN-T standards |
| Country | MKD |
| Lead Project Beneficiary | The Public Enterprise for State Roads |
| Proponent | Ministry of 2 and Communications of North Macedonia |
| Project ID/number | WB.TR.M.33 |
| SEETO Code | Corridor VIII |
| European Route Code | E871 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | 2015 the European Commissioner for Transport and the Secretary General of the Regional Cooperation Council (RCC), have adopted the following Indicative extension of Trans-European Transport Networks (TEN-T) to Western Balkans Core Network Definition Roads |
| Strategic relevance | The project has a high national priority because that is shortest road path between Skopje and Sofia. The project is included in the SEETO Core Network Links Roads, where it is classified as the Corridor VIII and also is listed in the country‘s SPP. . The proposed project is in line with following national strategic documents/plans: National Transport Strategy 2007-2017; Program for Public Investment (rolling three years program); Economic Reform program (ERP) 2018-2020 (rev.2017). |

| | |
|---|---|
| General description | This project relates to the section 13,9 km long following the existing alignment Kriva Palanka–Deve Bair, with works on rehabilitation and reconstruction (including construction of third lane at approx. 6 km). It is divided in three subsections. The section Kriva Palanka – Deve Bair is divided into three subsections:<br>Subsection 1: from km 0+000,00 up to km 2+660,00, where pavement rehabilitation will be carried out;<br>Subsection 2: from km 2+660,00 up to km 7+964,44, where reconstruction will be carried out by:<br>- Widening with a third lane to the part of the route from km 2+660 to km 3+550<br>- Realignment of a short stretch of road between km 3+550 and km 4+125 in order to remove some tight horizontal curves and allow the driving speed to increase.<br>- Widening with a third lane from km 4+125 to km 7+964,44, with exception of the length passing through Zidilovo village (km 5+300 – 6+000).<br>Subsection 3: from km 7+964,44 up to km 13+187,64, where rehabilitation of the existing three-lane carriageway will be carried out, without widening. Also, the Project includes: construction of 4 new bridges on the realigned part, demolition and replacement of 2 existing bridges, widening and in-situ reconstruction of 2 existing bridges and reconstruction of 1 existing bridge. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 3-Rural two-lane road |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 1 |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | No |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | The reconstruction and rehabilitation of a existing two lane road (one lane per direction) between Kriva Palanka and Deve Bair (including a construction of third lane at approx. 6 km) is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (Albania, North Macedonia and Bulgaria), both passenger and freight. With improving the conditions on the road Corridor VIII, the project will:<br>-contribute to upgrading and modernising of the transport infrastructure by eliminating a cross-border bottlenecks and better connecting national economic stakeholders with the ones of the neighbouring country.<br>-contribute to the flow of international and transit movements of people and goods and thus contributing to the economy growth.<br>-promote sustainable development especially through minimizing the adverse effects of transport on the environment and through transport safety improvement. |
| Climate change mitigation and adaptation aspects | Reduction of road traffic pollution expected as result of significantly improved pavement condition and increase of LOS. The possible impacts that may occur during the construction will be mitigated by means of appropriate stipulated measures |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | 11/2016 |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 08/2019 | |
| Further project preparation considerations | The tendering for preparation of technical documentation completed and consultant selected in 2016. Tender prepared and works tendered 29/05/2018, but re-tendered 25/02/2019. SofW tender launched 02/01/2019. Hence, construction works are expected to start in 3Q 2019 (FIDIC Red Book conditions, 24 months duration). | | |
| Risks identified | The Project is approved by the MoF and MoTC and official letter requesting financing was sent to EBRD. As overall support to the project is secured, further delays in the project implementation are not expected. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 12,500,000 |
| Total investment | | 0 |
| Investment financing considerations | The project financing is planned with the EBRD loan proceeds in amount of €10 m. Project received WBIF INV grant in amount of €2.42 million approved in December 2018. SofW are financed with own (PESR) budget. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor: North Macedonia-Bulgaria (CVIII) Road Interconnection,, reconstruction of road section from Rankovce to Kriva Palanka*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor: North Macedonia-Bulgaria (CVIII) Road Interconnection,, reconstruction of road |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Rankovce |
| To | Kriva Palanka |
| Gap rationale | Upgrade toward full compliance with the TEN-T standards |
| Country | MKD |
| Lead Project Beneficiary | The Public Enterprise for State Roads |
| Proponent | Ministry of 2 and Communications of North Macedonia |
| Project ID/number | WB.TR.M.34 |
| SEETO Code | Corridor VIII |
| European Route Code | E871 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | In 2015 the European Commissioner for Transport and the Secretary General of the Regional Cooperation Council (RCC), have adopted the Indicative extension of Trans-European Transport Networks (TEN-T) to Western Balkans Core Network Definition Roads. The Corridor VIII Tirana – Skopje - Sofia being one of them. |
| Strategic relevance | The project has a high national priority because that is shortest road path between Skopje and Sofia. The project is included in the SEETO Core Network Links Roads, where it is classified as the Corridor VIII. The proposed project is in line with following national strategic documents/plans: National Transport Strategy 2007-2017; Program for Public Investment (rolling three years program); Pre-accession Economic Program. |

| | |
|---|---|
| General description | This investment will upgrade a section of the vital international corridor VIII by financing the construction of the express road along the east section of the corridor which connects to Bulgaria. The new road is on a hilly terrain, thus around 10 bridges will need to be constructed with a total length of about 1.5 km. The new road sections will be 24.64 km long, one lane in each direction with a width of 11m to 12.5m. Some 2 km of completely new expressway alignment is to be constructed northern to the existing road. The reconstruction will to extent widen existing road structures and include: Lot No. 1 Reconstruction of section Dlabocica-Catal, 14 km; Lot No.2 Reconstruction of section Kriva Palanka-Dlabocica 9 km. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 3-Rural two-lane road |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 1 |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | No |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The reconstruction of a existing two lane road (one lane per direction) between Rankovce and Kriva Palanka is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (Albania, Former Yugoslav Republic of Macedonia and Bulgaria), both passenger and freight. |
| Climate change mitigation and adaptation aspects | Reduction of road traffic pollution expected as result of significantly improved pavement condition. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 06/2018 | |
| Further project preparation considerations | The design documentation is completed as well as the land expropriation process. Tendering done with pre-qualification phase for selection of Contractor in accordance with WB Procurement Guidelines (Procurement under IBRD Loans and IDA Credits). Works started mid-2018 and completion due in 36 months. | | |
| Risks identified | Risks related to the ongoing construction not significant, though potential delays in completion may occur. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 58,500,000 |
| Total investment | | 0 |
| Investment financing considerations | Ministry of Finance signed Framework Loan Agreement with the World Bank on October 6th 2015, in the amount of €83 m (€78 million out of the total amount is to be used for the construction of the express road sections, while €5 million is intended for establishment of bridge management system and institutional support for the Public Enterprise). | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor: North Macedonia-Bulgaria (CVIII) Road Interconnection, rehabilitation of the road section from Kumanovo to Rankovce*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor: North Macedonia-Bulgaria (CVIII) Road Interconnection, rehabilitation of the |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Kumanovo |
| To | Rankovce |
| Gap rationale | Upgrade toward full compliance with the TEN-T standards |
| Country | MKD |
| Lead Project Beneficiary | The Public Enterprise for State Roads |
| Proponent | Ministry of 2 and Communications of North Macedonia |
| Project ID/number | WB.TR.M.35 |
| SEETO Code | Corridor VIII |
| European Route Code | E871 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | 2015 the European Commissioner for Transport and the Secretary General of the Regional Cooperation Council (RCC), have adopted the following Indicative extension of Trans-European Transport Networks (TEN-T) to Western Balkans Core Network Definition Roads. The Corridor VIII Tirana – Skopje - Sofia being one of them. On 04.02.2016 the Commission adopted new maps of the extension of the trans-European transport network (TEN-T) to the countries of the Western Balkans establishing the basis for action until 2030. The road Corridor VIII on the territory of the Republic of North Macedonia is a part of the TEN-T core network extension. This means that the Corridor VIII development objectives are in line with the EU strategy of infrastructure development along the Core Network corridors. |
| Strategic relevance | The project has a high national priority because that is shortest road path between Skopje and Sofia. The project is included in the SEETO Core Network Links Roads, where it is classified as the Corridor VIII, and also is listed in the country‘s SPP. The proposed project is in line with following national strategic documents/plans: National Transport Strategy 2007-2017 and 2018-2030; Five-year program for construction, reconstruction, rehabilitation and maintenance of state roads, adopted by the Government for the period 2013-2017; SPP in Transport Sector. |

| | |
|---|---|
| General description | The existing road section from Kumanovo to Rankovce is under operation and has a single carriagway 7m wide. The minimum horizontal radius is 80m, corresponding to a speed of 50km/h. The road has not been reconstructed since its opening in 1969. The current pavement condition is very poor. The rehabilitation works are to be performed without widening of the road structures. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 3-Rural two-lane road |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 1 |
| Traffic lane width** | 3.50 m |
| Emergency line width** | 2.00 m |
| Fence installed** | No |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The rehabilitation of a existing two lane road (one lane per direction) between Kumanovo and Rankovce is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (Albania, Former Yugoslav Republic of Macedonia and Bulgaria), both passenger and freight. |
| Climate change mitigation and adaptation aspects | Reduction of road traffic pollution expected as result of significantly improved pavement condition. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | -/- | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | -/- | | |
| Land property resolved | -/- | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The tender for preparation of project documentation for the rehabilitation was launched and the deadline for submission of offers was 02/06/2016. The works will be along the existing alignment Kumanovo – Rankovce without widening. | | |
| Risks identified | Financing not secured. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 8,500,000 |
| Total investment | | 0 |
| Investment financing considerations | Considerations for potential co-financing with IPA funds. The subsection 1, from Kumanovo to Stracin (km 0+000 – km 15+195) to be financed under IPA2, SOPT 2014-2020, in amount of €6,9 m. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor (Road R7), Construction of the road sections Pristina – Border with North Macedonia*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (Road R7), Construction of the road sections Pristina – Border with North |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Pristina |
| To | Border with North Macedonia |
| Gap rationale | Missing link - new motorway |
| Country | KOS* |
| Lead Project Beneficiary | Ministry of Infrastructure |
| Proponent | Ministry of Infrastructure |
| Project ID/number | WB.TR.M.30 |
| SEETO Code | Route 6a |
| European Route Code | E65 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this project is pre-identified as part of the Orient/East-Med Corridor and which extending the core network corridor to the Western Balkans. |
| Strategic relevance | The route is designated as one of major transport axes of strategic importance for Kosovo* and included in The Spatial Plan of Kosovo*. It is included also in the Strategy of Transport Development for the period 2014-2025 and the Action Plan for the period 2014-2018, Ministry of Infrastructure. |

| | |
|---|---|
| General description | The Project consists of construction of 4-lane motorway from the south of Prishtina, Lipjan-Ferizaj-Doganaj-Kacanik (65 km) in Phase I (LOTs 1 and 2) and further from Kacanik to Hani i Elezit (on the Kosovo and North Macedonia border) which implemented as LOT 3. The motorway, designed in accordance with Trans-European Motorway (TEM) standards and European standards, is serving as the centrepiece of Kosovo's road transport system. The alignment of the motorway sections (65km dual carriageway motorway with additional 45.5 km of local and side roads and 17.6 km in interchanges) passes through challenging and mountainous terrain. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | No |
| Tolling system** | Yes-Open |
| Intelligent Transport Systems** | Yes |
| **Sector/subsector specific attributes | |

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 130 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |
| **Sector/subsector specific attributes | |

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The motorway is intended to provide a high quality and high capacity road link, offering a high level of safety and comfort compared to the existing route. Moreover it integrates Kosovo into the regional road network. |
| Climate change mitigation and adaptation aspects | Based on ESIA all mitigation measures are implemented. Lepenc river basin regulation is completed, with no major impact on biodiversity. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 06/2005 | 11/2006 |
| Feasibility study (incl. CBA) | C | 05/2010 | 11/2012 |
| Preliminary Design | C | 02/2014 | 03/2015 |
| Environmental and Social Impact Assessment | C | 05/2014 | 06/2018 |
| Valid spatial planning documents | C | | |
| Land property resolved | C | 11/2014 | 02/2019 |
| Main design / detailed design | C | 01/2015 | 01/2018 |
| Tender documentation | C | 06/2012 | 04/2014 |
| Construction and other permits | C | 06/2014 | 01/2018 |
| Construction & supervision of works contracts | C | 03/2014 | 05/2019 |
| Further project preparation considerations | Construction of all sections of the motorway Route 6, Lipjan-Ferizaj-Doganaj-Kacanik are finalized (LOTs 1 and 2, construction contract signed 01/07/2014, 23 km Pristina-Babush completed 31/12/2016, 11 km Babush-Ferizaj completed 22/12/2017, Ferizaj-Kacanik completed in June 2018). Due to very challenging terrain (and high investment costs), section between Kacanik and Hani (border with North Macedonia), the third LOT of this Route 6 new motorway alignment construction (16.5 km) is completed later (end-May 2019). | | |
| Risks identified | No remaining risks. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 600,000,000 |
| Total investment | | 660,000,000 |
| Investment financing considerations | Own budget funds covered the investment costs. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Alush Grosha |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Orient/East-Med Corridor (Road R7), Construction of the motorway section Pristina-Merdare*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Orient/East-Med |
| From | Pristina (Besi) |
| To | Merdare (admin. crossing) |
| Gap rationale | Missing link - new motorway |
| Country | KOS* |
| Lead Project Beneficiary | Ministry of Infrastructure |
| Proponent | Ministry of Infrastructure |
| Project ID/number | WB.TR.M.31 |
| SEETO Code | Route 7 |
| European Route Code | E80 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this project is pre-identified as part of the Orient/East-Med Corridor and which extending the core network corridor to the Western Balkans. |
| Strategic relevance | The E-80/R7 route is designated as one of major transport axes of strategic importance for Kosovo* and included in The Spatial Plan of Kosovo* 2010-2020. This route is included in the Priority Project List of the SEETO Five Year MAP 2014-2018, together with the adjacent link in Serbia, from Merdare to Nis. Hence the SEETO MAP 2016 included the motorway on the Priority Project List – Projects Eligible for Funding (as a part of the Core Network). The project is included in the Kosovo* SPP, Multi Modal Transport Strategy 2015 – 2022 and Strategy of Transport Development for the period 2014-2025. |

| | |
|---|---|
| General description | The project include construction of the section 26.8 km long motorway with dual carriageway from Pristina-Podujeve-admin crossing with Serbia at Merdare on E-80/R7 route. Design speed is 120 km/h. The section includes 3 interchanges, 4 viaducts, 5 bridges, 5 overpassess and 24 underpasses, etc. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Open |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Pristina to Nis through the administrative crossing point Merdare is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (Albania to Serbia through Kosovo*), both passenger and freight. With the implementation of this section, the Route 7 will be finalized, and the section exit Prishtina South – exit Prishtina North will be fully functional |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 12/2016 | 10/2016 |
| Feasibility study (incl. CBA) | C | 01/2016 | 10/2018 |
| Preliminary Design | C | 01/2017 | 10/2018 |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The traffic model, the conceptual design and feasibility study (incl CBA as per EC standards) are prepared in 2016. Preliminary design (compliant with the EU standard) and ESIA (as per EBRD's Environment and Social Policy 2014 and Performance Requirements) are prepared under the same assignment (WB11-KOS-TA-02) in 2018 (the grant amount approved was increased with the subsequent WBIF Written Procedures, when the FS is updated (with CBA as per EU Guide to CBA). ESIA pending finalisation and endorsment in 2019. Preparation of tender dossier (Yellow FIDIC conditions) and supervision of works service is secured through another WBIF grant (WB19-KOS-TRA-01, €4.2 m). Draft Implementation Plan has been prepared, but requires update according to financing decisions. Providing financing is secured in 2020, works may commence in 2021, at earliest. | | |
| Risks identified | High environmental impacts; Financing options yet not secured. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 300,000 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 550,000 |
| Environmental and Social Impact Assessment | No | 138,120 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 7,549,500 |
| Main design / detailed design | No | 1,729,400 |
| Tender documentation | No | 200,000 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 275,371,206 |

| | |
|---|---|
| Investment financing considerations | Initial considerations included €100 million sovereign loan from EBRD, further €20 million of EU grant co-financing and €30 million own contribution. However, following completion of PD and BoQs in 2018, Beneficiary is negotiating with both EBRD and EIB for loan financing in indicative amounts of €80 m each, while EU INV grant would be of value approx. €34.4 m (previous application was on hold and the new one WB-IG05-KOS-TRA-03 has been submitted in R05 in Dec 2019). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Alush Grosha |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Odzak-Svilaj, border crossing and cross border bridge Svilaj over Sava River*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Odzak-Svilaj, border crossing |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Odžak |
| To | Svilaj |
| Gap rationale | Co-financing approved, Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.02 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. 15/05/2007 protocol on Cooperation is signed between BiH and Croatia (two line ministries) which sets the contact points on the corridor between the two countries. The motorway Corridor Vc i.e. this section is included in the proposal of the Spatial Plan of Federation of BiH, 2008-2028 and was in the Priority project List of the SEETO Five Year MAP 2014-2018. Hence the SEETO MAP 2016 defines the section as eligible for funding (as a part of the TEN-T Core Network). It is included in the country‘s SPP. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. The new motorway section on the territory of FBiH entity, from the border with Croatia (with 660 m long bridge over Sava river at Svilaj, 2 ICs, other smaller bridges and viaducts/overpasses, BC Svilaj, Tolling facilities, 2 rest areas, etc) to Odzak, is over 10 km long and represents the most northerly point of the corridor Vc in BiH. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Odzak and Svilaj (with the Sava border bridge) is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (Croatia and Serbia to Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed (however, 30ha of deforestation to be compensated). Climate change resilienc |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | C | 07/2004 | 07/2009 |
| Preliminary Design | C | 07/2006 | 12/2007 |
| Environmental and Social Impact Assessment | C | 01/2004 | 12/2004 |
| Valid spatial planning documents | C | 07/2009 | 12/2017 |
| Land property resolved | C | 09/2011 | 01/2013 |
| Main design / detailed design | C | 01/2010 | 09/2011 |
| Tender documentation | C | 01/2012 | 12/2013 |
| Construction and other permits | C | 07/2012 | 12/2012 |
| Construction & supervision of works contracts | WiP | 09/2013 | |
| Further project preparation considerations | The motorway alignment Svilaj-Odzak is in fact largely constructed (though without finish pavement layers) in the Phase I (construction contract signed 12/09/2013, initially for duration of 420 days but extended with Addendum No 1 on 30/04/2015 to 30/06/2015). SofW contract signed 02/09/2013 and amended 02/10/2015 for final amount of €2.66 million (duration increased to 46 months). In the Phase II, the tendering process for construction of the border bridge was completed and Contractor selected in April 2016, while construction works started 16/03/2017 (with the groundbreaking ceremony). SofW service contract for the Phase II is signed 13/03/2017 for amount of €0.985 million (duration 33 months). Main structure of the border bridge is completed 26/02/2019 and works ongoing to finalisation. Deadline for completion of works further extended with the Addendum No 3. Construction of BC Svilaj is tendered 15/02/2019 (estimated completion set to 300 calendar days; expected completion early 2020). | | |
| Risks identified | As motorway is almost finished and construction works on the border bridge are in final stage, risks are related mainly to the construction group. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 136,169 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 510,632 |
| Environmental and Social Impact Assessment | No | 34,042 |
| Valid spatial planning documents | No | 13,750 |
| Land property | No | 5,833,000 |
| Main design / detailed design | No | 1,500,000 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 104,293,022 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | The total investment value ~~include~~includes the Phase 1 (construction of the motorway section, customs cross border terminal and interchange Odzak) and the Phase II - the Svilaj border bridge construction, over river Sava (for which costs are shared between Bosnia and Herzegovina and Croatia). As per the 2nd lowest eligible bid (selected), the bridge construction costs amount to €27 million. Croatia is financing bridge construction costs with 50%. The project benefits from a €24.54 million EU (WB-IG00-BIH-TRA-01) grant and €67 million in loans from EIB (€11,345,810 out of the Framework Loan ~~Afreement~~Agreement signed mid-2012) and EBRD (€40 million Loan Agreement signed in March 2018 for Phase II). With the Addendum No 2 of the construction contract (signed 31/03/2017) contracted amount for the Phase II is increased to €44.58 million. Addendum No 3 sets following contract amounts: Phase I - €41.07 million, Phase II - €44.58 million, Remaining works in the Phase II - €15 million (with deadline to completion extended). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Bosnia and Herzegovina – Croatia R2a Road Interconnection Banja Luka-Gradiska and the Sava border bridge*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor: Bosnia and Herzegovina – Croatia R2a Road Interconnection Banja |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Catrnja (Gradiska) |
| To | border with Croatia (Sava Bridge) |
| Gap rationale | Co-financing approved, Missing link - new border bridge and BC terminal |
| Country | MULTI |
| Lead Project Beneficiary | Public Company Republic of Srpska Motorways; (Hrvatske Autoceste Ltd) |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Finance of the Republic of Srpska, Ministry of 2 and |
| Project ID/number | WB.TR.M.03 |
| SEETO Code | Route 2a |
| European Route Code | E661 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this road project is pre-identified among other sections on the Core Network to be included in the TEN-T extension to Western Balkans. |
| | |

| | |
|---|---|
| Strategic relevance | The extension of the Mediterranean Corridor into the Western Balkans along Route 2a (R2a) spans 239 km, from Okučani in Croatia (CX) to Banja Luka and Lašva in BiH. It connects BiH (the Republic of Srpska) to the main transport routes in Croatia leading to the Adriatic ports. The bridge and the BC terminal is the missing link on the existing motorway project which is (on BiH side) completed and in operation from November 2011. This terminal being the one of the two main designated to be BIP (BC Bijaca being other one), which to facilitate full (export-import) fito-sanitary controls with EU (negotiations to include a third one - BC Izacic). MoU between BiH and Croatia signed 2004 and Protocol on Cooperation signed in May 2007. The project is included in the SEETO MAP 2016 (List of priority Projects Eligible for EU Funding) and the Priority project list in the 2018 Multi Annual Development Plan. It is set as priority in the Framework Transport Strategy of BiH 2016-2030 and the Country‘s SPP. It is identified also in Republic of Srpska Transport Strategy 2016-2030, Republic of Srpska Public Roads Development Strategy 2016-2025, Republic of Srpska Spatial Plan until 2025 (2015). |
| General description | Cross-border bridge in Gradiska over the Sava River is one component of an overall investment on the Banja Luka-Zagreb motorway E-661, on the Northern border between Bosnia and Herzegovina and Croatia. The project include construction of the new cross-border bridge near Gradiška (426 m long and 22.6 m wide), construction of modern and efficient border crossing facilities on the Banja Luka – Gradiška motorway section and connection of the motorway section including the cross-border areas. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking’s** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 100 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | Project is to facilitate trade between BiH and Croatia (EU) as going to be the only customs terminal in north BiH that may control transport - import/export of organic products (fito-sanitary inspection). It is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/Croatia and BiH), both passenger and freight by removing bottleneck that being the existing border crossing (of very limited capacity) in Gradiska urban area. |
| Climate change mitigation and adaptation aspects | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | 04/2010 | 12/2014 |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | | |
| Further project preparation considerations | Main design of the border bridge is completed 2014 (made in Croatia) and nostrified in Republlika Srpska (BiH). The preparatory works for construction of the border crossing (customs terminal) done (the works contract was approximately €4.3 million financed with BiH budget funding). Construction of the BC is completed end-2018. Tendering for the border bridge is completed and construction contract signed 16/07/2019 and the works started 11/10/2019 (value of works €19.541 million, completion due in 30 months). | | |
| Risks identified | Main risk to the project is political and relates to readiness of Croatia to timely secure financing and moves toward implementation of the connection expressway (9 km). | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 34,400,000 |
| Total investment | | 0 |
| Investment financing considerations | Investment relate to the border bridge over Sava river which to be financed jointly by BiH and Croatia (funds in BiH already secured - €10.8 million of the overall €65 million EIB loan and IPA II 2015 investment grant €6.8 million). On BiH side, costs also include €8.4 million for the motorway connection (411.5 m of motorway embankment extension to the new bridge), while the costs of the border crossing are approx. €12.5 million. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Johovac-Rudanka*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Johovac-Rudanka |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Johovac (Tovira) |
| To | Rudanka (Kostajnica) |
| Gap rationale | Co-Financing approved, Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Republic of Srpska Motorways |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Finance of the Republic of Srpska, Ministry of 2 and |
| Project ID/number | WB.TR.M.04 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | From February 4th 2016 EC adopted new maps for the extension of the TEN-T to Iceland, Norway and the countries of the Western Balkans. Development of part of the SEETO Core Network for BiH up to the TEN-T standards and further integration of the South East European Transport System is most significant and prevailing transport strategy in BiH. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in The Spatial Plan of Republic of Srpska, 2015-2025 and was in the Priority project List of the SEETO Five Year MAP 2014-2018. Hence the SEETO MAP 2016 defines the section as eligible for funding (as a part of the TEN-T Core Network). It is included in the country‘s SPP. |
| General description | Project include 5.65 km of Corridor Vc from Tovira (IC Johovac ) to Kostajnica (with IC Rudanka, inclusiv of both ICs, the bridge over Bosna river, 4 smaller bridges, one railway overpass and 5 local roads underpassess). IC Johovac is T type (connects to the existing motorway "9th January" to Banja Luka and Banja Luka-Gradiska E-661 motorway, to Croatia border) while IC Rudanka is Trumpet type (connects to M17 main road and City of Doboj). Thde section creates a precondition to construction of Doboj Bypass. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The benefits of the Project are summarised below:<br>- Improved Connectivity: The Project is part of the pan European Corridor Vc, which will improve regional, national and international connectivity in the Western Balkans, and improve transport links with neighbouring countries to the north and south.<br>- Economic Development: Improved connectivity provided by the Motorway network will facilitate the exchange of goods and services along the Corridor, and increase access to tourism centres and industrial areas in BiH. This will encourage the creation of jobs in the areas of tourism, manufacturing, supply and services, which will have a knock on positive benefit to the regional economy.<br>- Improved LoS and Reduced Congestion: The removal of some through traffic from the local road network will reduce congestion in the towns and built up areas, which will alleviate air pollution and noise generated from through traffic. It should also reduce the numbers of accidents on local roads, caused by through traffic. This all goes to reduce the cost of transportation in the area.<br>- Short-term Local Employment During Construction: The Project will provide short-term opportunities for local employment during the construction period |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 03/2007 |
| Feasibility study (incl. CBA) | C | | 12/2006 |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | 12/2005 | 06/2017 |
| Valid spatial planning documents | C | | 07/2009 |
| Land property resolved | C | | |
| Main design / detailed design | C | | 12/2010 |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 06/2019 | |
| Further project preparation considerations | Project preparation (technical documentation and permitting) is completed as well as the tendering process. Works contract is signed in March 2019, the loan agreement has been ratified and the final issue for effectiveness cleared (approval of the report detailing the outcome of the land acquisition process). Still some documents outstanding (to be renewed) necessary for renewing Location Conditions. Construction contract signed on 20/03/2019. | | |
| Risks identified | There is a strong political will and commitments of PE Republika Srpska Motorways (PE RSM) to construct this section in short term period (Johovac-Rudanka). Main group of risks is related to construction stage. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 6,000,000 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 64,450,000 |
| Total investment | | 80,000,000 |
| Investment financing considerations | The total estimated investment costs for this section are approximately €80 m, out of which €14.94 m (incl. €2.04 m for SofW) will be covered from the EU grant allocated under the Connectivity Agenda through the WBIF (WB-IG01-BIH-TRA-03, Grant Financing Agreement signed 01/08/2019). The EBRD has extended a further €58.94 m in loan (signed 27/12/2017 for amount up to €70 m) to complement the national contribution. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Rudanka-Doboj South*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Rudanka-Doboj South |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Rudanka (Kostajnica) |
| To | Doboj South (Putnikovo brdo 2 tunnel) |
| Gap rationale | Co-Financing approved, Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Republic of Srpska Motorways |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Finance of the Republic of Srpska, Ministry of 2 and |
| Project ID/number | WB.TR.M.05 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | From February 4th 2016 EC adopted new maps for the extension of the TEN-T to Iceland, Norway and the countries of the Western Balkans. Development of part of the SEETO Core Network for BiH up to the TEN-T standards and further integration of the South East European Transport System is most significant and prevailing transport strategy in BiH. |
| Strategic relevance | The project is in line with BiH Framework Transport Policy 2015-2030 adopted in August 2015. It is included in the SPP. For implemementatin, MoU between Ministry of Transport and Communications of the Federation of BiH, Ministry of Transport and Communications of Republika Srpska and EBRD in respect of implementation of motorway infrastructure projects in BiH was signed in February, 2018. |
| General description | Project include 5.3km of Corridor Vc from Rudanka (bridge 326m long over Bosna river) to Putnikovo Brdo 2 tunnel. Includes two tunnels (PB1 and PB2, in total 700m in length of which 580m in RS), Prisade overpass (94m long), viaduct (288m long). |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The benefits of the Project are summarised below:<br>- Improved Connectivity: The Project is part of the pan European Corridor Vc, which will improve regional, national and international connectivity in the Western Balkans, and improve transport links with neighbouring countries to the north and south.<br>- Economic Development: Improved connectivity provided by the Motorway network will facilitate the exchange of goods and services along the Corridor, and increase access to tourism centres and industrial areas in BiH. This will encourage the creation of jobs in the areas of tourism, manufacturing, supply and services, which will have a knock on positive benefit to the regional economy.<br>- Improved LoS and Reduced Congestion: The removal of some through traffic from the local road network will reduce congestion in the towns and built up areas, which will alleviate air pollution and noise generated from through traffic. It should also reduce the numbers of accidents on local roads, caused by through traffic. This all goes to reduce the cost of transportation in the area.<br>- Short-term Local Employment During Construction: The Project will provide short-term opportunities for local employment during the construction period |
| Climate change mitigation and adaptation aspects | An additional Biodiversity Screening exercise will be conducted by the an independent expert prior to construction to establish whether any priority biodiversity features may be at risk from the Project, and to determine whether a comprehensive Biodiversi |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 03/2007 |
| Feasibility study (incl. CBA) | C | | 12/2006 |
| Preliminary Design | C | | 12/2006 |
| Environmental and Social Impact Assessment | C | 12/2005 | 12/2018 |
| Valid spatial planning documents | C | | 10/2009 |
| Land property resolved | WiP | | |
| Main design / detailed design | NS | | |
| Tender documentation | C | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Preliminary design for entire route of the Corridor Vc has been made in 2006 together with the feasibility study that was completed in December same year. Plan to launch procurement in 2019 (Yellow FIDIC conditions - Design & Build) that will include entire tunnel Putnikovo brdo 2. Detail design to be prepared and land acquisition to be completed (after which construction permit may be issued). | | |
| Risks identified | As MoU between two entity Ministries is in place, and with financing commitments in place, the remaining group of risks is related to construction stage. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 3,000,000 |
| Main design / detailed design | No | 4,000,000 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 157,070,000 |
| Total investment | | 164,070,000 |
| Investment financing considerations | Plan is this to be Phase II of the motorway CVc implementation in RS entity and also to be financed with EBRD loan support (€123.2 million, signed 09/05/2019 of up to €150 m with sovereign guarantee, and out of €210 million in total for the two adjacent sections in RS and FBiH). Application submitted for EU grant financing for subsection Rudanka Interchange – Putnikovo Tunnel (WB-IG04-BIH-TRA-06, €37.87 m, of which €7 m for DD and SofW) to complement national budget constribution, was assessed positive and included in the 5th Connectivity Agenda packadge introduced in Poznan 05/07/2019. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Doboj South-Žepče South*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Doboj South-Žepče South |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Doboj South (Putnikovo brdo 2 tunnel) |
| To | Žepče South (Poprikuse) |
| Gap rationale | Co-financing approved, Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.06 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028. It is included in the country‘s SPP. MoU between Ministry of Transport and Communications of the Federation of BiH, Ministry of Transport and Communications of Republika Srpska and EBRD in respect of implementation of motorway infrastructure projects in BiH was signed in February, 2018. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main/state) roads. The new motorway section on the territory of FBiH entity, from Doboj South (Putnikovo brdo 2) to Zepce South consists of 3 subsections: Subsection 1 Putnikovo brdo 2 (entity line)-Medakovo IC (L=8.5 km), Subsection 2 Medakovo-Ozimice (L=20.9 km, bridges and viaducts 0.9 km and tunnels 2.6 km), Subsection 3 Ozimice-Poprikusa (L=13.7 km, bridges and viaducts 2.3 km, tunnels 6.4 km). The 1st subsection from the entity line to Medakovo is consisted of segment 1 Putnikovo brdo 2-Karuse and segment 2 Karuse-Medakovo IC (4 km, bridges and viaducts 0.4 km, tunnel 0.3 km). Design speeds on the section vary from 80 km/h to 110 km/h and maximum 130 km/h. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Doboj and Zenica is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience will be considered in this process. An additional |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | C | 01/2004 | 06/2014 |
| Preliminary Design | C | 01/2013 | 12/2014 |
| Environmental and Social Impact Assessment | C | 01/2005 | 12/2018 |
| Valid spatial planning documents | C | | 12/2017 |
| Land property resolved | WiP | | |
| Main design / detailed design | WiP | 12/2015 | |
| Tender documentation | WiP | | |
| Construction and other permits | WiP | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Preliminary design and feasibility study for the main route of the entire Coridor Vc was completed in 2006. Feasibility study and preliminary design updated in 2014 (PD optimisation for the segment 2, Karuse-Medakovo IC). The environmental and urban permits issued subject to renewal as per the above considerations. Environmental permit was obtained in 2014 for the segment 2 of the subsection 1 (Karuse – Medakovo IC) and Urban Permit obtained for this segment in 2015. For the segment 1 (entity border - Karuse) process for obtaining Urban Permit initiated in 2019. Spatial plan (of special features of significance for the Federation - Motorway on Corridor Vc) was adopted for the entire CVc motorway route in 2017. Detail design was completed in 2010 for the segment 1 (entity border line Tunnel Putnikovo brdo 2 – Karuse). | | |
| Risks identified | Delays in project preparation; Difficulties and/or delays in securing financing options for subsections 2 and 3 (Medakovo IC-Ozimice and Ozimice-Poprikusa, respectively). | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 477,828 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 1,791,854 |
| Environmental and Social Impact Assessment | No | 119,457 |
| Valid spatial planning documents | No | 48,250 |
| Land property | Yes | 13,510,000 |
| Main design / detailed design | Yes | 7,969,032 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 404,943,884 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | Federal Ministry of Transport and Communication signed the MoU with EBRD in February 2018. The PC Motorways launched loan initiative for borrowing to Federal Ministry of Finance on September 5th, 2018, and Federal Ministry of Transport and Communication has been submitted the initiative for borrowing to Federal Ministry of Finance on 09/09/2018. Signature of the (Framework) Loan Agreement on 09/05/2019, out of which (up to) €60 million for subsection 1 Putnikovo brdo 2-Medakovo IC (total construction costs for this subsection estimated at €65 million). PC Motorways FBIH may submit the supplement of the initiative to competent institutions for additional borrowing (financing models under consideration for implementation of the subsections 2 and 3 in the Phase II). Tendering procedures for works will be realised through international tendering procedure with prequalification, in accordance with EBRD Procurement guidelines (Red FIDIC Contract Conditions). For the 1st subsection, an application submitted for EU grant financing (WB-IG04-BIH-TRA-01, €16,55 million, of which €4.55 m for TA), to complement national budget constribution, it was assessed positive and included in the 5th Connectivity Agenda packadge introduced in Poznan 05/07/2019. The Beneficiary ~~will~~ has submitted WBIF INV grant application in the R05 for the other subsections (Medakovo-Ozimice-Poprikuse, WB-IG05-BIH-TRA-05 grant amount €71.24 million). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Konjic (IC Ovčari) – Mostar North*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Konjic (IC Ovčari) – Mostar |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Konjic (Ovčari IC) |
| To | Mostar North (Prenj Tunnel) |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.07 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following ~~a~~ meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028 and is in the programme of Public Investments adopted by the FBiH Govern~~en~~ment. National transport strategy of BIH was created and adopted in July 2016, and it complies with the EU requirements for WBIF INV grant eligibility. The BIH national strategy is aligned with EU wide transport policy objectives and TEN-T network priority investments. It is included in the country's SPP. MoU between Ministry of Transport and Communications of the Federation of BiH, Ministry of Transport and Communications of Republika Srpska and EBRD in respect of implementation of motorway infrastructure projects in BiH was signed in February~~,~~ 2018. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. Subsection 1 (22 km) from Konjic (Ovcari) – entrance to Tunnel Prenj and Tunnel Prenj (northbound sections), together with the subsection 2 (13 km), exit from Tunnel Prenj (Salakovac) – Mostar North are considered one functional part. The new motorway section on the territory of FBiH entity, from Konjic to Mostar North is approximately 35 km long. The recently optimised (in terms of investment costs) alignment would include 1.4 km of structures and some 16 km of tunnels (including the Prenj tunnel, approx. 10.5 km long). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Konjic and Mostar North is expected to reduce significantly travel times (40%), increase LOS and road safety (60% reduced accident rate) and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience will be considered in this process. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 11/2005 |
| Feasibility study (incl. CBA) | C | 01/2015 | 03/2016 |
| Preliminary Design | C | 01/2014 | 06/2016 |
| Environmental and Social Impact Assessment | C | 01/2015 | 09/2016 |
| Valid spatial planning documents | C | 01/2016 | 12/2017 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The prefeasibility study with conceptual design is prepared in November 2005 (for entire corridor). The preliminary design made is updated in 1Q 2016 (initial feasibility study supporting design was made in December 2006), followed by updated feasibility study (incl.CBA), EIA/ESIA as well as valid spatial planning documents. As the alignment is significantly modified (going through Prenj mountain - tunnel), beforehand urban permit may be issued, it had to be included and approved in the Spatial Plan of FBiH prepared. Beneficiary aimed to tender subsection Konjic-Prenj tunnel through Yellow FIDIC (Design and Build). However, this may be the case now only for the Tunnel Prenj, as there is the possibility for incremental construction. The WBIF TA approved (WB18-BiH-TRA-01, €3.036 million) for preparation of Detailed Design and tender documents for subsection Konjic (IC Ovcari)-Tunnel Prenj entrance. For the subsection south of Tunnel Prenj exit, with IC Mostar North and IC Ovcari, another WBIF TA grant is approved (WB20-BiH-TRA-02, €3,893,500) for preparation of Detailed Design. Land acquisition plan is an integral part of the Detailed Design. | | |
| Risks identified | Issues with Design and Build contract due to complex construction; | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 581,811 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 2,181,792 |
| Environmental and Social Impact Assessment | No | 145,453 |
| Valid spatial planning documents | No | 58,750 |
| Land property | No | 4,700,000 |
| Main design / detailed design | No | 15,775,248 |
| Tender documentation | No | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 365,100,000 |
| Total investment | | 374,593,470 |
| Investment financing considerations | Government of FBiH considered PPP and BOT (Build-Operate-Transfer) financing model for construction of this section. Also, expectations were (at the time) that potentially development EXIM bank may be interested to finance (for loan amount of €240 million). The Beneficiary negotiated with OPEC and EBRD for financing the subsection/LOT from interchange Ovcari near Konjic to Mostar (up to the Tunnel Prenj entrance). According to MoU signed in London (February, 2018) all motorway sections from Konjic to Pocitelj will be financed by EBRD. Financing plan previously considered that part from Ovcari IC to Prenj Tunnel entrance and Tunnel Prenj may be implemented following Yellow FIDIC conditions. However, with the two WBIF TAs for preparation of detailed designs and tender documents (11.5 km from IC Ovcari to Tunnel Prenj entrance and 13 km from Tunnel Prenj exit (Salakovac) to Mostar North), once mature, these will be tendered following FIDIC Red conditions. The loan amounts for subsection IC Ovcari-Tunnel Prenj entrance are €66 million (EBRD) and €66.5 million (EIB) with total investment estimated to €181.6 million. For the Tunnel Prenj exit-Mostar North subsection, the EBRD loan will amount to €150 million (€183.5 million total investment estimated). Beneficiary‘s aim is to apply for WBIF INV grants for construction of the subsections, once these implementation parts are sufficiently mature. The two INV grant applications are submitted to WBIF in R05 (€39.74 million for Konjic-entrance to the Prenj tunnel and €35.34 million for exit from Prenj Tunnel-Mostar North). | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway sections Odzak (Svilaj)-Vukosavlje-Podnovlje and Podnovlje-Johovac*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Vukosavlje |
| To | Johovac |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Republic of Srpska Motorways |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Finance of the Republic of Srpska, Ministry of 2 and |
| Project ID/number | WB.TR.M.42 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | From February 4th 2016 EC adopted new maps for the extension of the TEN-T to Iceland, Norway and the countries of the Western Balkans. Development of part of the SEETO Core Network for BiH up to the TEN-T standards and further integration of the South East European Transport System is most significant and prevailing transport strategy in BiH. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in The Spatial Plan of Republic of Srpska, 2015-2025 and was in the Priority project List of the SEETO Five Year MAP 2014-2018. Hence the SEETO MAP 2016 defines the section as eligible for funding (as a part of the TEN-T Core Network). It is included in the country‘s SPP. |
| General description | Project include Odzak (Vukosavlje)-Podnovlje section, 22.3 km long and Podnovlje-Johovac section that is 13.7 km long. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The benefits of the Project are summarised below:<br>- Improved Connectivity: The Project is part of the pan European Corridor Vc, which will improve regional, national and international connectivity in the Western Balkans, and improve transport links with neighbouring countries to the north and south.<br>- Economic Development: Improved connectivity provided by the Motorway network will facilitate the exchange of goods and services along the Corridor, and increase access to tourism centres and industrial areas in BiH. This will encourage the creation of jobs in the areas of tourism, manufacturing, supply and services, which will have a knock on positive benefit to the regional economy.<br>- Improved LoS and Reduced Congestion: The removal of some through traffic from the local road network will reduce congestion in the towns and built up areas, which will alleviate air pollution and noise generated from through traffic. It should also reduce the numbers of accidents on local roads, caused by through traffic. This all goes to reduce the cost of transportation in the area.<br>- Short-term Local Employment During Construction: The Project will provide short-term opportunities for local employment during the construction period |
| Climate change mitigation and adaptation aspects | |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 03/2007 |
| Feasibility study (incl. CBA) | C | | 12/2006 |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | 12/2005 | 11/2014 |
| Valid spatial planning documents | C | | 08/2009 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Preliminary design for entire route of the Corridor Vc has been made end-2006 together with the feasibility study that was completed in December same year. | | |
| Risks identified | Political risks; Implementation of the motorway may be highly inter-dependent on implementation of Bosna river flow management infrastructure such as flood protection embankments and reservoirs, irrigation systems and cascade of several medium-sized hydro-power plants along the stretch of the river / motorway sections; Construction risks; | | |

**TAB 7 - FINANCING**

| | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 295,000,000 |

| | |
|---|---|
| Investment financing considerations | In past, these sections were considered for PPP financing model (annual availability payments backed with sovereign loan from the RS Government - with EBRD‘s preliminary support). On 24/09/2018 Beneficiary signed non-binding Protocol with consortia of Chinese companies led by Sinochem Capital Co. Ltd for concession on sections Johovac-Podnovlje-Vukosavlje and further Vukosavlje-Brcko. In any case, implementation of these sections will be under Phase IV and III of the motorway CVc implementation in RS entity and also is being considered to be financed with EIB loans support. If later developments gets to sucessful negotiations, intention is to apply for EU (WBIF INV) grant financing to complement national budget contribution. However, lines of communication with Chinese partners on alternative financing models are still open. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South-Zenica North, subsection Zepce South-Poprikuse-Nemila*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South-Zenica North, |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Žepče South (Medakovo IC) |
| To | Nemila |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.43 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028. It is included in the country‘s SPP. MoU between Ministry of Transport and Communications of the Federation of BiH, Ministry of Transport and Communications of Republika Srpska and EBRD in respect of implementation of motorway infrastructure projects in BiH was signed in February, 2018. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. This, northern subsection, Medakovo IC-Ozimica-Poprikuša-Nemila is approx. 11 km long (of which LOT Poprikuša-Nemila 5.5km) and includes one tunnel 3.5 km long an six bridges. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Zenica North and Zepce South is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience is considered in this process. Each of potentially sensitive areas is avoided in the preliminary design development phase. However, this needs to be confirmed in the main design development phase. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | C | 07/2004 | 06/2014 |
| Preliminary Design | C | 04/2017 | 06/2018 |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | 12/2017 |
| Land property resolved | WiP | 06/2018 | |
| Main design / detailed design | NS | | |
| Tender documentation | C | | 08/2018 |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Feasibility study and preliminary design prepared (December 2006) were updated in June 2014 for the subsections Zepce South-Nemila and Nemila-Zenica North. However, the full preliminary design for this section (for tendering) is procured end-2016 and prepared to mid-2018. The subsection from Ozimica to Poprikuse is subject of alignment modification which to provide better interconnection with the future expressway Tuzla-Zepce.Tendering for Poprikuse-Nemila is underway (all - works, SofW and PIU support service tenders published 20/08/2018, restricted procedure, Yelow FIDIC conditions, total contract duration 42 months). | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 150,000 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | No | 215,000,000 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | Estimated investment costs for the Zepce South-Nemila sector is €215 million (excl. VAT) and implementation of these LOTs was considered initially for the Phase II. In previous programme period, due to limited borrowing capacities, it was considered to be financed through PPP (communication established at the time with potentialy interested companies). However, the latest information indicates that Beneficiary tendered construction works (Yellow FIDIC conditions) with support of the IFI's (loan financing from EIB €90 million and EBRD, with whom Framework Loan Agreement signed 12/09/2018, out of which €70 million for this subsection) as well as the WB-IG04-BIH-TRA-02 investment grant for the subsection Poprikuse-Nemila. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Nemila-Vranduk*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South-Zenica North, |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Nemila |
| To | Vranduk |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.44 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028. It is included in the country‘s SPP. MoU between Ministry of Transport and Communications of the Federation of BiH, Ministry of Transport and Communications of Republika Srpska and EBRD in respect of implementation of motorway infrastructure projects in BiH was signed in February, 2018. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. The new motorway section on the territory of FBiH entity, from Zenica North to Zepce South (23km) is partially under construction (Zenica North-Zenica tunnel), while other subsections are in final stages of project preparation. This (northern) subsection, Zepce South-Poprikuse-Nemila is approx. 11 km long (Poprikuse-Nemila 5.5km) and includes one tunnel 3.5 km long an six bridges. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Zenica North and Zepce South is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience is considered in this process. Each of potentialy |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | C | 07/2004 | 06/2014 |
| Preliminary Design | C | 01/2013 | 04/2014 |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | 12/2017 |
| Land property resolved | WiP | | |
| Main design / detailed design | C | 08/2015 | 03/2019 |
| Tender documentation | C | | 04/2018 |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Feasibility study and preliminary design prepared (December 2006) were updated in June 2014 for the subsections Zepce South-Nemila and Nemila-Zenica North. Beside the FS and PD (optimisation of the alignment) update, through the IPA 2011 grant (€1.8 million) EU funded also preparation of main and detail designs, RSA and tender documentation for Nemila-Zenica North (detailed design started end-2015 and completed in 2017). Spatial planning documents that include this subsection needed to be updated (formally adopted end-2017) and urban-technical conditions are issued. Environmental permits for these LOTs are issued. Though, the detailed design for LOT Nemila-Vranduk is being changed (finalisation in 1Q 2019) to incorporate requests of local community, tendering was launched 18/04/2018 for SofW, followed by tender for construction works on 08/04/2019 (works could be tendered only after adoption of the altered detail design - Red FIDIC conditions). Construction works planned in duration of 24 months. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 36,000,000 |
| Total investment | | 0 |
| | | |

| | |
|---|---|
| Investment financing considerations | For this LOT, Beneficiary secured loan financing from Kuwait Fund for Economic Development (Loan Agreement signed 19/02/2019, KFAED loan €36 million/$39.44 million/KWD 11.6 million, 5y grace+15y payment period, 2% interest rate plus service charge 0.5% per annum). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South-Zenica North subsection Nemila-Donja Gracanica, part Vranduk-Ponirak*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South-Zenica North |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Vranduk |
| To | Ponirak |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.45 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028. It is included in the country‘s SPP. MoU between Ministry of Transport and Communications of the Federation of BiH, Ministry of Transport and Communications of Republika Srpska and EBRD in respect of implementation of motorway infrastructure projects in BiH was signed in February, 2018. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. Vranduk-Ponirak being one LOT of the Nemila-Zenica North subsection that is approx. 5.3km long, with two bridges, three viaducts and one tunnel. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Zenica North and Zepce South is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience is considered in this process. Each of potentialy |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | C | 07/2004 | 06/2014 |
| Preliminary Design | C | 01/2013 | 04/2014 |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | 12/2017 |
| Land property resolved | WiP | | |
| Main design / detailed design | C | 08/2015 | |
| Tender documentation | C | | 06/2017 |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | | |
| Further project preparation considerations | Feasibility study and preliminary design prepared (December 2006) were updated in June 2014 for the subsections Zepce South-Nemila and Nemila-Zenica North. Beside the FS and PD (optimisation of the alignment) update, through the IPA 2011 grant (€1.8 million) EU funded also preparation of main and detail designs, RSA and tender documentation for Nemila-Zenica North (detailed design started end-2015 and completed in 2017). Spatial planning documents that include this subsection needed to be updated and urban-technical conditions are issued. Environmental permits for these LOTs are issued. Tendering for construction works LOT Vranduk-Ponirak started 18/07/2017 (SofW tender launched the same date) and completed in May 2019 when construction contract is signed (construction in 24 months + 24 months DNP). | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 76,600,000 |
| Total investment | | 0 |
| Investment financing considerations | Beneficiary secured loan financing from OPEC for LOT Vranduk-Ponirak (OFID loan €49 million signed 30/08/2018 for $27.15 m plus €24.3 m, works contracted 16/05/2019 for €76.6 million). | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Ponirak-Vraca*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South-Zenica North, |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Ponirak |
| To | Vraca (Zenica Tunnel) |
| Gap rationale | Co-financing approved, Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.46 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028. It is included in the country‘s SPP. MoU between Ministry of Transport and Communications of the Federation of BiH, Ministry of Transport and Communications of Republika Srpska and EBRD in respect of implementation of motorway infrastructure projects in BiH was signed in February, 2018. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. This LOT, Tunnel Zenica-Ponirak is approx. 2.8km long and including 2.4km long twin Tunnel Zenica). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Zenica North and Zepce South is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience is considered in this process. Each of potentialy |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | C | 07/2004 | 06/2014 |
| Preliminary Design | C | 01/2013 | 04/2014 |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | 12/2017 |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 12/2019 | |
| Further project preparation considerations | Feasibility study and preliminary design prepared (December 2006) were updated in June 2014 for the subsections Zepce South-Nemila and Nemila-Zenica North. Beside the FS and PD (optimisation of the alignment) update, through the IPA 2011 grant (€1.8 million) EU funded also preparation of main and detail designs, RSA and tender documentation for Nemila-Zenica North (detailed design started end-2015 and completed in 2017). Spatial planning documents that include this subsection needed to be updated and urban-technical conditions are issued. Environmental permits for these LOTs are issued. LOT Ponirak-Vraca (2.6km with Tunnel Zenica 2.4km long) is tendered 26/07/2017 (restricted procedure, Red FIDIC) end construction contract is signed in 2019 (30 moths construction period, construction costs estimated to be approx. €84 million). Procurement for SofW service is launched 26/07/2017, while for PIU support on 27/03/2018. Construction works commenced December 2019. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 400,000 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 82,700,000 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | Financing of the LOT is supported with EIB loan (€50 million, signed 26/04/2018, 6y grace+14y payment period) for Ponirak-Vraca/Zenica Tunnel and the Zenica Tunnel. This is blended with EU grant financing (WB-IG01-BiH-TRA-01a - €19 million). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South-Zenica North, subsection Nemila-Donja Gracanica, part Vraca-Zenica North*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Žepče South-Zenica North, |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Vraca (Zenica Tunnel) |
| To | Zenica North (Donja Gračanica/Pecu Tunnel)) |
| Gap rationale | Co-financing approved, Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.47 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028. It is included in the country‘s SPP. MoU between Ministry of Transport and Communications of the Federation of BiH, Ministry of Transport and Communications of Republika Srpska and EBRD in respect of implementation of motorway infrastructure projects in BiH was signed in February, 2018. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. The part Donja Gracanica/Tunnel Pecuj-Vraca/Tunnel Zenica is 4.1km long, with 2 tunnels, 4 viaducts and includes IC Zenica North (with pay-toll facilities). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Zenica North and Zepce South is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience is considered in this process. Each of potentialy |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | C | 07/2004 | 06/2014 |
| Preliminary Design | C | 01/2013 | 04/2014 |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | 12/2017 |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 12/2019 | |
| Further project preparation considerations | Feasibility study and preliminary design prepared (December 2006) were updated (optimisation of the alignment) in June 2014 for the subsections Zepce South-Nemila and Nemila-Zenica North (through EU grant financing, IPA 2011 in value of €1.8 million). Spatial planning documents that include this subsection needed to be updated and urban-technical conditions are issued. Environmental permits for these LOTs are issued. Works have been tendered on basis of Yellow FIDIC conditions on 15/07/2016. Works contracts is signed 08/11/2018 and activities completed (preparation of detailed design beforehand the permit is issued and construction commenced). SofW tendered 22/12/2016 and contract signed 31/07/2018 (duration 54 months). | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 2,600,000 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 60,005,370 |
| Total investment | | 0 |
| | | |

| | |
|---|---|
| Investment financing considerations | Financing of the southern LOT Vraca/Zenica Tunnel-Zenica North/Donja Gracanica/Tunnel Pecuj (value of works approx. €57.6 million plus €2.42 million for SofW, Yellow FIDIC conditions) is supported with EBRD framework loan (€56.7 million for this LOT out of total €80 million signed in December 2015, effective 31/03/2018). This is blended with EU grant financing (WB-IG01-BiH-TRA-01b - €12.062 million). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Completion of motorway section Tarcin-Konjic, subsection Tarcin-Tunnel Ivan*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Completion of motorway section Tarcin-Konjic, subsection |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Tarčin |
| To | Tunnel Ivan |
| Gap rationale | Co-financing approved, Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.48 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028 and was in the Priority project List of the SEETO Five Year MAP 2014-2018. Hence the SEETO MAP 2016 defines the section being eligible for funding (as a part of the TEN-T Core Network). It is included in the country‘s SPP. National transport Strategy of BiH was developed and adopted in July 2016 and is aligned with EU transporet policy objectives and TEN-T network priority investments. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. The new motorway section on the territory of FBiH entity, from Tarcin-Ivan-Ovcari-Konjic (22km), is further optimised in terms of alignment redesigning. It includes subsection 1 Tarcin-Tunnel Ivan (this project), subsection 2 Tunnel Ivan-Ovcari and subsection 3 Ovcari-Konjic. Subsection 1 is 4.9km long with two bridges, Tunnel Ivan 2km long of which twin tubes 1.76km long. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Tarcin and Konjic is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience will be considered in this process. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | 02/2017 |
| Land property resolved | WiP | | |
| Main design / detailed design | WiP | 07/2010 | |
| Tender documentation | C | | 08/2018 |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | This subsection/LOT Tarcin-Zukici (with Tunnel Ivan) has preliminary design completed 2012 and detailed design completed in 2013. Completion of updated FS and EIA/ESIA (Q3 2017). Tenders for the subsection, LOT 1 Tarcin-Tunnel Ivan (6.8km) and LOT 2 Tunnel Ivan (2km) are published in May 2018 and August 2018, respectively, and the works contracts (Red FIDIC conditions) are expected to be signed by end 2019 (works contract for the LOT 2 awarded 12/10/2019 and so works for the tunnel may start ahead to works on the northern subsection, in order to be completed at the same time). Update of Detailed Design procured in 1Q 2019 (contracted 06/03/2019, value €37k) and final design preparation ongoing. Procurement for SofW launched 20/08/2018 (also restricted procedure). Land expropriation for LOT 1 is completed, while it is expected that expropriation for Tunnel Ivan will be completed in 2019. Support to PIU during implementation phase is separate service contract procured at the same time (20/08/2018). | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 4,120,000 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 100,500,000 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | Concession was tentatively considered for the section Tarcin-interchange Ovcari beyond 2020. However, the aim is now to contract construction through FIDIC Red conditions. Two EU (WBIF INV) grants approved - for the subsection Tarcin-Tunnel Ivan and for the Tunnel Ivan (WB-IG02-BiH-TA-06 and WB-IG02-BiH-TRA-07) in amounts of €11.78 million and €11.48 million, respectively. Framework Loan Agreement is signed with EBRD on 12/09/2018 out of which €50 million is allocated to LOT 2 (Tunnel Ivan) construction. Negotiations ongoing with EIB for securing €50 million loan (it is expected that the Loan Agreement will be signed at the same time as the Grant Financing Agreement - by end 2019). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Completion of motorway section Tarcin-Konjic, subsection Tunnel Ivan-Ovcari*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Completion of motorway section Tarcin-Konjic, subsection Tunnel |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Tunnel Ivan |
| To | Ovcari |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.49 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028 and was in the Priority project List of the SEETO Five Year MAP 2014-2018. Hence the SEETO MAP 2016 defines the section being eligible for funding (as a part of the TEN-T Core Network). It is included in the country‘s SPP. National transport Strategy of BiH was developed and adopted in July 2016 and is aligned with EU transporet policy objectives and TEN-T network priority investments. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. The new motorway section on the territory of FBiH entity, from Tarcin-Ivan-Ovcari-Konjic (22km), is further optimised in terms of alignment redesigning. It includes subsection 1 Tarcin-Tunnel Ivan, subsection 2 Tunnel Ivan-Zukici-Ovcari (this project) and subsection 3 Ovcari-Konjic. Subsection 2 Ivan-Zukici-Ovcari (approx. 11.3km) include 12 bridges/viaducts with a total length of approx. 3,600m and 6 tunnels in length of approx. 3,400m. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Tarcin and Konjic is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience will be considered in this process. |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | WiP | | |
| Preliminary Design | WiP | | 12/2010 |
| Environmental and Social Impact Assessment | WiP | | |
| Valid spatial planning documents | C | | 02/2017 |
| Land property resolved | NS | | |
| Main design / detailed design | WiP | 07/2010 | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The subsections Zukici (Tunnel Ivan)-Konjic are subject to further optimisation and the preliminary design made had to be re-done (the new alignment stipulating further investment costs reduction). Therefore, in this proces, the feasibility study is to be updated again (as per the EC guidelines for CBA) beforehand preparation of the new EIA/ESIA and detail design. Updated FS, ESIA and Detailed Design for subsection 2 Tunnel Ivan-Ovcari are to be prepared through WB18-BIH-TRA-02 (TA grant approved in amount of €2.5 million). | | |
| Risks identified | | | |

**TAB 7 - FINANCING**

| | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 4,500,000 |
| Main design / detailed design | No | 2,500,000 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 260,850,000 |
| Total investment | | 0 |
| Investment financing considerations | Financing options under consideration. WBIF INV grant application may be submitted in near future. | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Completion of motorway section Tarcin-Konjic, subsection Ovcari-Konjic*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Completion of motorway section Tarcin-Konjic, subsection |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Ovcari |
| To | Konjic (Ovčari IC) |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.50 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028 and was in the Priority project List of the SEETO Five Year MAP 2014-2018. Hence the SEETO MAP 2016 defines the section being eligible for funding (as a part of the TEN-T Core Network). It is included in the country‘s SPP. National transport Strategy of BiH was developed and adopted in July 2016 and is aligned with EU transporet policy objectives and TEN-T network priority investments. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. The new motorway section on the territory of FBiH entity, from Tarcin-Ivan-Ovcari-Konjic (22km), is further optimised in terms of alignment redesigning. It includes subsection 1 Tarcin-Tunnel Ivan, subsection 2 Tunnel Ivan-Ovcari and subsection 3 Ovcari-Konjic (this project). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Tarcin and Konjic is expected to reduce significantly travel times, increase LOS and road safety and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience will be considered in this process. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | WiP | | |
| Valid spatial planning documents | C | | 02/2017 |
| Land property resolved | NS | | |
| Main design / detailed design | WiP | 07/2010 | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The subsections Zukici (Tunnel Ivan)-Konjic are subject to further optimisation and the preliminary design made had to be re-done (the new alignment stipulating further investment costs reduction). Therefore, in this proces, the feasibility study is to be updated again (as per the EC guidelines for CBA) beforehand preparation of the new EIA/ESIA and detail design. Updated Traffic Study, with EIA and Feasibility Study in 3Q 2017. | | |
| Risks identified | The southern subsection from settlement Zukici (intechange Ovcari) to Konjic was subject to alignment optimisation and had to be accepted by FBiH Government and local municipal comunities. These changes also are incorporated in and verified within the Spatial Plan of Federation of Bosnia and Herzegovina. Hence, substantial delays in to this process have occured to date; Limited borrowing capacity; Lack of interest of potential concessionaires. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 131,554,987 |
| Total investment | | 0 |
| Investment financing considerations | Financing options under consideration. WBIF INV grant application may be submitted in near future. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Construction of the motorway section Konjic (IC Ovčari) – Mostar North, Prenj Tunnel*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Construction of the motorway section Konjic (IC Ovčari) – Mostar |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | |
| To | |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.51 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The E73 route is designated as one of major transport axes of strategic importance for Bosnia and Herzegovina and is foreseen to be upgraded to motorway. The motorway corridor i.e. this section is included in the Proposal of the Spatial Plan of Federation of BiH, 2008-2028 and is in the programme of Public Investments adopted by the FBiH Governenment. National transport strategy of BIH was created and adopted in July 2016, and it complies with the EU requirements for WBIF INV grant eligibility. The BIH national strategy is aligned with EU wide transport policy objectives and TEN-T network priority investments. It is included in the country‘s SPP. MoU between Ministry of Transport and Communications of the Federation of BiH, Ministry of Transport and Communications of Republika Srpska and EBRD in respect of implementation of motorway infrastructure projects in BiH was signed in February, 2018. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. This will be the most expensive and the most demanding tunnel on the Corridor, with total length of 10.5 km. due to iys complexity, it is made separate implementation LOT. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 100 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The construction of a new motorway between Konjic and Mostar North is expected to reduce significantly travel times (40%), increase LOS and road safety (60% reduced accident rate) and enhance regional transport activities (EU Member States/Croatia and Bosnia and Herzegovina), both passenger and freight. |
| Climate change mitigation and adaptation aspects | For a given alignment which in line with strategic spatial plans, there are no areas which would restrict the construction, providing appropriate mitigation measures are executed. Climate change resilience will be considered in this process. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 11/2005 |
| Feasibility study (incl. CBA) | C | 01/2015 | 03/2016 |
| Preliminary Design | C | 01/2014 | 06/2016 |
| Environmental and Social Impact Assessment | C | 01/2015 | 09/2016 |
| Valid spatial planning documents | C | 01/2016 | 12/2017 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The prefeasibility study with conceptual design is prepared in November 2005 (for entire corridor). The preliminary design made is updated in 1Q 2016 (initial feasibility study supporting design was made in December 2006), followed by updated feasibility study (incl.CBA), EIA/ESIA as well as valid spatial planning documents. As the alignment is significantly modified (going through Prenj mountain - tunnel), beforehand urban permit may be issued, it had to be included and approved in the Spatial Plan of FBiH prepared. Beneficiary aim to tender Prenj Tunnel as separate LOT through Yellow FIDIC (Design and Build). It is estimated that Detailed Design will require some 30 months to completion, once contracted. Land acquisition plan is an integral part of the Detailed Design. | | |
| Risks identified | Issues with Design and Build contract due to very complex construction; | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 248,046,480 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | The largest single investment/structure LOT on the entire CVc relates to the Prenj Tunnel (in Programme of Public Investments FBiH 2019-2021 it is estimated to be approx. €280 million). Although EXIM bank was considered as potential lender in 2017/2018 and also BOT model was prevously considered due to low feasibility of the section. However, negotiations are ongoing in 2019 with EBRD and EIB (indicatively €97.23 million each) for potentially securing loans for Prenj Tunnel construction (these are held back-to-back with negotiations for financing section IC Ovcari-Mostar North including the Tunnel Prenj, for total loan financing of up to €600 million). INV grant application submitted to WBIF in R05 (€52.588 million): WB-IG05-BIH-TRA-02 for Prenj tunnel, WB-IG05-BIH-TRA-03 for Konjic – Prenj tunnel entrance and WB-IG05-BIH-TRA-04 for Salakovac (Prenj tunnel exit) – Mostar North. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Completion of motorway section Mostar North-Mostar South*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Completion of motorway section Mostar North-Mostar South |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Mostar North |
| To | Mostar South |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.52 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The project is in line with Framework Transport Strategy of BiH 2016-2030, which was created and adopted in July 2016. The BiH strategy is aligned with EU wide transport policy objectives and TEN-T network priority investments. The project has been included in the BiH Single Project Pipeline as one of the priority projects on the Core TEN-T network for Bosnia and Herzegovina and endorsed as such by the BIH National Investment Committee on 9/12/2015. |
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. Mostar North-Mostar South section is approx. 15 km long |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The project will substantially shorten the travel distance along the North – South axis between the City of Sarajevo and Počitelj settlement (Čapljina municipality) and thus is expected to generate substantial benefits in terms of time savings, reduced accident rates, savings in vehicle operating costs and reduction of local pollution in the area.<br>The project will also increase accessibility and promote regional as well as local economic development by increasing the average annual daily traffic and connect the existing state road M17 with Corridor Vc. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2004 | 12/2006 |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | WiP | | |
| Valid spatial planning documents | C | | 12/2017 |
| Land property resolved | NS | | |
| Main design / detailed design | WiP | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Main Design is completed but needs to be re-done due to aligning design solutions with the adopted spatial plan. | | |
| Risks identified | Issues with land acquisition and protests of local community re realigning the motorway. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 284,300,000 |
| Total investment | | 0 |
| Investment financing considerations | Beneficiary prevoiously considered borrowing from Chinese EXIM bank. However, negotiations are now ongoing with four commercial banks present in BiH (lending consortium) and with EBRD support for securing loan financing in total amount of €240 million. Total amount planned in the Programme of Public Investments FBIH 2019-2021 is €284.3 m. The aim (of the beneficiary) is to set terms for lending similar to those EBRD provides, with 4y grace and 10 years payment period. | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Completion of motorway section Mostar South-Kvanj Tunnel*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Completion of motorway section Mostar South-Kvanj Tunnel |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Mostar South |
| To | Kvanj Tunnel |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.53 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The project is in line with Framework Transport Strategy of BiH 2016-2030, which was created and adopted in July 2016. The BiH strategy is aligned with EU wide transport policy objectives and TEN-T network priority investments. The project has been included in the BiH Single Project Pipeline as one of the priority projects on the Core TEN-T network for Bosnia and Herzegovina and endorsed as such by the BIH National Investment Committee on 9/12/2015. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. Total length of Mostar South-Buna section is 14.3 km and is divided into 2 subsections. The project is related to the subsection 1 that has length 9.2 km of road and including IC Mostar South, 1 smaller tunnel, 1 viaduct and two bridges. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The project will substantially shorten the travel distance along the North – South axis between the City of Sarajevo and Počitelj settlement (Čapljina municipality) and thus is expected to generate substantial benefits in terms of time savings, reduced accident rates, savings in vehicle operating costs and reduction of local pollution in the area.<br>The project will also increase accessibility and promote regional as well as local economic development by increasing the average annual daily traffic and connect the existing state road M17 with Corridor Vc. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | 07/2004 | 12/2018 |
| Preliminary Design | C | 05/2017 | 12/2018 |
| Environmental and Social Impact Assessment | WiP | | |
| Valid spatial planning documents | C | | 12/2017 |
| Land property resolved | WiP | 01/2019 | |
| Main design / detailed design | NS | | |
| Tender documentation | C | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Optimised Preliminary Design is finalised in 2018 and preliminary stage RSA completed in April 2019. Feasibility study updated in 2018. The tender process for the section Mostar South Interchange to Tunnel Kvanj is expected to begin in Q3 2019 (Yellow FIDIC conditions). | | |
| Risks identified | Issues with land acquisition and protests of local community re realigning the motorway. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 125,000 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 6,000,000 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 71,965,000 |
| Total investment | | 78,107,044 |
| Investment financing considerations | Included in Programme of Public Investments FBiH 2019-2021 (for total amount of €90 m, of which loan financing €60 million). Negotiations with EBRD for loan financing held 3Q 2015-1Q 2018 with MoU signed in February 2018. The (framework) loan is signed with EBRD 12/09/2018 (out of which €60 million for this section). Beneficiary applied for EU (WBIF INV) grant co-financing, however the application was not endorsed in 2019 (lower maturity stage and priority). The Beneficiary ~~intends~~ has~~to~~ re-submitted the INV grant application WB-IG05-BIH-TRA-01 in the R05 (investment grant amount requested €18.39 million). | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Completion of motorway section Kvanj Tunnel-Buna*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Completion of motorway section Kvanj Tunnel-Buna |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Kvanj Tunnel |
| To | Buna |
| Gap rationale | Co-financing approved, Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.54 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The project is in line with Framework Transport Strategy of BiH 2016-2030, which was created and adopted in July 2016. The BiH strategy is aligned with EU wide transport policy objectives and TEN-T network priority investments. The project has been included in the BiH Single Project Pipeline as one of the priority projects on the Core TEN-T network for Bosnia and Herzegovina and endorsed as such by the BIH National Investment Committee on 9/12/2015. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. Total length of Mostar South-Buna section is 14.3 km and is divided into 2 subsections. The project is related to the subsection 2 that has length 5.16 km of road including one bridge (Rotimski potok, 221 m), one long tunnel (Tunnel Kvanj, 2.76 km) and 1.5 km of access road. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | --- |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The project will substantially shorten the travel distance along the North – South axis between the City of Sarajevo and Počitelj settlement (Čapljina municipality) and thus is expected to generate substantial benefits in terms of time savings, reduced accident rates, savings in vehicle operating costs and reduction of local pollution in the area.<br>The project will also increase accessibility and promote regional as well as local economic development by increasing the average annual daily traffic and connect the existing state road M17 with Corridor Vc. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 12/2005 |
| Feasibility study (incl. CBA) | C | 07/2004 | 12/2018 |
| Preliminary Design | C | 05/2017 | |
| Environmental and Social Impact Assessment | C | | 07/2017 |
| Valid spatial planning documents | C | | 12/2017 |
| Land property resolved | WiP | | |
| Main design / detailed design | NS | | |
| Tender documentation | C | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Optimised Preliminary Design is finalised in 2018 and preliminary stage RSA completed in April 2019. Feasibility study updated in 2018. Expropriation is planned to be finished in September 2019. Construction works are planned to be tendered as per Yellow FIDIC contract conditions (Design-Build). Tender for SofW is published 01/07/2019. Demining process to be finalised in 2019. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 125,000 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 1,940,000 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 107,500 |
| Construction & supervision of works contracts | No | 105,162,000 |
| Total investment | | 0 |
| Investment financing considerations | Beneficiary have considered to use IFI loan funds blended with EU (WBIF) INV grant and national contribution. Loan Agreement with EIB signed 26/04/2018 (€100 million) and ratified. Application submitted for EU grant financing (WB-IG04-BIH-TRA-05, €20,671,581, of which €1.536 m for TA, SofW and PIU support) to complement national budget constribution, was assessed positive and included in the 5th Connectivity Agenda packadge introduced in Poznan 05/07/2019. | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Completion of motorway section Buna-Počitelj*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Completion of motorway section Buna-Počitelj |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Buna |
| To | Počitelj |
| Gap rationale | Co-financing approved, Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.55 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The project is in line with Framework Transport Strategy of BiH 2016-2030, which was created and adopted in July 2016. The BiH strategy is aligned with EU wide transport policy objectives and TEN-T network priority investments. The project has been included in the BiH Single Project Pipeline as one of the priority projects on the Core TEN-T network for Bosnia and Herzegovina and endorsed as such by the BIH National Investment Committee on 9/12/2015. |
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. Of the Corridor Vc motorway in BiH, with total length of 323 km, the section Buna (Mostar South) - Počitelj stretches over 7.2 km. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The project will substantially shorten the travel distance along the North – South axis between the City of Sarajevo and Počitelj settlement (Čapljina municipality) and thus is expected to generate substantial benefits in terms of time savings, reduced accident rates, savings in vehicle operating costs and reduction of local pollution in the area.<br>The project will also increase accessibility and promote regional as well as local economic development by increasing the average annual daily traffic and connect the existing state road M17 with Corridor Vc. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 12/2005 |
| Feasibility study (incl. CBA) | C | | 12/2010 |
| Preliminary Design | C | | 12/2016 |
| Environmental and Social Impact Assessment | C | | 07/2017 |
| Valid spatial planning documents | C | | 12/2017 |
| Land property resolved | C | | 03/2018 |
| Main design / detailed design | C | | 12/2016 |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 08/2018 | 01/2020 |
| Further project preparation considerations | Detailed design completed in 2016 and its update contracted 03/03/2017 & 08/05/2017 (also completed in 2018). SofW plus works tendered, and SofW contract signed 08/05/2018 (42 months). Construction contract signed 18/05/2018 (Addendum No 1 19/10/2018) and construction works ongoing since August 2018, with duration of 18 months. | | |
| Risks identified | Construction phase risks may relate to financial (unforseen price changes). However, these are to be timely foreseen, if any, and mitigated. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 23,279,879 |
| Total investment | | 0 |
| Investment financing considerations | Financing supported with EBRD framework loan signed in Dec 2015. The loan agreement was declared effective 31/03/2018 (out of which €23.3 million for this section). The Grant Agreement (WB-IG03-BiH-TRA-06, in total of €8,789,140 of which €6,219,140 for investments and €2.57 million for TA) is signed at the EBRD Annual General Meeting on 9/05/2019. National budget is approx. €4.86 million. Works contract signed for approx. €22 million and SofW contract for approx. €1.31 million. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVc), Completion of motorway section Počitelj-Zvirovici*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Road CVc), Completion of motorway section Počitelj-Zvirovici |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Počitelj |
| To | Zvirovići |
| Gap rationale | Missing link - new motorway |
| Country | BIH |
| Lead Project Beneficiary | Public Company Motorways of FBiH |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communications and 2 of BiH, Ministry of 2 and |
| Project ID/number | WB.TR.M.56 |
| SEETO Code | Corridor Vc |
| European Route Code | E73 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), the Corridor Vc through BiH is pre-identified as part of the Mediterranean Corridor. |
| Strategic relevance | The project is in line with Framework Transport Strategy of BiH 2016-2030, which was created and adopted in July 2016. The BiH strategy is aligned with EU wide transport policy objectives and TEN-T network priority investments. The project has been included in the BiH Single Project Pipeline as one of the priority projects on the Core TEN-T network for Bosnia and Herzegovina and endorsed as such by the BIH National Investment Committee on 9/12/2015. |

| | |
|---|---|
| General description | The new motorway is to connect to Corridor X (Salcburg-Ljubljana-Zagreb-Beograd-Nis-Skopje-Solun), as route belongs to European road E-73, and is classified in the European Agreement on Main International Traffic Arteries. Existing road on the route is coded M-17, as classified within the Federation of Bosnia and Herzegovina (BiH) road network and is of category I (main - state) roads. The section 11.75 kilometers long is including one IC (Pocitelj) with toll station access roads and three viaducts, Pocitelj Bridge (in length of 945 m and 100 m high). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | Yes |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The project will substantially shorten the travel distance along the North – South axis between the City of Sarajevo and Adriatic coast (to Croatia, Montenegro and Albania through AI Corridor) and thus is expected to generate substantial benefits in terms of time savings, reduced accident rates, savings in vehicle operating costs and reduction of local pollution in the area.<br>The project will also increase accessibility and promote regional as well as local economic development by increasing the average annual daily traffic and connect the existing state road M17 with Corridor Vc. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | 07/2009 |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | 10/2013 | 03/2015 |
| Tender documentation | C | 10/2017 | 06/2018 |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | EIB provided €1.8 m grant for preparation of main design in 2013. All project preparation is completed, tender prepared and works procurement (open, Red FIDIC) procedure (the one published 10/07/2018 after the earlier two, restricted ones, were terminated, the first in 2014 and the later in 2017) completed in June 2019 (supervised by EIB). Tendered/contracted in two LOTs, one for the open alignments and ICs and another for the bridge (in duration of 24 and 30 months, respectively). SofW service tendered 11/05/2017. This TA in the implementation phase will be provided with WBIF support (WB19-BIH-TRA-01 TA grant approved, €5 million). Assistance to PIU separately procured (contracted 18/06/2018 for approx. amount of €0.3 million (net of VAT). | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 4,466,000 |
| Main design / detailed design | No | 2,327,000 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 89,637,730 |
| Total investment | | 0 |
| | | |

| | |
|---|---|
| Investment financing considerations | EIB loan financing (€100 million, Loan Agreement signed in October 2015). Construction contract LOT1 (motorway, IC Pocitelj and IC Zvirovici, net €56.522 million) awarded to China State Construction Engeenering Company and LOT2 (Pocitelj Bridge, net €28.115 million) to Synohydro Power Company. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor (Road CVIII), Construction of Tirana Bypass (Kashar-Vagarr-Mullet)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Tirana |
| To | Tirana |
| Gap rationale | Missing link - new motorway |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.20 |
| SEETO Code | CVIII |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Tirana Bypass is part of SEETO comprehensive network and the National Transport Master Plan (Rev. 1, 2010). As a priority in the transport network development it is recognised in the National Transport Strategy and Action Plan 2016-2020 and endorsed by the Albanian Government (the Council of Ministers in 2016). It is also endorsed by EU as formally recognized in the Indicative Strategy Paper for Albania 2014-2020 and in the IPA Multi-Country Strategy Sector 20142020. Tirana Bypass is part of east-west corridor. It is 21.581 m long and is identified as one of the important road sections. Hence, the project is included in the Albania's SPP. |
| Strategic relevance | Tirana Bypass is part of the East-West corridor of Albania, identified as one of the most important road sections. A short section of app. 9 km is also part of the North-South corridor (aka Adriatic-Ionian Road Corridor). Hence, the project is included in the Albanian National SPP. The key objective of the project is to reduce traffic congestion in the capital of Albania, presently caused by increased transit traffic flows, but it is evident that there is a significant strategic dimension in the realisation of this project. The region where Tirana bypass will be developed is considered as the backbone for the country's road network as it presents the most populated area of Albania, with 1/3 of the entire population living here. |

| | |
|---|---|
| General description | The road bypass will be constructed in Central Albania, south, southwest and west of the capital city of Tirana. The total length of the alignment is 21.58 km, dual carriageway (2x10.5m) with motorway characteristics (design speed 100-120 km/h), connected to the Durres-Tirana highway in the west (near the junction to Rinas Airport/ Limuth bridge-City Park Mall) and to motorway Tirana-Elbasan (Mullet Area) in the south. It runs predominantly through hilly/flat terrain, imposing different levels of technical difficulty in the design and construction stages. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | No |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 11700 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Construction of Tirane - Elbasan motorway is making possible that West - East Corridor of Albania (Durres - Tirana - Border with North Macedonia and Greece) to become the straight direction. Also to reduce the passing through capital of entire traffic flow west-east and opposite, makes indispensable the bypassing alternative. |
| Climate change mitigation and adaptation aspects | The potential environmental/ climate change impacts for this project have been identified and assessed via the completed and approved Preliminary ESIA (part of Feasibility Study), while they are to be finalised by the ongoing DD study including the full ESIA procedure. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | C | 03/2013 | 09/2013 |
| Preliminary Design | C | 09/2013 | 04/2014 |
| Environmental and Social Impact Assessment | C | 03/2013 | 09/2014 |
| Valid spatial planning documents | WiP | | |
| Land property resolved | WiP | | |
| Main design / detailed design | WiP | 02/2019 | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Preparation of the feasibility study (incl. CBA), preliminary design and Preliminary EIA (approved by EBRD) funded through WBIF grant (WB7-ALB-TRA-12, €1 million). Preferred option of the bypass (21.581 km) was selected through the MCA and, together with the accompanying technical documentation, has been approved by the Beneficiary (MoIE/ARA), EBRD and EUD in March 2014. Preparation of the Detail Design and ESIA packadge (incl. procurement plan and tender documents) is ongoing through WBIF TA support (WB16-ALB-TRA-01). | | |
| Risks identified | Financing yet not secured; differences of standards and legislation in force in the EU from those in Albania; | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 1,000,000 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 7,342,770 |
| Main design / detailed design | No | 1,500,000 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 140,460,321 |
| Total investment | | 179,045,156 |

| | |
|---|---|
| Investment financing considerations | Beneficiary aims to negotiate EBRD sovereign loan indicatively in value of approx. €109.2 m and to apply for EU (WBIF INV) grant financing as the financial gap is significant. WBIF INV application submitted in IG04 (2019) was not positivelly assessed. The Beneficiary ~~will~~ has resubmitted the INV grant application WB-IG05-ALB-TRA-01 to WBIF R05 (grant value approx. €31.952 million, of which €27.3 million for investment and €3.95 for TA). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection, Section Murriqan-Lezhe (Balldre)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Muriqan (Border with Montenegro) |
| To | Lezhe (Balldre) |
| Gap rationale | Missing link - new motorway / Upgrade to the full motorway profile |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.57 |
| SEETO Code | |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. The section starts from the border with Montenegro at Murriqan and ends at the area of Balldre where the Lezhe Bypass begins. It‘s length is approx. 38.832 km, of which new alignment 13km and the rest relate to doubling of existing 1x2 line state road. The section is located mainly on flat terrain. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking’s** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 5616 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | To date, Conceptual Design with PFS is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01). The TA also including FS with CBA and Preliminary ESIA for the entire AIC. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Albania) and further potential delays related to issues with securing financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 5,500,000 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 192,653,269 |
| Total investment | | 0 |
| Investment financing considerations | Too early for financing considerations. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (Road 2b), Section Lezhe (Balldre)-Milot*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Lezhe (Balldre) |
| To | Milot |
| Gap rationale | Missing link - new motorway / Upgrade to the full motorway profile |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.58 |
| SEETO Code | Route 2b |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. The section starts from Lezhe (Balldre, beginning of Lezhe Bypass) and ends at the area of Milot. It‘s length is approximately 16.407 km, and construction including new alignment (tunnel at Renci + Lezha Bypass) plus doubling of the existing 1x2 line state road. The section is located mainly on flat terrain. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking’s** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 6378 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | C | | 07/2018 |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Conceptual Design with PFS is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01). The TA also including FS with CBA and Preliminary ESIA for the entire AIC. However, there preliminary design for this section is completed (procured by a local potential investor under PPP scheme - open procedure). Following contracting with the private investor (PPP), detailed design is to be prepared in Phase I and construction to follow in Phase II (Phase III is maintenance). | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 8,822,213 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 161,500,000 |
| Total investment | | 0 |
| Investment financing considerations | PPP tender completed. The Albanian Parliament has approved the Law on the PPP contract (Design-Build-Maintein, 13 years period, availability annual payments up to €213.6 million) for Milot - Balldre road section on 18/07/2019 (back-to-back with the Amendments on the Law on Concessions and PPPs). It is assumed that loan financing will be negotiated (the Govnmt will provide guarantees). | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (Road 2b), Section Milot-Thumane*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Milot |
| To | Thumane |
| Gap rationale | Upgrade toward full compliance with the TEN-T standards |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.59 |
| SEETO Code | Route 2b |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. This particular section 13.117 km long is in fact existing (2x2 line express road), however with substandard characteristics/ facilities, which needs to be improved to fully match the TEM standards. The section is located mainly on flat terrain. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 14844 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | To date only Conceptual Design with PFS is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01). DD is required for the improvement of the existing 2x2 lane expressway, service roads and ICs. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Albania) and further potential delays related to issues with securing financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 3,129,727 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 40,117,872 |
| Total investment | | 0 |
| Investment financing considerations | Current FS yet examines PPP options. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (Road 2b), Section Thumane-Kashar*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Thumane |
| To | Kashar |
| Gap rationale | Missing link - new motorway |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.60 |
| SEETO Code | Route 2b |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. This section will be implemented as new motorway alignment 21.048 km long, that starts from the area of Thumane (end of dual-carriageway section of Tirana-Shkoder national highway) and ends at Kashar area (located mainly on flat terrain). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 45320 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | C | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | There is PPP detail design complete (and approved) and intention of the Government was to tender this section as PPP. However, this didn‘t got through. FS (incl. CBA) with Preliminary ESIA is being provided through WBIF TA (WB14-REG-TRA-01) for entire AIC in Albania and Montenegro. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Albania) and further potential delays related to issues with securing financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 12,000,000 |
| Main design / detailed design | No | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 140,824,499 |
| Total investment | | 0 |
| Investment financing considerations | PPP scheme was not supported by the Govnmt in 2019 due to budget reallocations. PPP scheme is however being re-assessed under the AIC FS. | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection, Sections Kashar-Lekaj and Lekaj-Konjat*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Kashar |
| To | Konjat (Rrogozhine) |
| Gap rationale | Missing link - new motorway / Upgrade toward full compliance with the TEN-T standards |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.61 |
| SEETO Code | |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. This project relate to the Alternative AIC 5B (Kashar Lekaj) + 5C (Lekaj Konjat), of which 5B is new alignment 33.814 km long, while 5C is improvement/widening of the existing, 14.942 km long 2x2 road. The section is located on flat to hilly terrain (~30%) and on hilly to mountainous terrain (~70%). 8 km at the beginning of the section is being part of the Tirana bypass. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | Yes-Closed |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 14887 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Conceptual Design with PFS as well as FS (incl. CBA) with Preliminary ESIA is being provided through WBIF TA (WB14-REG-TRA-01) for entire AIC in Albania and Montenegro. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Albania) and further potential delays related to issues with securing financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 3,750,000 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 520,913,069 |
| Total investment | | 0 |
| Investment financing considerations | Current FS yet examines PPP options. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection, Sections Konjat-Lushnje and Lushnje-Fier (Bypass)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Konjat (Rrogozhine) |
| To | Fier (North) |
| Gap rationale | Upgrade toward full compliance with the TEN-T standards |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.62 |
| SEETO Code | |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. The section starts from the area of Konjat, passing near Lushnje, and ends at the beginning of Fier Bypass (total length is approximately 28.1 km, located on flat terrain). The section Konjat-Lushnje is 10.372 km long while section Lushnje-Fier is 16.689 km long. Investment options for both of the sections relates to improvement/widening of the existing 2x2 line highway. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 14312 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Conceptual Design with PFS as well as FS (incl. CBA) with Preliminary ESIA is being provided through WBIF TA (WB14-REG-TRA-01) for entire AIC in Albania and Montenegro. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Albania) and further potential delays related to issues with securing financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 4,950,000 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 104,520,707 |
| Total investment | | 0 |
| Investment financing considerations | Too early for financing considerations. | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (Road 2c), Section Fier Bypass*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Fier (North) |
| To | Fier (Levan) |
| Gap rationale | Missing link - new motorway |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.63 |
| SEETO Code | Route 2c |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. The section starts around 60km south of the Port of Durres at the town of Mbrostar, by-passes the town of Fier on the west side at few kilometres from the sea side and ends at the main roundabout at south of the town of Levan. The Fier Bypass section is 22.185 km long. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. |
| Climate change mitigation and adaptation aspects | Potential environmental impacts are adequately assessed through the ESIA process; relevant mitigation measures are included in the Environmental and Social Management Plans (ESMPs). Specific provisions for the safety, health, welfare and the environment p |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | 07/2011 |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | 07/2017 |
| Construction & supervision of works contracts | WiP | 11/2016 | 02/2020 |
| Further project preparation considerations | Construction is ongoing (2nd contract for the remaining works awarded 25/10/2018 and completion due in 15 months); one of the lanes opened in June 2019 to avoid traffic congestion during tourist season; completion of works expected in February 2020. | | |
| Risks identified | The implementation phase suffered delays due to termination of contract with one contractor on 20/04/2017 and tendering for the remaining works in 19/07/2017. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 40,585,000 |
| Total investment | | 0 |
| Investment financing considerations | The limit fund for the total construction costs of this road axis has been €60m, while the remaining works are contracted (2nd works contract) in amount of €38m ($43.3m). Civil works are funded by the remaining proceeds of EBRD and EIB loans (in total €48.8m) while works supervision is funded by the Italian Cooperation (€0.715m). | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (Road 2c), Sections Fier bypass Levan-Pocem and Pocem-Memaliaj*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Fier (Levan) |
| To | Memaliaj |
| Gap rationale | Missing link - new motorway / Upgrade to the full motorway profile |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.64 |
| SEETO Code | Route 2c |
| European Route Code | |
| Other Project/LOT Code | c |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. Alternative AIC 9A2, 26.67 km long, for Fier bypass Levan-Pocem section (as preffered alignment) relates to doubling of the existing 1x2 lines road. However, the section Pocem-Memeliaj, as per Alternative AIC 9B2, is 37.6 km long, is consisted of part with new motorway alignment and part of existing 1x2 road that will be widened (double profile). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 80 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 2614 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Conceptual Design with PFS as well as FS (incl. CBA) with Preliminary ESIA is being provided through WBIF TA (WB14-REG-TRA-01) for entire AIC in Albania and Montenegro. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Albania) and further potential delays related to issues with securing financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 9,250,000 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 624,607,391 |
| Total investment | | 0 |
| Investment financing considerations | Too early for financing considerations. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (Road 2c), Sections Memaliaj - Subashi Bridge and Subashi Bridge-Gjirokastra Bypass*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Memaliaj |
| To | Gjirokastra Bypass (Mashkullore) |
| Gap rationale | Missing link - new motorway |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.65 |
| SEETO Code | Route 2c |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. Memaliaj-Subashi bridge section is considered as a new motorway alignment 20.063 km long, as well as the 10.261 km long section Subashi Bridge-Gjirokaster Bypass (doubling of the existing 1x2 road). The section (total approx. 30.3 km) starts in hilly to mountainous terrain with the last segment on flat terrain. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 2963 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Conceptual Design with PFS as well as FS (incl. CBA) with Preliminary ESIA is being provided through WBIF TA (WB14-REG-TRA-01) for entire AIC in Albania and Montenegro. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Albania) and further potential delays related to issues with securing financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 2,800,000 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 292,542,657 |
| Total investment | | 0 |
| Investment financing considerations | Too early for financing considerations. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (Road 2c), Gjirokastra Bypass*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Gjirokastra Bypass (Mashkullore) |
| To | Gjirokaster Bypass (Dervican) |
| Gap rationale | Missing link - new motorway |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.66 |
| SEETO Code | Route 2c |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. The total length of the bypass is approximately 9.7 km, and it is proposed as a new alignment. The section is located on flat terrain. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 2038 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. Based on the preliminary results of the AIC FS, the economic indicators for this section are positive. |
| Climate change mitigation and adaptation aspects | |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Preliminary Design is complete (prepared by local consultant; approved by GoA/ARA). Conceptual Design with PFS as well as FS (incl. CBA) with Preliminary ESIA is being provided through WBIF TA (WB14-REG-TRA-01) for entire AIC in Albania and Montenegro. | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Albania) and further potential delays related to issues with securing financing. | | |

**TAB 7 - FINANCING**

| | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 1,235,000 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 58,593,791 |
| Total investment | | 0 |
| Investment financing considerations | Too early for financing considerations. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Road**

## *Mediterranean Corridor: Montenegro - Croatia - Albania R1 Road Interconnection (Road 2c), Section Gjirokaster bypass-Kakavije*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | |
| Sector: | Transport |
| Subsector | Road |
| Corridor/Route | Mediterranean |
| From | Gjirokaster Bypass (Dervican) |
| To | Kakavije |
| Gap rationale | Upgrade to the full motorway profile |
| Country | ALB |
| Lead Project Beneficiary | Albanian Roads Authority |
| Proponent | Ministry of 2 and Infrastructure |
| Project ID/number | WB.TR.M.67 |
| SEETO Code | Route 2c |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Adriatic-Ionian Road Corridor in the Albanian territory, section from Montenegrin border to Greek border, is officially pre-identified as part of the TEN-T Mediterranean Corridor, extending the EU Core Network Corridor to the Western Balkans region. |
| Strategic relevance | The project is included in the Albanian national SPP, with reference in the National Strategy for Development and Integration (GoA programme 2016-2020). The highway is included in SEETO Multi-Annual Development Plan 2016 (Project Priority List-Projects for preparation). The project is endorsed by a Memorandum of Understanding (signed in 2015) between Republic of Albania, Bosnia and Herzegovina, Croatia and Montenegro for the construction of the Adriatic-Ionian highway, with Italy, Slovenia and Greece also being part of the cross-border infrastructure initiative. |

| | |
|---|---|
| General description | The Adriatic-Ionian highway is planned to stretch along the eastern shore of the Adriatic and Ionian Seas, spanning the western coast of the Balkan peninsula (from Trieste, Italy to Kalamata, Greece). The estimated length of the entire corridor is about 1,550 km, and the section in Albania will be app. 305 km, or ca. 20% of the total length of the motorway. It is planned as a dual-carriageway highway with two traffic lanes per direction, appropriate emergency lanes, and design speed of 120 km/h. The section is 23.617 km long and the investment relates to doubling of existing 1x2 line motorway. It is located on flat terrain and ends at the Albanian-Greek border in Kakavije. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Category ** | 1-Motorway |
| Condition ** | Very Good |
| Rest areas and parking's** | Yes |
| Availability of alternative clean fuels** | Yes |
| Tolling system** | No |
| Intelligent Transport Systems** | No |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Design speed** | 120 km/h |
| No of traffic lanes per direction** | 2 |
| Traffic lane width** | 3.75 m |
| Emergency line width** | 2.25 m |
| Fence installed** | Yes |
| AADT | 1452 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | It is expected that the entire project will enhance transit transport activities, both passenger and freight, reduce significantly travel times, and increase level of service and of road safety. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 11/2017 | |
| Feasibility study (incl. CBA) | WiP | 11/2017 | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | To date only Conceptual Design with PFS is being prepared under the regional study "Feasibility Study for the Adriatic-Ionian Road Corridor (Route 1 and Route 2) Montenegro and Albania" (WB14-REG-TRA-01). | | |
| Risks identified | In this early phase of the project preparation, main risks are related to timely project preparation (not only in Albania) and further potential delays related to issues with securing financing. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 2,000,000 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 115,000,000 |
| Total investment | | 0 |
| Investment financing considerations | Too early for financing considerations. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (CXb), Reconstruction of the Railway Line Batajnica - Stara Pazova*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CXb), Reconstruction of the Railway Line Batajnica - Stara Pazova |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Batajnica |
| To | Stara Pazova |
| Gap rationale | Upgrade of the existing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.05 |
| SEETO Code | Corridor Xb |
| European Route Code | E-70 / E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway project is identified as part of the Orient/East-Med Corridor (Corridor X). Also, as per the conclusions of the SERG (South Eastern Europe Railway Group) of the UIC, all lines within Corridor X represent a major priority for development of the whole region. |
| Strategic relevance | The project is identified in: Spatial Plan of the Republic of Serbia from 2010 to 2020; Strategy for railway, road, inland waterway, air and intermodal transport development in the Republic of Serbia; General Master Plan for Transport in the Republic of Serbia. It is also identified in the SEETO‘s Five Year MAP 2016 as one of the priority projects - Projects for preparation. The Project is included in the country‘s SPP. |
| General description | |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Traction** | |
| Max axle load** | |
| Max operating speed ** | |
| Maximum train length** | 0 |
| Full deployment of ERTMS ** | |
| Track gauge** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Length** | 0 |
| No of tracks** | |
| Condition** | |
| Maximum Designed Speed** | |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Expected Project results are general, such as: Improvement of the quality of transport services, as well as efficiency enhancement; Safer, faster and more efficient rail traffic; Improvement of the railway line quality level; Interoperability of the railway lines on the Corridor X. |
| Climate change mitigation and adaptation aspects | Positive impact on climate change mitigation expected. |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 07/2004 | 07/2009 |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | 07/2015 | 04/2017 |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 11/2017 | 11/2020 |
| Further project preparation considerations | Prepared to implementation phase, however the Spatial plan (adopted 05/04/2017) being corrected and amended since end 2017 (ongoing in 2019) due to changes in preliminary design for section Novi Sad-Subotica-border with Hungary. Construction ongoing (preparation works started 28/11/2017, Contractor on the Site since 05/06/2018). Duration of works 36 months. | | |
| Risks identified | | | |

**TAB 7 - FINANCING**

| | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 0 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | Agreement on Economic and Technical Cooperation in the Area of Infrastructure between the Gov. of the RS and the Gov. of the PRC signed in Aug 2009. Modernisation of the entire line from Belgrade to Budapest (double track for speeds up to 200 km/h) has been part of a threelateral negotiations (Memorandum of Understanding on Cooperation of the Hungarian-Serbian Railway Project between the NDRC of the PR China, the Hungarian Ministry of Foreign Affairs and Trade and the MoCTI of the Republic of Serbia) on further project development and investments. Following signing of Commercial (construction) Contract on 06/11/2016, and again in July 20118 (after the redesigning from speeds up to 160 km/h to speeds up to 200 km/h) construction of the new double-track line ongoing (financing with Exim bank loan 85%, $ 297.6 million, (preferential) Loan Agreement signed 16/05/2017). To note that previously reconstruction works with modernisation (increasing speed to projected 160 km/h) of the existing double-track sections Batajnica-Stara Pazova-Golubinci (22.5 km) are completed in 2009 (investment value €33 million, supported with EIB loan within Railway Reconstruction Programme II, Component I loan value €27.5 million out of €80 million in total that ratified in 2007). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (CX), Modernization of the Railway Line Stara Pazova – Sid – Croatian border*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Modernization of the Railway Line Stara Pazova – Sid – Croatian border |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Mediterranean |
| From | Stara Pazova |
| To | Sid / Croatian Border |
| Gap rationale | Upgrade of the existing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.06 |
| SEETO Code | Corridor X |
| European Route Code | E-70 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The section is part of the Corridor X and therefore following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), is identified as part of the Mediterannean Corridor. Also, as per the conclusions of the SERG (South Eastern Europe Railway Group) of the UIC, all lines within Corridor X represent a major priority for development of the whole region. |
| Strategic relevance | Reconstruction, construction and modernization of the existing Corridor X railway lines through Serbia have been planned with the aim of obtaining high-performance, electrified, double track railway lines for mixed traffic (passenger and freight) and combined transport, in accordance with the needs and the ratified European Agreements (AGC, AGTC, SEECP) and the Trans-European Railway Network Interoperability Standards (TSI). According to European AGC Agreement, the railway line Croatian border-Sid-Stara Pazova is the west-east principal railway line E-70. The project is identified in: Spatial Plan of the Republic of Serbia from 2010 to 2020; Strategy for railway, road, inland waterway, air and intermodal transport development in the Republic of Serbia; General Master Plan for Transport in the Republic of Serbia. |

| General description | |
|---|---|
| | The line is electrified with the single-phase 25kV, 50Hz system, track was nominally constructed with parameters for the permissible speed of 120 km/h though the alignment allows up to 160 km/h (but due to the heavily deteriorated condition of the track, the speeds were significantly restricted, even down to 30km/h at certain parts - right track), line is of D3 class, with nominal permissible axle load of 225kN, while the permissible load per linear meter is 72kN/m. The Project includes: i) Reconstruction of the existing and construction of the second track on the railway line Indjija-Golubinci in the length of 4.7km which connects Belgrade-Stara Pazova-Sid-State border-(Tovarnik) railway line with Stara Pazova-Novi Sad-Subotica-State border(Kelebija) railway line V=120km/h; ii) Reconstruction and modernization of the left track on the section Golubinci-Ruma in length of 19.2km; iii) Reconstruction and modernization of the double-track of railway line from Ruma – Sid - State border (Tovarnik) in length of 57,7km; and iv) Modernisation of signalling interlocking facilities on the part of section Stara Pazova-Sid-State border(Tovarnik) in length of 86km. In technical terms, requirements are: a) Reconstruction and modernization of double track in length of 86 km and upgrading of the track elements for two-way traffic at speeds of up to 160 km/h and permissible axle load of 225 kN on the railway line, and permissible load per linear metre of 80 kN/m (D4 Class), together with installation of the rails type 60E1; b) Reconstruction of traction supply system; c) Reconstruction, rehabilitation and replacement of bridges and culverts; d) Provision of gauge which corresponds to loading gauge GC; e) Reconstruction of the tracks and structures in the stations; f) Modernisation of signalling system and equipping the line with ETCS level 2; g) Equipping the line with GSM-R system and digitalization of the telecommunications along the entire railway line; and h) Modernization of property security and video surveillance systems. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 120-160 |
| Maximum train length** | 700 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 84 |
| No of tracks** | Double |
| Condition** | Medium |
| Maximum Designed Speed** | 160 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | The Project is to enhance the quality of transport services on the Core Corridor railway network through increase of line capacity, as well as introduction of new services into the passenger and freight traffic, thus satisfying the present users, as well as attracting the new users of transport services. |
| Climate change mitigation and adaptation aspects | Positive impact on climate change mitigation expected. |

**TAB 6 - MATURITY**

| | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 07/2004 | 07/2007 |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | C | 01/2011 | 01/2015 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Conceptual Design was prepared, though it needs to be aligned (updated) to match latest legislation requirements beforehand it may be submited to State Revision Committe, as precondition for the following stage (Preliminary Design, Feasibility Study and ESIA, TA approved under WBIF WB20-SRB-TRA-03) formal commencement. The Spatial Plan for the Infrastructure Corridor (adopted 2003), the Regional Spatial Plan and municipal spatial plans are compliant with the Project objectives and locations. However, as prerequisite for preliminary design completion, it‘s revision procedure and approval, the updated Spatial Plan for the Infrastructure Corridor was prepared (in preparation from Jan 2011 and adopted 08/01/2015). Environmental Impact Assessment (EIA) has to be done in line with the local legislation and Preliminary Design. Public Consultations have to be organized and incorporated into the EIA study. The reconstruction and modernization works on the sections Stara Pazova-Golubinci and 18 km of Golubinci-Ruma (structures and electrotechnical and communicational infrastructure, 1 station and 4 road crossings) completed in Sept 2015 (rehabilitation up to the design speed of 120 km/h). Further expropriation needed in the area of Sremska Mitrovica station, Martinci and Sid. | | |
| Risks identified | Possible delays if Conceptual Design is not formaly endorsed (by State Revision Committee) before the ToR for PD and FS with ESIA (WB20-SRB-TRA-03) is prepared. Potential issues with land expropriation in urban areas of railway stations. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 2,850,000 |
| Environmental and Social Impact Assessment | No | 150,000 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 288,500,000 |
| Investment financing considerations | Reconstruction of the existing single-track and construction of new right track (to double-track section) from Stara Pazova to Golubinci (9.2 km) was completed in 2009 (with support of EIB loan financing). Also, part of the right track from Golubinci to Ruma was reconstructed in 2015 to allow speeds of 120km/h on both tracks, in the length of 17.9 km ($12.9 million, financed from a Russian loan, Annex 2.1). Electro-technical infrastructure reconstruction for section Stara Pazova-Sid is tendered 04/07/2018 and contracted 29/11/2018 (part of the EBRD 5 loan financing). For financing of the remainder sections, as per the WBIF MIS: WBIF TA grant approved for project preparation is € 3 million; Potential WBIF TA grant € 4 million; Potential WBIF INV grant € 60 million; Other grants € 60 million; National/Own contribution € 41.5 million; EIB loan € 120 million | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (CXb), Reconstruction of the Railway Line Novi Beograd – Zemun – Batajnica*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CXb), Reconstruction of the Railway Line Novi Beograd – Zemun – Batajnica |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | New Belgrade |
| To | Batajnica |
| Gap rationale | Upgrade of the existing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.07 |
| SEETO Code | Corridor Xb |
| European Route Code | E-70 / E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway project is identified as part of the Orient/East-Med Corridor (Corridor X). Also, as per the conclusions of the SERG (South Eastern Europe Railway Group) of the UIC, all lines within Corridor X represent a major priority for development of the whole region. |
| Strategic relevance | Reconstruction, construction and modernization of the existing Corridor X railway lines (E-70 and E-85) through Serbia have been planned with the aim of obtaining high-performance, electrified, double track railway lines for mixed traffic (passenger and freight) and combined transport, in accordance with the needs and the ratified European Agreements (AGC, AGTC, SEECP) and the Trans-European Railway Network Interoperability Standards (TSI). |
| General description | The project entails reconstruction and modernisation of existing double-tracks of the railway line within the Belgrade node (UIC GC profile, including widening, reconstruction of all stations, modernisation of equipment and devices). Design speeds are 100km/h from Belgrade Centre station to New Belgrade station (over the rail Sava bridge) and 120km/h from New Belgrade station to Batajnica (through Bezanijska kosa tunnel). |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Traction** | |
| Max axle load** | |
| Max operating speed ** | |
| Maximum train length** | 0 |
| Full deployment of ERTMS ** | |
| Track gauge** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Length** | 0 |
| No of tracks** | |
| Condition** | |
| Maximum Designed Speed** | |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Expected Project results are general, such as: Improvement of the quality of transport services, as well as efficiency enhancement; Safer, faster and more efficient rail traffic; Improvement of the railway line quality level; Interoperability of the railway lines on the Corridor X. |
| Climate change mitigation and adaptation aspects | Positive impact on climate change mitigation expected. |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 07/2004 | 07/2009 |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | 07/2015 | 04/2017 |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | 11/2017 |
| Construction & supervision of works contracts | WiP | 11/2017 | 11/2020 |
| Further project preparation considerations | Prepared to implementation phase, however the Spatial plan (adopted 05/04/2017) being corrected and amended since end 2017 (ongoing in 2019) due to changes in preliinary design for section Novi Sad-Subotica-border with Hungary. Construction ongoing (preparation works started 28/11/2017, Contractor on the Site since 05/06/2018). Duration of works 36 months. | | |
| Risks identified | | | |

**TAB 7 - FINANCING**

| | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 0 |
| Total investment | | 0 |
| Investment financing considerations | Construction works for the sections from Belgrade (Centre) to Stara Pazova (34.5km in total) are contracted with value of $350.1 million (Exim bank loan 85%, $ 297.6 million, signed 16/05/2017). Financing is secured through the "One Belt One Road" Initiative. Agreement on Economic and Technical Cooperation in the Area of Infrastructure between the Gov. of the RS and the Gov. of the PRC signed in Aug 2009. Modernisation of the entire line from Belgrade to Budapest (double track for speeds up to 200 km/h) has been part of a threelateral negotiations (Memorandum of Understanding on Cooperation of the Hungarian-Serbian Railway Project between the NDRC of the PR China, the Hungarian Ministry of Foreign Affairs and Trade and the MoCTI of the Republic of Serbia) on further project development and investments. | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (CXb), Reconstruction and modernisation of the railway line Stara Pazova - Novi Sad*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CXb), Reconstruction and modernisation of the railway line Stara Pazova - Novi Sad |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Stara Pazova |
| To | Novi Sad |
| Gap rationale | Upgrade of the existing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.08 |
| SEETO Code | Corridor Xb |
| European Route Code | E-70 / E-86 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway project is identified as part of the Orient/East-Med Corridor (Corridor X). Also, as per the conclusions of the SERG (South Eastern Europe Railway Group) of the UIC, all lines within Corridor X represent a major priority for development of the whole region. |
| Strategic relevance | The project is identified in: Spatial Plan of the Republic of Serbia from 2010 to 2020; Strategy for railway, road, inland waterway, air and intermodal transport development in the Republic of Serbia; General Master Plan for Transport in the Republic of Serbia. It is also identified in the SEETO‘s Five Year MAP 2016 as one of the priority projects - Projects for preparation. The Project is included in the country‘s SPP. |
| General description | |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Traction** | Electrified |
| Max axle load** | 226 kN |
| Max operating speed ** | 160-200 |
| Maximum train length** | 0 |
| Full deployment of ERTMS ** | Yes-2 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Length** | 40 |
| No of tracks** | Double |
| Condition** | Very Good |
| Maximum Designed Speed** | 200 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Expected Project results are general, such as: Improvement of the quality of transport services, as well as efficiency enhancement; Safer, faster and more efficient rail traffic; Improvement of the railway line quality level; Interoperability of the railway lines on the Corridor X. |
| Climate change mitigation and adaptation aspects | Positive impact on climate change mitigation expected. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 07/2004 | 07/2009 |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | 07/2015 | 04/2017 |
| Land property resolved | WiP | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 09/2017 | 12/2021 |
| Further project preparation considerations | Preliminary design prepared with JSC Serbian Railways own resources while feasibility study and EIA prepared through IPA 2008 (Project Preparation Facility). Prepared to implementation phase, however the Spatial plan (adopted 05/04/2017) being corrected and amended since end 2017 (ongoing in 2019) due to changes in preliminary design. Accordingly, Detailed Regulation Plans in municipalities that including the railway need to be updated to facilitating land acquisition procedures. Construction ongoing. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 523,049,100 |
| Total investment | | 0 |
| Investment financing considerations | Annex 3 as part of the Financing Agreement between Gov. of Serbia and Gov. of Russia (signed 11/01/2013 with Protocol/Annex signed 30/12/2016). Annex 3 include implementation of two components: 3.1) Cortanovci tunnel and viaduct (Annex 3.1, signed 15/07/2016 and Amendment 03/02/2017, $337.6 million), works commenced 19/09/2017 (52 months); 3.2) Double-track open section (Annex 3.2, signed 15/11/2017, $247.86 million), works started 16/03/2018 (end Dec 2021). | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (CX), Reconstruction, modernisation and construction of the second track on the section Stalac-Djunis of the railway line Beograd-Nis*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Reconstruction, modernisation and construction of the second track on the section Stalac-Djunis of the railway line Beograd-Nis |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Stalac |
| To | Djunis |
| Gap rationale | Upgrade of the existing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.09 |
| SEETO Code | Corridor X |
| European Route Code | E-70 / E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The section is part of the Corridor X and therefore following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), is identified as part of the Orient/East-Med Corridor. |
| | |

| | |
|---|---|
| Strategic relevance | Reconstruction, construction and modernization of the existing Corridor X railway lines (E-70 and E-85) through Serbia have been planned with the aim of obtaining high-performance, electrified, double track railway lines for mixed traffic (passenger and freight) and combined transport, in accordance with the needs and the ratified European Agreements (AGC, AGTC, SEECP) and the Trans-European Railway Network Interoperability Standards (TSI). Through implementation of the Project, one of the worst bottlenecks on the Serbian Railways network and in the South-East Europe region would be eliminated. The project is identified in: Spatial Plan of the Republic of Serbia from 2010 to 2020; Strategy for railway, road, inland waterway, air and intermodal transport development in the Republic of Serbia; General Master Plan for Transport in the Republic of Serbia. It is also identified in the SEETO‘s Five Year MAP 2016 as one of the priority projects - Projects for preparation. The Project is included in the country‘s SPP. |
| General description | The 22 km long section Stalac–Djunis is a sole single-track section along the railway line Belgrade–Nis (current axle load 22.5t, with max. speeds 65 km/h (Stalac-Braljina) and 85 km/h (Braljina-Djunis). Hence, the Project includes construction of a new double-track railway line of 17 km in lenght. This includes reconstruction and modernization of segments of the existing track and construction of the second track for double-track operation, construction of the new double-track railway alignment for the traffic speeds of up to 160 km/h, permissible axle load of 225 KN, and permissible load per linear metre of 80 KN/m (D4 Class), together with installation of the rails type UIC 60, provision of the UIC-C gauge, construction and reconstruction of the contact line, signalling &interlocking and telecommunications installations, construction and reconstruction of the structures (tunnels, bridges and viaducts), reconstruction and modernization of the station capacities, possible regulation of the river South Morava, delevelling of the level crossings, digitalization of the telecommunications along the whole railway line, and modernization of the system for the security of property and video monitoring. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Traction** | |
| Max axle load** | |
| Max operating speed ** | |
| Maximum train length** | 0 |
| Full deployment of ERTMS ** | |
| Track gauge** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Length** | 0 |
| No of tracks** | |
| Condition** | |
| Maximum Designed Speed** | |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The project is expected to bring capacity enhancements of the Corridor X railway line Belgrade-Nis and transport services quality improvement on the Core Corridor network (and thus in the entire region of South East Europe, contributing to a substantial increase in volumes of overall passenger and goods transport). Key expected benefits include: reduction of travel times, reduction of the infrastructure costs and the rolling stock maintenance costs, better use of the rolling stock, and savings concerning environmental protection, accidents, and congestions as compared to the competitive road transport. |
| Climate change mitigation and adaptation aspects | Positive impact on climate change mitigation expected. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 12/2004 | 06/2015 |
| Feasibility study (incl. CBA) | C | 10/2014 | |
| Preliminary Design | C | 10/2014 | |
| Environmental and Social Impact Assessment | C | 10/2014 | 05/2018 |
| Valid spatial planning documents | C | 01/2014 | 05/2017 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | General Design and Pre-Feasibility Study for Reconstruction and Modernization of the railway line Belgrade–Nis was approved by the State Revision Committee (appointed by MCTI) in July 2015. Completion of the feasibility study, preliminary design and environmental impact assessments (both as per Serbian legislation and EBRD standards, being prepared with WBIF support - IPF3 TA, WB8-SER-TRA-14) were submitted to State Revision Commission review only on 14/02/2018, as this formal endorsment was pending adoption of the Spatial Plan and issue of the Location Conditions (schematic design was also provided to facilitate issuing the LCs). Providing SRC formal review is completed end 2019, next preparation stage may commence in 2020. | | |
| Risks identified | As the land expropriation has not been completed, extensions of preliminary deadlines for the Project completion are possible during the expropriation process. In addition, and for the same reason, an increase in the total Project costs is possible. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 1,350,000 |
| Environmental and Social Impact Assessment | No | 150,000 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 150,000,000 |

| | |
|---|---|
| Investment financing considerations | Sources of financing not yet determined. Initially, Government of Serbia and the Serbian Railways company were in communication with EBRD giving that financing the Stalac-Djunis scheme was previously considered under the EUR 200 million sovereign loan for “JSC Serbian Railways” in 2011. Eventually the Stalac-Djunis component (€105.6 million) was not included due to the early stage of project preparation. However, also EIB recognises this project as infrastructure priority, and is therefore considering to further supporting the project preparation of this investment under WBIF (including endorsing application for the WBIF INV grant funding, potentially in 2020). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Modernisation for the contemporary double track traffic of the single track section of the railway line Resnik - Klenje - Mali Pozarevac - Velika Plana*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Modernisation for the contemporary double track traffic of the single track section of the railway line Resnik - Klenje - Mali Pozarevac - Velika Plana |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Resnik |
| To | Velika Plana |
| Gap rationale | Upgrade of the existing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.10 |
| SEETO Code | Corridor X |
| European Route Code | E-70 / E-86 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The section is part of the Corridor X and therefore following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), is identified as part of the Orient/East-Med Corridor. |
| Strategic relevance | This railway section on the Corridor X, from Belgrade to Nis is the line with the heaviest traffic on the Serbian railway network. Reconstruction, construction and modernization of the existing Corridor X railway lines (E-70 and E-85) through Serbia have been planned with the aim of obtaining high-performance, electrified, double track railway lines for mixed traffic (passenger and freight) and combined transport, in accordance with the needs and the ratified European Agreements (AGC, AGTC, SEECP) and the Trans-European Railway Network Interoperability Standards (TSI). The project is identified in: Spatial Plan of the Republic of Serbia from 2010 to 2020; Strategy for railway, road, inland waterway, air and intermodal transport development in the Republic of Serbia; General Master Plan for Transport in the Republic of Serbia. It is also identified in the SEETO‘s Five Year MAP 2016 as one of the priority projects - Projects for preparation. The Project is included in the country‘s SPP. |

| | |
|---|---|
| General description | The current situation with the rail Corridor X part between Belgrade node and Velika Plana is that there are two single-track lines, one via Mladenovac (mainly for traffic direction from Belgrade to Nis) and the other via Mali Pozarevac and Mala Krsna (mainly traffic direction from Nis to Belgrade). The Project effectively consists of 3 subsections:<br>- Section Resnik-Klenje, reconstruction of 10.8 km single-track railway line and construction of the second track to enable two-way traffic (this section effectively serves and is contained within both major lines, as they separate after the station Klenje);<br>- Section Klenje-Mali Pozarevac (15.6 km) of which approx. 8 km for new double-track electrified railway line construction (part after Klenje to Mala Ivanca), and remaining 7.6 km for reconstruction of the single-track and construction of the second in-paralel track to enable two-way traffic (though with significant changes with respect to the existing single-track layout);<br>- Section Mali Pozarevac-Mala Krsna-Velika Plana, 58.9 km of the single-track reconstruction and construction of the second in-paralel track to enable two-way traffic. The 1st and 2nd section are considered for implementation in Phase I, while the 3rd one for Phase 2.<br>(Re)constructions will also involve installation of the track elements for the traffic speeds of up to 160 km/h, installation of ICT system, permissible axle load 225kN, permissible load per linear meter of 80 kN/m (Class D4), and installation of 60E1 (UIC 60) rails on the whole railway line, with modernization of the system for the security of property and video monitoring. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | |
| Max axle load** | |
| Max operating speed ** | |
| Maximum train length** | 0 |
| Full deployment of ERTMS ** | |
| Track gauge** | |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 0 |
| No of tracks** | |
| Condition** | |
| Maximum Designed Speed** | |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | The project is expected to bring capacity enhancements of the Corridor X railway line Belgrade-Nis and transport services quality improvement on the Core Corridor network (and thus in the entire region of South East Europe, contributing to a substantial increase in volumes of overall passenger and goods transport). Key expected benefits include: reduction of travel times, increased capacities on the corridor, reduction of the infrastructure costs and the rolling stock maintenance costs, reducing risks of total railway line closure due to geological incidents (critical section Klenje-Sopot Kosmajski), better use of the rolling stock (including avoiding need for freight train pushers), and savings concerning environmental protection, accidents, and congestions as compared to the competitive road transport. |
| Climate change mitigation and adaptation aspects | Positive impact on climate change mitigation expected. |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 12/2004 | 06/2015 |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | C | 01/2014 | 05/2017 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |

| | |
|---|---|
| Further project preparation considerations | General Design and Pre-Feasibility Study for Reconstruction and Modernization of the railway line Belgrade–Nis was approved by the State Revision Committee (appointed by MCTI) in July 2015. However, as the Phase I of this project implementation relates to reconstruction of the existing single-tracks with construction of a new tracks to double-track railway on Resnik-Klenje and Mala Ivanca-Mali Pozarevac sections plus construction of 8km long new double-track electrified section Klenje-Mala Ivanca (26.4km in total, investment approx. €196 million), technical documentation (Preliminary Design, Feasibility Study and EIA/ESIA) for these double-track sections is within the next step of project preparation. Phase II includes construction of additional track to double-track line Mali Pozarevac-Mala Krsna-Velika Plana (58km, approx. investment value €144 million). The Spatial Plan for the railway infrastructure corridor is being updated (amendments and corrections of the plan) together with the Strategic EIA and this preparation is ongoing since 3Q 2019. Government signed MoU with Chinese CRBC for project preparation activities including feasibility (options) and assessment of the BoQ. |
| Risks identified | The Government has limited borrowing capability and may give priority to other projects, while international aid funding may not be meeting needs. |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 340,000,000 |
| Total investment | | 352,000,000 |
| Investment financing considerations | Sources of financing not yet fully determined (though MoU signed with Chinese CRBC may imply potential source of financing and the contractor). It is however noted that components of the overall project may be/have been implemented separately, within existing network rehabilitation programmes (see under Further project preparation considerations) and further (phased) upgrades (such as construction of the new double track section and/or construction of in-parallel new track to the existing single ones). Reconstruction works of the existing single-track section Mala Krsna-Velika Plana (29.5km) are completed in 2016, with electro-technical infrastructure reconstruction to follow (tendered in 2018 and contracted 29/11/2018, part of the EBRD 5 loan financing proceeds - €3.48 million in total for different sections/lines). Following signature od the construction (commercial) contract in 28/12/2018, 15/05/2019 rehabilitation works on the existing sections Jajinci-Mala Krsna are started (59km of main tracks to speed up to 120 km/h and additional 10 km of other tracks and facilities, station, stops, tunnels and bridges, rail crossings, 15 months duration with complete traffic closure/rerouting, financing with €39.25 million EBRD loan - Railway Rehabilitation EBRD 5). This therefore covers those components of reconstructing the existing single-tracks Mala Ivanca-Mali Pozarevac-Mala Krsna-Velika Plana. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor: Serbia - North Macedonia CX Rail Interconnection, Modernisation of the Nis-Presevo railway line, Section Nis-Brestovac*

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor: Serbia - North Macedonia CX Rail Interconnection, Modernisation of the Nis-Presevo railway line, Section Nis-Brestovac |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Trupale |
| To | Brestovac |
| Gap rationale | Co-financing approved; Upgrade of the existing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.11 |
| SEETO Code | Corridor X |
| European Route Code | E-85 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU Text with EEA relevance. Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway section is identified as part of the Orient/East-Med Corridor (Corridor X). Also, as per the conclusions of the SERG (South Eastern Europe Railway Group) of the UIC, all lines within Corridor X represent a major priority for development of the whole region. |
| | |

| | |
|---|---|
| Strategic relevance | According to European AGC Agreement, the railway line Nis – Presevo is the north-south principal railway line E-85. It has the largest volume of transport operation on the railway lines of JSC "Serbian Railways". However, nevertheless the track was constructed with the parameters for the permissible speed of up to 120 km/h, owing to a poor condition of the track, the speed has been restricted along certain parts. The project is identified in: Spatial Plan of the Republic of Serbia from 2010 to 2020; Strategy for railway, road, inland waterway, air and intermodal transport development in the Republic of Serbia; General Master Plan for Transport in the Republic of Serbia; Country Action Programme for Serbia IPA 2015; Program of Economic Reforms 2016-2018. It is also identified in the SEETO‘s Five Year MAP 2016 as one of the priority projects - Projects for preparation. The Project is included in the country‘s SPP. |
| General description | The project entails the reconstruction of the existing single-track electrified railway line (23 km, app. 34 km including tracks in stations and two track sections). Reconstruction and modernization of this section implies reconstruction and modernization of the substructure and superstructure of railway line Niš – Brestovac for speeds up to 120 km/h, some of station tracks and platforms, as well as road crossings, reconstruction and modernization of the catenary (contact line) and electric power supply, reconstruction and modernization of signaling and interlocking and telecommunication installations as well as bridges and culverts, water protection and drainage of tracks and stations. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 100-120 |
| Maximum train length** | 700 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 23 |
| No of tracks** | Single |
| Condition** | Very Good |
| Maximum Designed Speed** | 120 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | With this reconstruction, the conditions for better implementation of new intermodal technologies will be created, as well as the conditions for an easier shift to different modes of transport. This project will increase railway capacity, safety and reliability, as well as transport service quality while improvement of railway transport performances will facilitate travel time reductions. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | Positive impact on climate change mitigation expected (CO2 emission reduction) as electrified railways are much less pollutive than road transport. Indirect impact in Serbian practice is related to electricity generation in fossil-fuel power plants and emission of CO2. Although high speed railway has a higher energy consumption than conventional, these are however much more efficient in energy use per passenger-km or t-km. |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 11/2009 | 07/2010 |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | 05/2019 |
| Valid spatial planning documents | C | 01/2011 | 11/2014 |
| Land property resolved | --- | | |
| Main design / detailed design | NS | | |
| Tender documentation | C | 10/2018 | 07/2019 |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |

| | |
|---|---|
| Further project preparation considerations | Pre-feasibility stage with technical options completed with support of the WBIF grant (TA-SER-15, €500k). Spatial plan was prepared in 2002 and updated in 2014. Feasibility study, Preliminary Design and EIA for Reconstruction and Modernization of the section Nis–Brestovac of the single-track railway line Nis–Presevo–state border, from the exit from the station Nis at km 244+600 to the entry to the station Brestovac at km 267+430 (23 km) are financed out of the proceeds of IPA 2008 Component III (PPF4), and completed in June 2013. This preliminary design (renewed Location Conditions) was revised by the State Revision Committee in Q1 2016. Location Conditions issued 07/12/2017 were outdated and these were to be renewed (which prerequisite for formal endorsement of the FS and PD). EU PPF8 prepared the tender documentation (Design-Build) in July 2019 (public procurement process in accordance with EU PRAG and/or IFI requirements, FIDIC Yellow Book regulations; draft financing application for the works on Niš – Brestovac railway section). Tender for SofW published 31/07/2019 and works tender published 22/08/2019. |
| Risks identified | EIA study was updated on basis of Preliminary Design. Once tendered, Elaboration of Design for Construction Permit may require amendments or revision of the EIA (ESIA). To be mitigated during design finalisation. |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 150,000 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 62,700,000 |
| Total investment | | 0 |
| Investment financing considerations | IPA funds are allocated to support the reconstruction of the section Nis – Brestovac of 23km in length, for which the preparation of technical documentation was funded by PPF4 (and tender docs by PPF8). Total secured funds provided are €62.7 million (of which national participation in co-financing is €15.7 million and EU funds - IPA 2015 for works and supervision €46.9 million, Financing Agreement signed Dec 2016). | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (CX), Modernization and Reconstruction of the Railway Line Velika Plana - Stalac and Djunis-Trupale*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Modernization and Reconstruction of the Railway Line Velika Plana - Stalac and Djunis-Trupale |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Velika Plana |
| To | Stalac |
| Gap rationale | Upgrade of the existing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.12 |
| SEETO Code | Corridor X |
| European Route Code | E-70 / E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway project is identified as part of the Orient/East-Med Corridor (Corridor X). Also, as per the conclusions of the SERG (South Eastern Europe Railway Group) of the UIC, all lines within Corridor X represent a major priority for development of the whole region. |
| Strategic relevance | Section of the railway Velika Plana - Stalać is located on the Belgrade-Nis line, which AGC Agreement (1985, ratified in 1989) and AGTC Agreement (1991) listed among key international lines. Also, the conclusions of the UIC South East Group (2001) and the South East European countries Agreement (2006) marked rail Corridor X as priority route of South East Europe. Reconstruction, construction and modernization of the existing Corridor X railway lines (E-70 and E-85) through Serbia have been planned with the aim of obtaining high-performance, electrified, double track railway lines for mixed traffic (passenger and freight) and combined transport, in accordance with the needs and the ratified European Agreements (AGC, AGTC, SEECP) and the Trans-European Railway Network Interoperability Standards (TSI). The Project is included in the country‘s SPP. |

| | |
|---|---|
| General description | Railway Velika Plana – Niš (Trupale) is part of the 244 km long Belgrade – Niš railway line that was built as a single-track railway and commissioned in 1884. It is an integral part of the European railway network (Corridor X) and is of highest importance for domestic and international traffic in Serbia. The railway line is electrified. The second track was gradually added on this railway line, while currently only Stalać-Đunis section is a single-track. The sections of the railway that are subject of this project are the following double-track sections: Velika Plana – Gilje (49km length), Paraćin – Stalać (22km length) and Đunis – Trupale (40km length). The Project includes reconstruction and modernization of the double-track railway line for the traffic speeds of up to 160 km/h and permissible axle load of 225 KN, as well as permissible load per linear metre of 80 KN/m (D4 Class), together with installation of the rails type UIC 60, reconstruction, rehabilitation and replacement of the bridges and culverts, provision of the UIC-C gauge, securing of the level crossings, revitalization of the existing signalling and interlocking devices and of the contact line, digitalization of the telecommunications along the whole railway line, and modernization of the system for the security of property and video monitoring. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 120-160 |
| Maximum train length** | 700 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 111 |
| No of tracks** | Double |
| Condition** | Very Good |
| Maximum Designed Speed** | 160 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The reconstruction and upgrade of the existing railway line will result in substantial enhancement of its capacity and reliability of structural and electrotechnical infrastructure. |
| Climate change mitigation and adaptation aspects | Positive impact on climate change mitigation expected (CO2 emission reduction) as electrified railways are much less pollutive than road transport. Indirect impact in Serbian practice is related to electricity generation in fossil-fuel power plants and emission of CO2. Although high speed railway has a higher energy consumption than conventional, these are however much more efficient in energy use per passenger-km or t-km. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 12/2004 | 06/2015 |
| Feasibility study (incl. CBA) | WiP | | |
| Preliminary Design | WiP | | |
| Environmental and Social Impact Assessment | WiP | | |
| Valid spatial planning documents | WiP | 07/2019 | |
| Land property resolved | WiP | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | General Design and Pre-Feasibility Study of Reconstruction and Modernization of the Railway Line Belgrade–Nis was approved by the State Review Committee in July 2015. Preparation has since completed for Gilje-Cuprija-Paracin sections that are 100% implemented (total value €45,6 million, consisting of: construction of the Bridge over Velika Morava with the investment value of €10.5 million, and construction of the new section of double track railway of the total length of 10.2 km with investment value of €34,5 million; The bridge was built in 2015 and the railway section was completed in January 2017). Some technical documentation - Main Designs existing (though these still needs updating as per valid legislation, at minimum) for rehabilitation of sections Lapovo-Bargdan-Jagodina and for one track on section Paracin-Cicevac-Stalac (33.7km). On 05/06/2019 Ministry of Construction, Transport and infrastructure signed with the EU Delegation MoU for preparation of documentation for rail sections from Velika Plana to Nis (funding through EU IPA PPF8). In accordance with European Technical Specification for Interoperability (TSI), AGC, AGTC and the SEECP Agreement, the PPF8 consultant shall develop the following project documentation: FS, PD and Schematic Design, ESIA and the tender dossier. The (updated) Spatial Plan for the railway infrastructure corridor (amendments and corrections of the plan) with the Strategic EIA is under preparation since 3Q 2019. It is planned to apply for TA GAF WBIF for preparation of DD and TD. | | |
| Risks identified | Potential issues with expropriation on the sections from Velika Plana to Gilje. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 102,410 |
| Land property | No | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 550,000,000 |
| Investment financing considerations | It is foreseen that international construction tenders will be launched as per Yellow FIDIC conditions. On 09/07/2018 MCTI signed Memorandum of Cooperation with China Road and Bridge Corporation (CRBC) that including these sections. However, these sections were not later included in the commercial contracts as beneficiary intends to apply for EU grant financing (for total co-financing amount up to €280m) for preparation plus implementation and to secure IFI loan(s). Therefore, although structure and sources of financing for the Project not yet formaly confirmed, it is understood that Beneficiary intends to negotiate loan financing blended with (several) WBIF INV grants. As additional info, on the subsection Gilje-Cuprija-Paracin, construction works are completed in 2016 (incl. the construction of the Velika Morava Bridge and the lacking parts of the left-hand track such as construction of a second track on the existing single-track part in the length of 2 km, along the section Gilje – Cuprija; total investments for these works EUR 39.363 million, financed with proceeds of the EIB loan IV ratified in 2007, Railway Reconstruction II, Component II in value of €45.6 million). | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (CXb), Reconstruction and modernisation of the railway line Novi Sad - Subotica - border with Hungary (Kelebija)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CXb), Reconstruction and modernisation of the railway line Novi Sad - Subotica - border with Hungary (Kelebija) |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Novi Sad |
| To | Hungarian Border |
| Gap rationale | Existing link does not meet all TEN-T criteria |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.16 |
| SEETO Code | Corridor Xb |
| European Route Code | E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway project is identified as part of the Orient/East-Med Corridor (Corridor X). Also, as per the conclusions of the SERG (South Eastern Europe Railway Group) of the UIC, all lines within Corridor X represent a major priority for development of the whole region. |
| Strategic relevance | This railway has a great national and international significance for both passenger and freight transport. In international transport routes, it is the shortest and the most reasonable rail connection from Belgrade and Serbia to Budapest and Vienna, and from there to other parts of Central, Western and Eastern Europe. Moreover, it is the best EUs transit connection with Greece and Middle East. According to European AGC Agreement, the railway line Novi Sad-Subotica is the north-south principal railway line E-85. The project is identified in: Spatial Plan of the Republic of Serbia from 2010 to 2020; Strategy for railway, road, inland waterway, air and intermodal transport development in the Republic of Serbia; General Master Plan for Transport in the Republic of Serbia. It is also identified in the SEETO‘s Five Year MAP 2016 as one of the priority projects - Projects for preparation. The Project is included in the country‘s SPP. |

| | |
|---|---|
| General description | Section Novi Sad-Subotica-border with Hungary, in its present state, is single-track line, electrified and designed for speeds up to 120 km/h. However, owing to poor condition of the track in certain parts, the speed has been substantially reduced. The Project includes reconstruction/upgrade of the alignment and modernization of the existing line over the length of around 108.1 km with construction of double-track, upgrading of track elements for the traffic speeds of up to 200 km/h and permissible axle load of 225 KN, as well as permissible load per linear metre of 80 KN/m (D4 Class), together with installation of the rails type UIC 60. The Project also includes reconstruction, rehabilitation and/or replacement of the bridges and culverts, with provision of the UIC-C gauge, as well as reconstruction of the tracks and structures in the stations and modernisation/upgrade of the existing signalling and interlocking devices and the contact line. Reconstruction of 9 railway stations is foreseen (Novi sad, Sajlovo, Kisac, Stepanovicevo, Zmajevo, Backa Topola, Zednik, Naumovicevo and Subotica), and construction of 3 new stations with station facilities (Rumenka, Vrbas and Lovcenac). Viaduct in length of 1.6km to be constructed in Vrbas, as well. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 160-200 |
| Maximum train length** | 700 |
| Full deployment of ERTMS ** | Yes-2 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 108 |
| No of tracks** | Double |
| Condition** | Very Good |
| Maximum Designed Speed** | 200 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Through possible shifting of the transport flow from road to rail, reduction of the traffic congestion on the road corridor will be achieved. In addition, introduction of new technologies for traffic management, as well as through increase of commercial running speeds, operating expenses will be reduced. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | Positive impact on climate change mitigation expected (CO2 emission reduction) as electrified railways are much less pollutive than road transport. Indirect impact in Serbian practice is related to electricity generation in fossil-fuel power plants and emission of CO2. Although high speed railway has a higher energy consumption than conventional, these are however much more efficient in energy use per passenger-km or t-km. |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 07/2004 | 07/2009 |
| Feasibility study (incl. CBA) | WiP | 06/2013 | |
| Preliminary Design | WiP | 06/2013 | |
| Environmental and Social Impact Assessment | WiP | 01/2013 | |
| Valid spatial planning documents | WiP | 05/2018 | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | 03/2020 | |
| Further project preparation considerations | For the Novi Sad-Subotica (Hungarian border), development of the Preliminary Design, along with the Feasibility Study and the Environmental Impact Assessment (EIA) study funded through IPA 2011 (completed end 2016, for design speeds up to 160 km/h). The preliminary design has been submitted for approval to the Republic Revision Committee delegated by the Ministry of Construction, Transport and Infrastructure (recomendation made tomodify these technical documentation to allow design speeds up to 200 km/h). Following threelateral negotiations (the Memorandum Serbia-Hungary-China) for modernisation of the railway line from Belgrade to Budapest (approx. 184 km in Serbia), process of unification and harmonisation of technical documentation is ongoing (pre-feasibility study prepared by Chinese TDSI adopted in July 2015), steered by threelateral Work Group established Sept 2015. The drafting of the updated documentation (preliminary design with feasibility study) is ongoing since October 2018 (previously the PD and FS were related to design speeds up to 160 km/h) pending to be sumbitted to formal state revision (SRC). Spatial plan (adopted 05/04/2017) being corrected and amended since end 2017 (ongoing in 2019). Commercial contract with Chinese contractors and Financing Agreement with Exim bank includes finalisation of technical documentation (Detail Designs), supplying, delivery and construction. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 4,950,000 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 75,293 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 943,000,000 |
| Total investment | | 948,025,293 |
| Investment financing considerations | Agreement on Economic and Technical Cooperation in the Area of Infrastructure between the Gov. of the RS and the Gov. of the PRC signed in Aug 2009. Modernisation of the entire line from Belgrade to Budapest (double track for speeds up to 200 km/h) has been part of a threelateral negotiations (Memorandum of Understanding on Cooperation of the Hungarian-Serbian Railway Project between the NDRC of the PR China, the Hungarian Ministry of Foreign Affairs and Trade and the MoCTI of the Republic of Serbia) on further project development and investments. In line with this, Serbian Government signed non-binding General Agreement in Nov 2015 with Chinese Exim bank for financing sections Novi Sad-Hungarian border and Belgrade-Stara Pazova. Commercial contract for construction of the Novi Sad-Subotica-Border with Hungary sections was later signed in 07/07/2018 ($ 1.162bn = € 943 million) with Chinese contractors (construction to start end 2019, duration 33 months). Financing Agreement with Chinese Exim bank is signed 25/04/2019 (€ 988.39 million, and including preparation of all remaining documentation). | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor: Serbia - North Macedonia CX Rail Interconnection, Modernisation of the Nis-Presevo railway line, Sections from Brestovac to Presevo (Border with North Macedonia)*

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor: Serbia - North Macedonia CX Rail Interconnection, Modernisation of the Nis-Presevo railway line, Sections from Brestovac to Presevo (Border with North Macedonia) |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Brestovac |
| To | Presevo (border with North Macedonia) |
| Gap rationale | Upgrade of the existing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.17 |
| SEETO Code | Corridor X |
| European Route Code | E-85 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU Text with EEA relevance. Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway section is identified as part of the Orient/East-Med Corridor (Corridor X). Also, as per the conclusions of the SERG (South Eastern Europe Railway Group) of the UIC, all lines within Corridor X represent a major priority for development of the whole region. |
| | |

| | |
|---|---|
| Strategic relevance | According to European AGC Agreement, the railway line Nis – Presevo is the north-south principal railway line E-85. It has the largest volume of transport operation on the railway lines of JSC "Serbian Railways". However, nevertheless the track was constructed with the parameters for the permissible speed of up to 120 km/h, owing to a poor condition of the track, the speed has been restricted along certain parts. The project is identified in: Spatial Plan of the Republic of Serbia from 2010 to 2020; Strategy for railway, road, inland waterway, air and intermodal transport development in the Republic of Serbia; General Master Plan for Transport in the Republic of Serbia; Country Action Programme for Serbia IPA 2015; Program of Economic Reforms 2016-2018, National Programme for Public Railway Infrastructure 2017-2021. It is also identified in the SEETO‘s Five Year MAP 2016 as one of the priority projects - Projects for preparation. The Project is included in the country‘s SPP. |
| General description | The section of the railway line Nis–Presevo is a 151 km long (166.6 if measured from Trupale station) part of European Corridor X. The line is electrified using the single-phase 25 kV, 50 Hz system. The last capital overhaul of certain parts of the railway line was performed more than 20 years ago, whereas the major part of the line was overhauled more than 30 years ago (except three subsections that have been overhauled just recently). Hence, the Project includes reconstruction and modernization of the track, with upgrading of the track elements to traffic speeds up to 120 km/h, permissible axle load of 225kN and permissible load per linear metre of 80 kN/m (Class D4); installation of the rails type UIC 60, reconstruction, rehabilitation and replacement of the bridges and culverts, reconstruction and rehabilitation of the tunnels, provision of the UIC-GC gauge, securing of level crossings, revitalization of the existing signalling and interlocking devices and of the contact line, as well as digitalization of the telecommunications. The key structures along the line are three tunnels (less than 500m long) and 14 bridges with the spans larger than 30 m. Along these sections of the railway line, the stations are not equipped and do not offer sufficient comfort and safety to the passengers. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 100-120 |
| Maximum train length** | 700 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Length** | 128 |
| No of tracks** | Single |
| Condition** | Very Good |
| Maximum Designed Speed** | 120 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | With this reconstruction, the conditions for better implementation of new intermodal technologies will be created, as well as the conditions for an easier shift to different modes of transport. This project will increase railway capacity, safety and reliability, as well as transport service quality while improvement of railway transport performances will facilitate travel time reductions. |
| Climate change mitigation and adaptation aspects | Positive impact on climate change mitigation expected (CO2 emission reduction) as electrified railways are much less pollutive than road transport. Indirect impact in Serbian practice is related to electricity generation in fossil-fuel power plants and emission of CO2. Although high speed railway has a higher energy consumption than conventional, these are however much more efficient in energy use per passenger-km or t-km. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 11/2009 | 07/2010 |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | C | 01/2011 | 11/2014 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Pre-feasibility study with technical options prepared with support of the WBIF grant (TA-SER-15, €500k). bility study with technical options prepared with support of the WBIF grant (TA-SER-15, €500k). Spatial plan was prepared in 2002 and updated in 2014. Preparation of the Preliminary Design with the Feasibility Study and the study of Environmental Impact Assessment for the rest of railway line between Brestovac and Presevo will be supported through WBIF (WB19-SRB-TRA-03), expected to start in early 2020. It is envisaged that the Spatial Plan to be updated/amended, if needed, following completion of the Preliminary Designs. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 350,000 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 3,250,000 |
| Environmental and Social Impact Assessment | No | 150,000 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | No | 100,000 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 160,000,000 |
| Total investment | | 182,250,000 |
| Investment financing considerations | Loan financing is envisaged (EIB, indicatively €90.5 million) together with grant financing (indicatively €73.075 million). National contribution in above scenario would be €14.675 million. Three most critical sections (Bujanovac-Bukarevac - 13.8km, Vinarce-Djordjevo - 15km and Vranjska Banja-Ristovac - 17.7km) are rehabilitated through 2016 and 2017 with proceeds of the Russian loan (Annex 2.2, in total value of $38.2 million). | |

| TAB 8 - OTHER ASPECTS | Inputs |
| --- | --- |
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (Rail R10), Reconstruction and Modernization of the railway line Kraljevo - Rudnica*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (Rail R10), Reconstruction and Modernization of the railway line Kraljevo - Rudnica |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Kraljevo |
| To | Rudnica |
| Gap rationale | Existing link does not meet all TEN-T criteria |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.19 |
| SEETO Code | Route 10 |
| European Route Code | E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway project is identified as part of the Orient/East-Med Corridor. |
| Strategic relevance | The railway sections Stalac-Kraljevo-Rudnica on routes R11 and R10 links the Corridor X in Serbia to Skopje in North Macedonia across the Northern part of Kosovo* and Pristina. The line Stalac-Kraljevo-Rudnica is in the Core Network extension of the EU TEN Transport. The project is in line with / included in: Spatial Plan or Republic of Serbia 2020 year (section from Stalac to Kraljevo); Strategy for development of rail, road, inland waterway, air and intermodal transport in the Republic of Serbia from 2008 to 2015, and the Programme for the Strategy Implementation; National sustainable development strategy for the Republic of Serbia from 2008 to 2017; Strategy for Railway Institutional and Infrastructure Development in Serbia 2012-2021 and the Action Plan, National Programme of Public Railway Infrastructure for period 2017-2021. These railway sections are included in the country‘s SPP. |

| | |
|---|---|
| General description | Railway line Kraljevo-Rudnica is a single-track non-electrified railway line. Due to the poor condition of the line, the maximum allowed speed for the trains is 50 km/h on this regional rail line of category C3 (the allowed axle load being nominally 200 kN, and the allowed load per meter of length is 72 kN/m) from Kraljevo to Rudnica (SEETO Route 10). Alternatives to improve the railway line will be studied. Reconstruction of the railway line consists of overhaul, with the increase of the allowed axle load to 225 kN, and weight per metre of length to 80 kN/m, and upgrading of the alignment elements for the traffic speed of up to 80. The line is to be electrified with the 25 kV,50 Hz system, construction of the fixed electric traction facilities, equipping of the line and station tracks with modern signalling-safety and telecommunication devices, upgrading of the level-crossings safety level, providing of the UIC-C free profile for electrified lines, and enabling usage of all intermodal transport technologies without limitations. Regulation of the architectural objects along the line is also foreseen, primarily of the stations and belonging objects. Presently, the line is not in line with the AGC/AGTC standards. Once modernization completed, the railway line is to be compliant with these standards. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | <80 |
| Maximum train length** | 740 |
| Full deployment of ERTMS ** | --- |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 77 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | <80 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Expected benefits would be: Establishing of the regular speeds; increasing of reliability and regularity of the traffic, as well as safety. |
| Climate change mitigation and adaptation aspects | The project is to contribute to reduction of the environmental pollution, having in mind that the railway line will be modernized and electrified according to the contemporary standards resulting in CO2 reduction, noise emission reduction etc. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 06/2017 | |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | As pre-feasibility study with Conceptual Design is to be finalised within the WB14-SER-TRA-01 TA (including assessment of investment options), next stage would be directed to preparation of Feasibility Study with Preliminary Design. It should be noted however, that under rehabilitation programme for railway structures on the network (tunnels in particular), on 30/05/2019 Beneficiary has completed full reconstruction of four railway tunnels (Bela Glava, Polumir, Bojanic and Dzelep) between Kraljevo and Raska stations, in total lenght of 4.3km. | | |
| Risks identified | Lack of financial resources for further project preparation. Delays due to political uncertainties (limitations to free trade with Kosovo*). | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 700,000 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 120,354,000 |
| Total investment | | 0 |
| Investment financing considerations | Following design activities supported through WBIF TA, investment value for preffered modernisation/upgrade scenario that include electrification yet to be assessed (incl. interoperability criteria). Accordingly, financing options yet to be considered. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (Rail R11), Reconstruction and Modernization of the railway line Stalac – Kraljevo*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (Rail R11), Reconstruction and Modernization of the railway line Stalac – Kraljevo |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Stalac |
| To | Kraljevo |
| Gap rationale | Existing link does not meet all TEN-T criteria |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.21 |
| SEETO Code | Route 11 |
| European Route Code | E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway project is identified as part of the Orient/East-Med Corridor. |
| Strategic relevance | The railway sections Stalac-Kraljevo-Rudnica on routes R11 and R10 links the Corridor X in Serbia to Skopje in North Macedonia across the Northern part of Kosovo* and Pristina. The line Stalac-Kraljevo-Rudnica is in the Core Network extension of the EU TEN Transport. The project is in line with / included in: Spatial Plan or Republic of Serbia 2020 year (section from Stalac to Kraljevo); Strategy for development of rail, road, inland waterway, air and intermodal transport in the Republic of Serbia from 2008 to 2015, and the Programme for the Strategy Implementation; National sustainable development strategy for the Republic of Serbia from 2008 to 2017; Strategy for Railway Institutional and Infrastructure Development in Serbia 2012-2021 and the Action Plan, National Programme of Public Railway Infrastructure for period 2017-2021. These railway sections are included in the country‘s SPP. |

| | |
|---|---|
| General description | Railway line Stalac-Kraljevo is a single-track non-electrified railway line. Due to the poor condition of the line, the maximum allowed speed for the trains is 40 km/h, on the 72 km long main section from Stalac to Kraljevo (SEETO Route 11). The Route 11 section (Stalac-Kraljevo) is of category C3 from Stalac to Krusevac and B2 on segment from Krusevac to Kraljevo (B2 - the allowed axle load being nominally 180 kN, and the allowed load per meter of length is 64 kN/m). Alternatives to improve the railway line will be studied. Reconstruction of the railway section should include the increase of the allowed axle load to 225 kN, and weight per metre of length to 80 kN/m, and upgrading of the alignment elements for the traffic speed of up to 100-120 km/h. The line is to be electrified with the 25 kV,50 Hz system, construction of the fixed electric traction facilities, equipping of the line and station tracks with modern signalling-safety and telecommunication devices, upgrading of the crossings safety level, providing of the UIC-C free profile for electrified lines, and enabling usage of all intermodal transport technologies without limitations. Regulation of the architectural objects along the line is also foreseen, primarily of the stations and belonging objects. Presently, the railway line Stalac-Kraljevo is not in line with the AGC/AGTC standards. Once modernization completed, railway section is to be compliant with these standards. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 100-120 |
| Maximum train length** | 740 |
| Full deployment of ERTMS ** | --- |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 72 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 120 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Expected benefits would be: Establishing of the regular speeds; increasing of reliability and regularity of the traffic, as well as safety. |
| Climate change mitigation and adaptation aspects | The project is to contribute to reduction of the environmental pollution, having in mind that the railway line will be modernized and electrified according to the contemporary standards resulting in CO2 reduction, noise emission reduction etc. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | 06/2017 | |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Design for rehabilitation of this section was prepared back in 1985 and thus needs updating to current standards and legislative form. As pre-feasibility study with Conceptual Design is to be finalised within the WB14-SER-TRA-01 TA (including assessment of investment options), next stage would be directed to preparation of Feasibility Study with Preliminary Design. It should be noted however, that under rehabilitation programme for railway structures on the network, work on this section was planned in three stages. Stage one was partialy completed in Sept 2007 for subsection Stalac-Krusevac (value of works €4.5 m), however speeds (freight traffic) on the subsection remained low (up to 30 km/h). It was opened for passenger traffic only in Jan 2014 (was closed for passenger traffic since 01/11/2005) when the stage one completed (speeds up to 50 km/h, still with easy rides on some parts). | | |
| Risks identified | Lack of financial resources for further project preparation. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 700,000 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 143,548,840 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | Under previously considered reconstruction scenario, total estimated value for rehabilitation works on this section would be approx. €55 million if using "recycled" track material or up to €75 million in case new material would be used. Still, following design activities supported through WBIF TA, investment value for preffered modernisation/upgrade scenario that include electrification yet to be assessed (incl. interoperability criteria). Accordingly, financing options yet to be considered. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (Rail R4), Rehabilitation of the railway line Resnik-Vrbnica, sections Valjevo-Vrbnica to meet with the TEN-T standards*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (Rail R4), Rehabilitation of the railway line Resnik-Vrbnica, sections Valjevo-Vrbnica to meet with the TEN-T standards |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Valjevo |
| To | Vrbnica |
| Gap rationale | Existing link does not meet all TEN-T criteria |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.26 |
| SEETO Code | Route 4 |
| European Route Code | E-79 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Traction** | --- |
| Max axle load** | |
| Max operating speed ** | --- |
| Maximum train length** | 0 |
| Full deployment of ERTMS ** | --- |
| Track gauge** | --- |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Length** | 202 |
| No of tracks** | --- |
| Condition** | --- |
| Maximum Designed Speed** | --- |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Considerably reducing travel times for passengers and forwarders alike. |
| Climate change mitigation and adaptation aspects | |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | WiP | | |
| Preliminary Design | WiP | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | For completion of project preparation (technical documentation) of the Valjevo-Vrbnica sections (approx 210km), Infrastructure of Railways for Serbia signed commercial contract with RZD International (the component is worth €10.7 million) on 17/01/2019. Though spatial planning documentation for the infrastructure corridor is adopted (20/04/2006 for Belgrade-Pozega area) or ongoing (in 2018 and 2019 for Pozega-Boljare area) it is sufficiently detailed only for the E-763 motorway infrastructure and so requiring updating once technical documentation (preliminary designs) for the railway line is prepared. | | |
| Risks identified | Potential delays in current project preparation plans (more realistic duration of technical and spatial documents preparation may take more than one year). | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 0 |
| Total investment | | 450,000,000 |

| | |
|---|---|
| Investment financing considerations | Technical documentation for the construction works is under preparation, and so funds for preparation of the documentation and investment construction works are secured. Current understanding is that the loan financing will be provided through Russian Railways. The Agreemen for the constructin works is signed in October 2019. On the Resnik-Valjevo sections (77.6km), the rehabilitation works worth $72.1 million, with Russian loan financing - Annex 4.1) were completed in July 2017 (Resnik-Vreoci, 35km) and November 2017 (Vreoci-Valjevo). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor: Serbia – Bulgaria CXc Rail Interconnection (Modernization of the single-track railway line Nis – Dimitrovgrad – Bulgarian border, Section Sicevo – Stanicenje – Dimitrovgrad)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor: Serbia – Bulgaria CXc Rail Interconnection (Modernization of the single-track railway line Nis – Dimitrovgrad – Bulgarian border, Section Sicevo – Stanicenje – Dimitrovgrad) |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Sicevo |
| To | Dimitrovgrad (border with Bulgaria) |
| Gap rationale | Co-financing approved; Upgrade of the existing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.28 |
| SEETO Code | Corridor Xc |
| European Route Code | E70 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway project is pre-identified among other sections on the Core Network to be included in the TEN-T extension to Western Balkans. |
| Strategic relevance | The project addresses the requirements for compliance with the relevant EU transport Acquis for the rail sector. This section currently being the only part of the Pan-European Corridor X that is not electrified and not equipped with modern types of signalling and telecommunication devices. The project is included in the General Master Plan for Transport in Serbia (GMTP) 2009-2027 (priority No RLC17). The project is also in line with the IPA Country Strategy Paper for Serbia (2014 – 2020). It is included in the country‘s SPP and National Programme for Public Railway Infrastructure for period 2017-2021. |

| | |
|---|---|
| General description | From 2003 to 2005, some parts of the Nis-Dimitrovgrad line were rehabilited. The rehabilitation and reconstruction of 6 tunnels and 20 bridges was performed on the part of the line Ćele Kula – Staničenje (financing with EIB loan). The current project consists of two rail section of which Sicevo-Stanicenje is 48 km long while Stanicenje-Dimitrovgrad is 32 km long, and will have two implementation phases. In the phase 1 (stages 1-3) track re-construction works and preparatory works for electrification and equiping with signaling and telecommunication devices are to be performed. The phase 2 (stage 4) include installation of the electrification, signalling and telecommunication equipment and commisioning. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 100-120 |
| Maximum train length** | 0 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 97 |
| No of tracks** | Single |
| Condition** | Very Good |
| Maximum Designed Speed** | 120 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Main benefits include: Upgrading of service quality of transport system - reduction in journey times and increase of throughput and transport capacity; Increase of traffic safety and security of transport system; Decrease of negative impact of transport on the environment |
| Climate change mitigation and adaptation aspects | The railway line electrification will significantly reduce pollution of the environment and contribute to the fight against climate change, including reduction in noise levels (owing to the changes of the traction mode). No residual negative impacts due to land take as modernisation of the section Sićevo –Dimitrovgrad will be implemented within the existing right of way with no substantial change to the railway alignment (apart from the extension of some tracks at the stations). |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | WiP | 06/2017 | |
| Preliminary Design | WiP | 06/2017 | |
| Environmental and Social Impact Assessment | WiP | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | WiP | | |
| Main design / detailed design | WiP | | |
| Tender documentation | WiP | 04/2017 | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Pre-Feasibility Study was drawn up with General Design (2008), showing data for the whole ralway line Nis-Dimitrovgrad but the study was not in accordance with EC 2014 guidelines for CBA. All activities related to the harmonization of the previous technical documentation with the Amended Law on Planning and Construction, including the preliminary designs prepared (in 2008 for section Sicevo-Stanicenje and in 2010 for section Stanicenje-Dimitrovgrad), were to be done prior to the WBIF SC meeting scheduled for December 2016. Hence, update of the feasibiity study/CBA (as per the EC guidelines) related to implementation of the construction works and preparatory works for the electrification of the line had to be prepared by mid 2017 (howewer, final formal revision of the documentation pending in 3Q 2019). In order to perform the works related to the construction of fixed installations of the electric traction system (electrification of the railway line) and installation of signalling and telecommunication devices from Nis to Dimitrovgrad (Stage 4A in Section 16), it was necessary to prepare the Special Purpose Spatial Plan for the Infrastructure Corridor of the railway line (in Q1 2017). The Location Conditions for suprastructure and electrification are issued 20/08/2019. The Design for Construction Permit for electrification works, signalling and TT system will be prepared with support of WBIF (the TA grant approved WB16-SRB-TRA-01, in amount of €1.2 million). | | |
| Risks identified | Of the potebntial risks, main are listed herein: Potential rejection of the investment grant application (WBIF co-financing programme 2017); delays in preparation of the spatial plan for the infrastructure corridor leading to delays in obtaining other formal prerequisites; lack of financial and administrative resources for adjustments of the existing technical documentation. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 80,000 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 1,200,000 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 139,380,000 |
| Total investment | | 144,490,000 |
| Investment financing considerations | EIB is leadi IFI creditor (Finance Contract signed 31/01/2018, total value €134 million for track overhauling works and supplies, electrification, signaling, etc.). Serbia was approved an EU investment grant through WBIF co-financing programme 2016 for amount of €43.64 million (to cover 50% of the track overhauling works and supplies, communication/visibility, audit and contingencies and 100% of the remaining TA). Another INV grant was approved through WBIF co-financing programme 2017 (€27.777 million for track electrification works, signalling and TT system). In total it adds up to €73 million EU donation. National co-financing will be €61.3 million. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor: Serbia – Bulgaria CXc Rail Interconnection (Modernization of the single-track railway line Nis – Dimitrovgrad – Bulgarian border, Nis Bypass Section )*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor: Serbia – Bulgaria CXc Rail Interconnection (Modernization of the single-track railway line Nis – Dimitrovgrad – Bulgarian border, Nis Bypass Section ) |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Nis |
| To | Sicevo |
| Gap rationale | Co-financing approved; Missing link |
| Country | SER |
| Lead Project Beneficiary | Joint Stock Company for Public Railway Infrastructure Management |
| Proponent | Ministry of Construction, Transport and Infrastructure |
| Project ID/number | WB.TR.R.29 |
| SEETO Code | Corridor Xc |
| European Route Code | E70 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway project is pre-identified among other sections on the Core Network to be included in the TEN-T extension to Western Balkans. |
| Strategic relevance | The project is included in the General Master Plan for Transport in Serbia (GMTP) 2009-2027 (priority No RLC17). The project is also in line with the IPA Country Strategy Paper for Serbia (2014 – 2020). It is included in the country‘s SPP and National Programme for Public Railway Infrastructure for period 2017-2021. |
| General description | The project include construction of a new railway by-pass of the City of Niš up to Sićevo station (approx. 22 km) with complete overhaul of the existing segments Nis-Crveni Krst and Crveni Krst-Pantelej. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Traction** | |
| Max axle load** | |
| Max operating speed ** | |
| Maximum train length** | 0 |
| Full deployment of ERTMS ** | |
| Track gauge** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Length** | 0 |
| No of tracks** | |
| Condition** | |
| Maximum Designed Speed** | |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |
| Climate change mitigation and adaptation aspects | Overall, the project will contribute to improvement of the quality and reliability of railway services for both passengers and goods, and thus to modal shift from road to rail with the consequent reduction of energy consumption, noise, and emissions of pollutants and CO2. All this should result in an improvement to the environmental situation in comparison to the “without project case”. The main residual negative impacts consist of land take, some localisednoise/vibration, occasionally dust and mud on the access roads during the construction; all thesefor a limited number of receptors. These residual negative impacts are partly offset by the expected modal shift facilitated by the investment. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | WiP | | |
| Environmental and Social Impact Assessment | C | | 09/2017 |
| Valid spatial planning documents | C | | |
| Land property resolved | WiP | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | General Regulation Plan for the bypass was adopted 24/05/2016. CD and PD for electrification and S&T prepared (approved by the State Revision Commission on 13/10/2016, including Location Conditions issued by Ministry dated July 2016). Formal Government Decision regarding the alignment dated 21 April 2017. WBIF TA approved (WB19-SRB-TRA-02 and about to kick-off in 4Q 2019 (preparation of Design for Construction Permit and tender documents). However, there are components/subsections that were not previously and timely included into project preparation and for which plan is to be included into the WBIF supported TA (with increase of the scope and grant value). These are subsections Crveni Krst-Pantelej and Nis-Crveni Krst. For these two subsections, outstanding PDs for overhaul and all remaining studies for S&T will be done under the WBIF TA support (completion of the WP is pending). LARP formally adopted 19/07/2019. | | |
| Risks identified | Value of own commitments in the project financing is relatively large to the State budget. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 1,500,000 |
| Main design / detailed design | No | 2,010,000 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | Yes | 128,900,000 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | Serbia had applied for EU donation - an investment grant through WBIF in Round 4 (2019), but the application was not assessed positively. Beneficiary has re-applied in the Round 5 (WB-IG05-SRB-TRA-01, €34.4 million). However, the financing is largely secured through the Finance Contract signed with EIB on 31/01/2018 (€134 million) for the entire railway line Nis-Dimitrovgrad. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

***Mediterranean Corridor: Montenegro – Albania (Route 2) Rail Interconnection, Reconstruction and Modernisation of Railway line Podgorica-Tuzi - Cross Border with Albania***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Mediterranean Corridor: Montenegro – Albania (Route 2) Rail Interconnection, Reconstruction and Modernisation of Railway line Podgorica-Tuzi - Cross Border with Albania |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Mediterranean |
| From | Podgorica |
| To | Tuzi (Border with Albania) |
| Gap rationale | Existing link does not meet all TEN-T criteria |
| Country | MNE |
| Lead Project Beneficiary | Railway Infrastructure of Montenegro (ŽICG) |
| Proponent | Ministry of Transport and Maritime Affairs, Directorate for Railways |
| Project ID/number | WB.TR.R.23 |
| SEETO Code | Route 2 |
| European Route Code | |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project is in line with the Europe 2020 agenda and the White Paper of Transport (2011) and the Staff Working Document from the Commission: Road map to a Single European Transport Area – Towards a competitive and resource efficient transport system. |
| Strategic relevance | The project is in line with:<br>EU Chapter 14. Railways safety and interoperability: Directives 2004/49, 2007/58, 2007/59, 2008/57, 2008/110 and Commission regulation 36/2010 and Chapter 21: Trans-European networks.<br>Decision No 884/2004/EC of the European Parliament and of the Council of 29 April 2004, amending Decision No 1692/96/EC on Community guidelines for the development of the trans-European transport network;<br>Decision No 1692/96/EC of the European Parliament and of the Council of 23 July 1996, on Community guidelines for the development of the trans-European transport network as amended in 2001 and 2004.<br>The project is included in the country's SPP. |

| | |
|---|---|
| General description | The section Podgorica-Tuzi is part of the 144 km long section from Podgorica (Montenegro) to Vlore (Albania) – the section is part of Route 2 SEETO Comprehensive Network and it forms part of the indicative extension of the core TEN-T Mediterranean Corridor. The aim is to rehabilitate the entire section from Podgorica to Vlore in this way in order to facilitate passenger and freight transport, and thus support trade between the two countries as well as regional trade and cooperation. This section is currently used only for freight traffic. It is a single-tracked 24 km long, non-electrified section, opened in 1984, with no maintenance and in poor condition with the current maximum speed of 30 km/h. It passes through Tuzi which is a new border station (the Protocol on cross border cooperation between Montenegro and Albania was signed in June 2017 and ceremonial opening of the border station was in November 2017). The rail section includes 5 bridges, 3 tunnels and 24 culverts. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Diesel |
| Max axle load** | 225 kN |
| Max operating speed ** | 80-100 |
| Maximum train length** | 665 |
| Full deployment of ERTMS ** | No |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 25 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 100 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The project has a regional importance as it brings benefits both to Montenegro and Albania. It will also improve regional cooperation.<br>The project will improve the trade cooperation between Montenegro and Albania, freight transport, higher mobility of citizens and the development of tourism. |
| Climate change mitigation and adaptation aspects | The project implementation will not have negative impacts on the environment as it mainly includes reconstruction of the existing line and structures.<br>Only minor impacts on environment are expected during the construction phase, but this is to be analysed in detail during the preparation of the Feasibility study and Preliminary/Detailed Design. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | NS | | |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | WiP | | |
| Land property resolved | C | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | WB20-MNE-TRA-02 grant approved for preparation of conbceptual design, feasibility study, ESIA and PIU support. It is expected that further grant financing will be requested for preparation of preliminary, detail design, tender documents and supervision of works. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 700,000 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 1,200,000 |
| Environmental and Social Impact Assessment | No | 200,000 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 1,250,000 |
| Tender documentation | Yes | 50,000 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 32,900,000 |
| Total investment | | 38,500,000 |
| Investment financing considerations | Tentative financing considerations (implementation): KfW loan in amount of €17.55 m and WBIF INV grant in amount €17.55 m. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

***Orient/East-Med Corridor: Montenegro - Serbia (Route 4) Rail Interconnection, Bar – Vrbnica, Signaling Podgorica node and Bridges***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor: Montenegro - Serbia (Route 4) Rail Interconnection, Bar – Vrbnica, Signaling Podgorica node and Bridges |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Podgorica |
| To | Vrbnica |
| Gap rationale | Co-financing approved, Existing link does not meet all TEN-T criteria |
| Country | MNE |
| Lead Project Beneficiary | Railway Infrastructure of Montenegro (ŽICG) |
| Proponent | Ministry of Transport and Maritime Affairs, Directorate for Railways |
| Project ID/number | WB.TR.R.24 |
| SEETO Code | Route 4 |
| European Route Code | E-79 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The section is part of the SEETO railway Route 4 and, following the meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), is identified as part of the Orient/East-Med Corridor. |
| Strategic relevance | EU White Paper on Transport (2011) focuses to promoting modal shift for certain traffic flows from road to rail, i.e. long distance passenger and freight flows. The line provides a direct connection between ports on the southern Adriatic coast, the port of Bar and the city of Belgrade-Pan-European corridors X and VII (the Danube River). The proposed project is also consistent with the following national strategic documents: National Program for Integration of Montenegro into EU 2008-2012; Spatial Plan of Montenegro until 2020 (2008); Transport Development Strategy of Montenegro 2008; Directions of Development of Montenegro (NDP) 2013-2016; Pre-accession Economic Programme 2012-2015; (Rail) Infrastructure Asset Management Plan IAMP (2012). The Project is included in the SEETO 5-Year Multi-Annual Development Plan 2016 in the Priority Project List - projects for preparation. |

| | |
|---|---|
| General description | The reconstruction works started in 2009: rehabilitation of the superstructure on the section from Bijelo Polje to Kolasin (43.4 km) is completed, as well as sanitation of 6 tunnels, three landslides and 6 slopes. Also, 13.8 km of rail tracks and 22,000 sleepers are replaced. The following works have been completed so far: Rehabilitation of 51.24 km of permanent way substructure and superstructure and of six station tracks (around 1/3 of the total length of the track); Reconstruction of 6 steel bridges (out of 16); Modernisation of one traction power substation out of a total of four (25%); Replacement of the signalling/interlocking devices in the railway station Podgorica. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 80-100 |
| Maximum train length** | 660 |
| Full deployment of ERTMS ** | No |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 167 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 100 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | An improvement in safety on the railway line (reduced risk of a physical structural failure or operating failure leading to an accident)<br>The project will benefit directly 750,000 passengers using the line on annual basis and indirectly the broader economy by facilitating trade, regional integration and sustainable growth. Passenger and cargo rail carrying capacity considerably increased, and travel times reduced. Lower operational and maintenance costs for the railway operators, giving better services to passengers and cargo operators alike. The railway system will also be better placed to compete against road hauliers in the freight business, potentially improving the financial sustainability of the sector. |
| Climate change mitigation and adaptation aspects | Minimized environmental impact due to the “state of the art” technology designed. CO2 emissions will be reduced. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | WiP | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 03/2017 | |
| Further project preparation considerations | The Bar-Vrbnica section is the subject of WBIF financing: two TA grants in amount of 4 million EUR are approved for preparation of the technical documentation (WB10-MNE-TRA-01 and WB14-MNE-TRA-01 for signalling replacement in Podgorica station and assessment and Detailed design for rehabilitation of 90 concrete bridges, respectively). Additionally, 20 million EUR of WBIF investment grant (WB-IG00-MNE-TRA-01) is approved as part of the financing package that also includes 20 million EUR of EIB loan. The initial plan was to use these funds for signalling/ interlocking replacement in Podgorica station, rehabilitation of concrete bridges and reconstruction of tunnels, but later it was decided to use 5 million EUR for rehabilitation of 6 large slopes. The signalling replacement project is completed in the railway station of Podgorica (6 million EUR), while the signalling replacement from Podgorica to Bar and from Podgorica to Bijelo Polje is in the stage of preparation of technical documentation (Detailed Design) and tender documents (under IPF6 implementation). Under implementation. First disbursement was realized in 2018. Component 1 of the WB17-MNE-TRA-01 TA (kick of 16/09/2018) relates to preparation (detail designs and technical control) of the signalling and 11 stations interlocking works project for northern sector (Podgorica-Vrbnica). | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 1,250,000 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 44,800,000 |
| Total investment | | 0 |
| Investment financing considerations | Financing with €20 million EIB loan and EU (WBIF INV) grant (€20 million, WB-IG00-MNE-TRA-01) | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

***Orient/East-Med Corridor: Montenegro - Serbia (Route 4) Rail Interconnection, Bar – Vrbnica, Reconstruction and modernisation:***
***1) Rehabilitation of Train Track (superstructure), Culverts, Regulation of watercourse, reconstruction of steel bridges; 2) Rehabilitation of Slopes; 3) Rehabilitation of landslides, tunnels, concrete bridges & electrical works***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor: Montenegro - Serbia (Route 4) Rail Interconnection, Bar – Vrbnica, Reconstruction and modernisation: 1) Rehabilitation of Train Track (superstructure), Culverts, Regulation of watercourse, reconstruction of steel bridges; 2) Rehabilitation of Slopes; 3) Rehabilitation of landslides, tunnels, concrete bridges & electrical works |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Bar |
| To | Vbrnica |
| Gap rationale | Co-financing approved, Existing link does not meet all TEN-T criteria |
| Country | MNE |
| Lead Project Beneficiary | Railway Infrastructure of Montenegro (ŽICG) |
| Proponent | Ministry of Transport and Maritime Affairs, Directorate for Railways |
| Project ID/number | WB.TR.R.25 |
| SEETO Code | Route 4 |
| European Route Code | E-79 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The section is part of the SEETO railway Route 4 and, following the meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), is identified as part of the Orient/East-Med Corridor. |
| | |

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|---|---|
| Strategic relevance | EU White Paper on Transport (2011) focuses to promoting modal shift for certain traffic flows from road to rail, i.e. long distance passenger and freight flows. The line provides a direct connection between ports on the southern Adriatic coast, the port of Bar and the city of Belgrade-Pan-European corridors X and VII (the Danube River). The proposed project is also consistent with the following national strategic documents: National Program for Integration of Montenegro into EU 2008-2012; Spatial Plan of Montenegro until 2020 (2008); Transport Development Strategy of Montenegro 2008; Directions of Development of Montenegro (NDP) 2013-2016; Pre-accession Economic Programme 2012-2015; (Rail) Infrastructure Asset Management Plan IAMP (2012). The Project is included in the country‘s SPP. |
| General description | The railway line Bar-Vrbnica is the key section of Montenegrin rail network. This line connects the Port of Bar with Belgrade (Serbia) and further with the European rail network. Investments on rehabilitation/reconstruction of this line have included so far: reconstruction of the superstructure on the section Vrbnica-Kolasin (53.2 km), Kolasin-Kos (10.9 km works in progress), and Kos-Trebesica (7.3 km works in progress) – these works should improve speed limit to 75-80 km/h. Completed investments until 2016 include: electrification of VI and VII tracks in the station Bijelo Polje, sanitation of 5 tunnels on the section Trebaljevo-Trebisica, sanitation of 3 landslides on the section Virpzar-Bar, sanitation of 6 slopes (with construction of galleries) on the section Lutovo-Bratonozici and sanitation of the Trebaljevo Bridge. After 2016, the railway infrastructure operator has implemented a project for replacement of signalling/ interlocking device in the railway station of Podgorica and works are in progress for rehabilitation of 5 pre-stressed bridges and 19 concrete bridges. There is a need for reconstruction of the superstructure on the section Trebesica-Bar (96 km) and for reconstruction of sub-structure (10 steel bridges, concrete bridges, 106 tunnels, 12 slopes and landslides in the total length of 3km). The implementation of the project will reduce maintenance expenses and will improve safety and speed limit on the line from Bar to Vrbnica. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | <80 |
| Maximum train length** | 665 |
| Full deployment of ERTMS ** | No |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Length** | 167 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 100 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The expected results are: ground stabilization, increased traffic safety and higher train speeds. It is expected that the project implementation will initiate the measures to decrease the number of interruptions in the railway traffic due to landslides, increase the traffic safety level and enable smooth traffic flow fully in accordance with the scheduled timetable. |
| Climate change mitigation and adaptation aspects | The project will not have negative impact on the environment, climate change or mitigation/adaptation. The main reason for this is fact that the project implementation is related to reconstruction of the existing railway line and infrastructure.<br>In the previous period, the railway infrastructure operator has implemented reconstruction of steel bridges and these projects had no negative impact, which is confirmed in official communication with the Environmental Protection Agency (EPA).<br>Minor negative environmental impacts (dust and noise) are expected during the construction phase. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | -/- | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | WiP | | |
| Tender documentation | WiP | | |
| Construction and other permits | WiP | | |
| Construction & supervision of works contracts | WiP | | |
| Further project preparation considerations | Several WBIF technical assistance grants approved for project preparation toward implementation: WB10-MNE-TRA-01, €1 million for preparation of feasibility study, main designs, technical management assistance incl. tendering; WB13-MNE-TRA-01, €2.5 million for main designs (for reconstruction of 106 tunnels) and WB14-MNE-TRA-01, with additional €3 million for main designs (for reconstruction of 90 concrete bridges of which currently 25 bridges are under reconstruction). Component 2 of the WB17-MNE-TRA-01 relates to investigations and preparation do PD, DD and tender documents for Ratac landslide (kick-off 18/09/2018). TA for ESIA, Preliminary and Detailed Design and PIU support approved under the WB21-MNE-TRA-01 in amount of €1.5 m out of €3 million for Golubovci-Bar section (63 km). This KfW supported project includes: a) Rehabilitation and modernization of the permanent way substructure and superstructure (40 km of open line, 17 km of station tracks and 6 km of yard and siding tracks), including the application of pre-stressed concrete sleepers, b) modernization of the Bar Traction Power Substation, c) modernization of the telecommunication system, and d) rehabilitation of the overhead contact line system. | | |
| Risks identified | Political risk is medium/low. Potential environmental risks (because of the National Park and protected areas) and risks during the implementation (difficult terrain and additional works). | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 250,000 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 2,500,000 |
| Tender documentation | No | 300,000 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 0 |
| Total investment | | 163,420,000 |
| Investment financing considerations | The reconstruction, rehabilitation and modernization of the line is being made partially throughout period 2006 to date. EIB, EBRD and CEB loans (total amount €113.4 million) used since 2006 and also some €11.7 million from IPA (2007, 2009 and 2010, in period 2008-2014) as well as further €7.7 million from IPA III (Regional Development Component). It is also noted that application approved for the IPA 2014-2020 financing in amount of €26.215 million, largely for the Kos-Podgorica subsection and the border station Bijelo Polje (for which the state budget constribution is €2.621 million). For the works ahead, the breakdown is following: Steel bridges €26 mil.; Slopes €7.3 mil; For the remaining interventions, investment phase value is assessed total €40,366,000 of which KfW loan will cover €24.1 million and approved EU grant (WB-IG03-MNE-TRA-02) €15.9 million. Potential KfW loans to amount €49.1 million. Beneficiary has applied for new WBIF INV grant in R05 (WB-IG05-MNE-TRA-01, €19 million for reconstruction and modernisation of 10 steel bridges and 14.5 km long rail section Bioce-Podgorica) and plans to apply in following rounds for more funding support. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Veljko Karadzic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (CX), Reconstruction of the railway section Dracevo – Veles*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CX), Reconstruction of the railway section Dracevo – Veles |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Dracevo |
| To | Veles |
| Gap rationale | Existing link does not meet all TEN-T criteria |
| Country | MKD |
| Lead Project Beneficiary | Public Enterprise Macedonian Railways Infrastructure |
| Proponent | Ministry of Transport and Communications |
| Project ID/number | WB.TR.R.13 |
| SEETO Code | Corridor X |
| European Route Code | E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway line is identified as part of the Orient/East-Med Corridor (Corridor X). Also, as per the conclusions of the SERG (South Eastern Europe Railway Group) of the UIC, all lines within Corridor X represent a major priority for development of the whole region. |
| Strategic relevance | The Corridor 10, is part of TEN-T and SEETO Comprehensive Network and it is in line with following national strategic plans: Memorandum of Understanding on the Development of the Pan-European Transport Corridor 10, signed 15th March 2001, Thessaloniki, Greece. The project is included in: National Transport Strategy for period 2007-2017 and 2018-2030; Sector Operational Programme for Transport 2014-2020; National Economic Reform Programme; National 3-years Program for Railway Infrastructure. It is in line with EU policy promoting the railway transport as it is described in the White Paper, pre-accession strategy and in the line with EBRD loan strategy in the railway sector for the North Macedonia.<br>The project is included in the country‘s SPP. |

| General description | |
|---|---|
| | Corridor X railway infrastructure is stretched 215 km across the territory of the Republic of Macedonia and runs north – south direction. It is electrified with a single - phase system of 25 kV/50 Hz and starts from the north - border crossing Tabanovce (to Serbia) and ends with the south border crossing near Gevgelija (to Greece). Also, the branch Xd of the Corridor X starts in Veles and ends at the border crossing Kremenica, near Bitola. Since put into operation in 1873, only few, relatively small in scale improvements on the line were made and these were tried to be achieved on the horizontal curves applying larger radii and by insertion of appropriate transition curves in order to increase the speed. Despite all efforts, this section still remains with the worst parameters, i.e. many narrow curves with minimum radii from 250 to 300m are present especially along the segments passing through the canyon. The section Dracevo-Veles to be reconstructed has length of L = 39.2 km (from km 461 + 200 to km 500 + 400) |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 80-100 |
| Maximum train length** | 488 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 39 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 100 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The project aims to improve the safety and security, reduce the travelling time for the passengers and freight railway transport. |
| Climate change mitigation and adaptation aspects | The shift of freight traffic volumes from road to rail will impact air pollution, climate change reduction of greenhouse gas emissions) and noise reduction. Hence, the project would contribute to the overall efforts for introduction of the “greener” transport in the European Union by promoting modal shift for certain traffic flows from road to rail traffic. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Under the IPA I assistance (2007 – 2013) studies for supply and Installation of Equipment for European Train Control System (ETCS level 1) and Global System for Mobile Communications-Railway (GSM-R) along the Corridor X were prepared. The feasibility study (incl. CBA) prepared in 2014 as well as preliminary design and EIA, for the alternative solutions - for speeds of 120 km/h and 160 km/h (IPA I, OPRD 2007-2013). However, due to the results of the feasibility study (C/B ratio <1.0) no activities for further preparation of the design documentation are undertaken. Specific target for dislocation and construction of a new railway line between Veles and Dracevo (speed up to 160 km/h) is to allow construction of a new hydropower plant near Veles.<br>Two TA grants approved under WBIF (WB15-MKD-TRA-04, €0.3 m and WB15-MKD-TRA-02, €0.5 m) for introduction of GSMR and ETCS Level 1 on the entire Cx through North Macedonia (Tabanovce-Gevgelija), respectively. These include preparation of conceptual designs with pre-feasibility studies (incl. CBA), procurement documents and plans. | | |
| Risks identified | Significant financial gap due to high investment costs and low traffic projections (the results of CBA show that both selected options of the project are not feasible); | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 0 |

| | |
|---|---|
| Investment financing considerations | The investment value for the reconstruction to min. speed of 80 km/h for all CX sections Tabanovce-Gevgelija was estimated to approx. €600 million, while for the scenario with speed of 160 km/h (so called "fast track") it was assessed to be approx. €1 billion (Chinese Gov. funding is considered for the later scenario). €6 million from IPA funds secured for supply and installation of equipment for GSM-R and ETCS (level 1) on all CX sections from Tabanovce to Gevgelija. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (CX), rehabilitation and modernisation of the railway section Tabanovci - Dracevo*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CX), rehabilitation and modernisation of the railway section Tabanovci - Dracevo |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Tabanovci |
| To | Dracevo |
| Gap rationale | Existing link does not meet all TEN-T criteria |
| Country | MKD |
| Lead Project Beneficiary | Public Enterprise Macedonian Railways Infrastructure |
| Proponent | Ministry of Transport and Communications |
| Project ID/number | WB.TR.R.14 |
| SEETO Code | Corridor X |
| European Route Code | E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway is identified as part of the Orient/East-Med Corridor. Also, as per the conclusions of the SERG (South Eastern Europe Railway Group) of the UIC, all lines within Corridor X represent a major priority for development of the whole region. |
| Strategic relevance | The Corridor 10, is part of TEN-T and SEETO Comprehensive Network and it is in line with following national strategic plans: Memorandum of Understanding on the Development of the Pan-European Transport Corridor 10, signed 15th March 2001, Thessaloniki, Greece. The project is included in: National Transport Strategy for period 2007-2017 and 2018-2030; Sector Operational Programme for Transport 2014-2020; National Economic reform program; National 3-years Program for Railway Infrastructure. The Project is in line with EU policy promoting the railway transport as it is described in the White Paper, pre-accession strategy and in the line with EBRD loan strategy in the railway sector for North Macedonia. It is included in the country‘s SPP. |

| | |
|---|---|
| General description | The subsection Tabanovce-Kumanovo (11.6 km) is already renewed to meet the TEN-T standards (works started in Sept 2012 and completed October 2013) and for operating speed up to 100 km/h (Red FIDIC, Investment costs EUR 7 million, with support of EBRD loan in amount of 4 mil. EUR). Works included track renewal, substructure works, replacement of the existingrails with new type 49 E1; L=120m, replacement of the existing wooden sleepers with new concrete type MP 94, replacement of OCL masts, safety improvement on level crossings. Also rail junction A-Ilinden rehabilitated up to the Skopje railway junction (4.5 km). Therefore, the project aims to rehabilitate the remaining 17 km of railway line on the section Kumanovo-Deljadrovci (near the railway station Miladinovci) on Corridor X. The last renewal of this railway line was made in 1972 for the original design speed of 90 km/h. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 100-120 |
| Maximum train length** | 0 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 49 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 120 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The project aims to improve the safety and security, reduce the travelling time for the passengers and freight railway transport. |
| Climate change mitigation and adaptation aspects | The shift of freight traffic volumes from road to rail will impact air pollution, climate change reduction of greenhouse gas emissions) and noise reduction. Hence, the project would contribute to the overall efforts for introduction of the “greener” transport in the European Union by promoting modal shift for certain traffic flows from road to rail traffic. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | C | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Under the IPA I assistance (2007 – 2013) studies for supply and Installation of Equipment for European Train Control System (ETCS level 1) and Global System for Mobile Communications-Railway (GSM-R) along the Corridor X were prepared. Renewal design for subsection Tabanovce-Kumanovo is dated 2011. For the Kumanovo-Deljadrovci part (17 km) of the Kumanovo-Dracevo subsection, funding for project preparation (feasibility study incl. CBA, preliminary design, EIA and detail design) provided under IPA I OPRD 2007-2013 (Component III) and this documentation prepared June 2012-Jan 2014 (detailed design for reconstruction for speed 120 km/h, km 413 - km 430). Two TA grants approved under WBIF (WB15-MKD-TRA-04, €0.3 m and WB15-MKD-TRA-02, €0.5 m) for introduction of GSMR and ETCS Level 1 on the entire Cx through North Macedonia (Tabanovce-Gevgelija), respectively. These include preparation of conceptual designs with pre-feasibility studies (incl. CBA), procurement documents and plans. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 38,000,000 |
| Total investment | | 0 |
| | | |

| | |
|---|---|
| Investment financing considerations | Implementation of the Tabanovce-Kumanovo subsection (11.6 km) already completed (Investment costs EUR 7 million, with support of framework EBRD loan in amount of 4 mil. EUR, signed in 2010, construction contract signed April 2012 and works completed October 2013). Works on the Miladinovci-Ilinden sub-section also completed - value of €3 million. Value of works for the Kumanovo-Miladinovci section estimated to be €60 million (speed 120 km/h), of which approx. €38 m for the Kumanovo-Deljadrovce part, and additional €20 million estimated for the works on the Skopje node. €6 million from IPA funds secured for supply and installation of equipment for GSM-R and ETCS (level 1) on all CX sections from Tabanovce to Gevgelija. |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (CX), rehabilitation and modernisation of the railway section Veles - Gevgelija*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (CX), rehabilitation and modernisation of the railway section Veles - Gevgelija |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Veles |
| To | Gevgelija |
| Gap rationale | Existing link does not meet all TEN-T criteria |
| Country | MKD |
| Lead Project Beneficiary | Public Enterprise Macedonian Railways Infrastructure |
| Proponent | Ministry of Transport and Communications |
| Project ID/number | WB.TR.R.15 |
| SEETO Code | Corridor X |
| European Route Code | E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway is identified as part of the Orient/East-Med Corridor. |
| Strategic relevance | The Corridor 10, is part of TEN-T and SEETO Comprehensive Network and it is in line with following national strategic plans: Memorandum of Understanding on the Development of the Pan-European Transport Corridor 10, signed 15th March 2001, Thessaloniki, Greece. The project is included in: National Transport Strategy for period 2007-2017 and 2018-2030; National Economic Reform Programme; Sector Operational Programme for Transport 2014-2020; National 3-years Program for Railway Infrastructure. The Project is in line with EU policy promoting the railway transport as it is described in the White Paper, pre-accession strategy and in the line with EBRD loan strategy in the railway sector for North Macedonia. |

| | |
|---|---|
| General description | The total section Veles-Gevgelija (115 km long) consists of several subsections which in different stages of project preparation and/or implementation, while some already rehabilitated. For the subsection Nogaevci-Negotino (approx. 31 km), overhaul works completed on the Nogaevci-Kukuricani segment (23 km, started early 2014 and completed in 2016). Also, overhaul works on the subsection from Miravci to Smokvica (13 km) to meet the TEN-T standards completed in 2013 (with EBRD loan, in amount of 3.5 mil. EUR). Subsections Smokvica-Gevgelija (8.4 km) and Negotino-Demir Kapija (16.1 km) also completed. Hence, project preparation documentation to be prepared for subsections Veles-Nogaevci (19.8 km), Demir Kapija-Miravci (21.4 km) and railway junction Veles. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 80-100 |
| Maximum train length** | 537 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 113 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 100 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The project aims to improve the safety and security, reduce the travelling time for the passengers and freight railway transport. |
| Climate change mitigation and adaptation aspects | The shift of freight traffic volumes from road to rail will impact air pollution, climate change reduction of greenhouse gas emissions) and noise reduction. Hence, the project would contribute to the overall efforts for introduction of the “greener” transport in the European Union by promoting modal shift for certain traffic flows from road to rail traffic. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Under the IPA I assistance (2007 – 2013) studies for supply and Installation of Equipment for European Train Control System (ETCS level 1) and Global System for Mobile Communications-Railway (GSM-R) along the Corridor X were prepared. For the subsections Veles-Nogajevci (19.8 km) and Demir Kapija-Miravci (21.4 km) the conceptual designs were made in the period from 1988 to 1991, for the speed on the line of 160 km/h. These had to be innovated in accordance with the new strategy of railway infrastructure development and legal regulations, which changed in the meantime. The relocation of the dam in the area of Demir Kapija-Miravci is considered. Renewal designs made in 2010 (km 591 - km 599) and 2011 (km 515 - km 551). During the period April 2012 - October 2013, construction works on renewal of the section Miravci-Smokvica were completed, and the subsection was put into operation for speeds of up to 100 km/h. The works on the subsection Negotino-Nogaevci have started in 27/12/2013 and completed in 2014 (speed increased to up to 120 km/h). Two TA grants approved under WBIF (WB15-MKD-TRA-04, €0.3 m and WB15-MKD-TRA-02, €0.5 m) for introduction of GSMR and ETCS Level 1 on the entire Cx through North Macedonia (Tabanovce-Gevgelija), respectively. These include preparation of conceptual designs with pre-feasibility studies (incl. CBA), procurement documents and plans. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 0 |
| Investment financing considerations | In 2010, the EBRD provided a loan of EUR 17.6 million for the renewal of the three critical sections along Corridor X of which the following two subsections were included: Miravci - Smokvica (12 km, works completed June 2013) and Negotino (Gradsko) - Nogaevci (loan proceeds €9.4 m, 31 km, works contracted July 2013, started early 2014 and completed 2016). €6 million from IPA funds secured for supply and installation of equipment for GSM-R and ETCS (level 1) on all CX sections from Tabanovce to Gevgelija. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (Rail Route 10), Rehabilitation and modernization of the railway section Blace – Gjorce Petrov to meet with the TEN-T standards*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor (Rail Route 10), Rehabilitation and modernization of the railway section Blace – Gjorce Petrov to meet with the TEN-T standards |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Blace |
| To | Gjorce Petrov |
| Gap rationale | Existing link does not meet all TEN-T criteria |
| Country | MKD |
| Lead Project Beneficiary | Public Enterprise Macedonian Railways Infrastructure |
| Proponent | Ministry of Transport and Communications |
| Project ID/number | WB.TR.R.18 |
| SEETO Code | Route 10 |
| European Route Code | E-85 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), this railway project is identified as part of the Orient/East-Med Corridor. |
| Strategic relevance | |
| General description | Section length L = 23.3 km (from km 313 + 500 to km 336 + 800). Envisaged works on superstructure, as well as reconstruction and modernization of the SS and TT devices and systems. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Traction** | Diesel |
| Max axle load** | 200 kN |
| Max operating speed ** | 80-100 |
| Maximum train length** | 605 |
| Full deployment of ERTMS ** | No |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Length** | 17 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 100 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Traffic diversion from road to rail transport; Reduced energy consumption and of vehicle operation costs; Reduced emissions and improvement of the quality of environment; |
| Climate change mitigation and adaptation aspects | The shift of freight traffic volumes from road to rail will impact on air pollution, climate change reduction of greenhouse gas emissions) and noise reduction. Hence, the project would contribute to the overall efforts for introduction of the “greener” transport in the European Union by promoting modal shift for certain traffic flows from road and air to rail traffic. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Project documentation for this project is not completed. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 14,000,000 |
| Total investment | | 0 |
| Investment financing considerations | The estimated investment value is about EUR 9.3 mil. for the superstructure, and about EUR 4 million for SS and TT. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor: Construction of Rail Corridor VIII in North Macedonia, railway section Beljakovce – Kriva Palanka – Border with Bulgaria*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Orient/East-Med Corridor: Construction of Rail Corridor VIII in North Macedonia, railway section Beljakovce – Kriva Palanka – Border with Bulgaria |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Beljakovce |
| To | Deve Bair (border with Bulgaria) |
| Gap rationale | Co-financing approved, Missing link - new railway |
| Country | MKD |
| Lead Project Beneficiary | Public Enterprise Macedonian Railways Infrastructure |
| Proponent | Ministry of Transport and Communications |
| Project ID/number | WB.TR.R.27 |
| SEETO Code | Corridor VIII |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Corridor VIII is defined on the Pan-European Conferences held in Crete 1994 and Helsinki 1997, as one of the 10 Pan European transport corridors of the European transport system. Therefore following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), is identified as part of the Orient/East-Med Corridor. |
| | |

| | |
|---|---|
| Strategic relevance | The Corridor VIII has a significant importance for North Macedonia from a geopolitical and geo-economic point of view. Along its route Corridor VIII is interconnected with Pan-European Corridors IV, IX and X. Construction of the rail section Beljakovce-(Deve Bair) border with R. Bulgaria is included in the SEETO 5-year Multi-Annual Development Plan 2016 as project eligible for funding and is also included in the country‘s SPP. It is in line with following national strategic plans: National Transport Strategy for period 2007-2017; Sector Operational Programme for Transport 2014-2020; Pre-accession economic Program; National three years Program for Railway Infrastructure; Pre-Feasibility Study on the Development of the Railway Axis, September 2007 (Funded by Italian Ministry of International Trade, Central European Initiative).<br>The Project is in line with EU policy promoting the railway transport as it is described in the White Paper, pre-accession strategy and in the line with EBRD loan strategy in the railway sector for North Macedonia. |
| General description | The eastern part of the rail Corridor VIII in North Macedonia is 88 km long, from Kumanovo-Beljakovce-Kriva Palanka-Deve Bair (Bulgarian border). This railway section is being under construction and is subdivided into the three subsections: Kumanovo–Beljakovce (30.8 km); Beljakovce-Kriva Palanka (34 km) Kriva Palanka–Deve Bair (border with Republic of Bulgaria), in length of 23.4 km. The railway line from Kumanovo to Deve Bair, border with Republic of Bulgaria is foreseen to be single track line for speed up to 100 km/h, in conformity with EU technical specifications and TER standards, electrified and equipped with signalling and telecommunications devices. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 80-100 |
| Maximum train length** | 750 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 88 |
| No of tracks** | Single |
| Condition** | Very Good |
| Maximum Designed Speed** | 100 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Traffic diversion from road to rail transport; Reduced energy consumption and of vehicle operation costs; Reduced emissions and improvement of the quality of environment; |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | The shift of freight traffic volumes from road to rail will impact on air pollution, climate change reduction of greenhouse gas emissions) and noise reduction. Hence, the project would contribute to the overall efforts for introduction of the “greener” transport in the European Union by promoting modal shift for certain traffic flows from road and air to rail traffic. |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | C | 12/2010 | 12/2011 |
| Preliminary Design | C | 12/2010 | 11/2017 |
| Environmental and Social Impact Assessment | C | 01/2010 | 11/2017 |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | WiP | | |
| Construction and other permits | WiP | | |
| Construction & supervision of works contracts | WiP | 04/2014 | |
| Further project preparation considerations | Feasibility study (incl. CBA) with preliminary design and EIA study started Dec 2010 and completed Dec 2011 and Nov 2012, respectively. Four grants approved under WBIF of which for the subsection Kumanovo-Beljakovce WB5-MKD-TRA-01 (1.5 milllion EUR) for the main design and assistance in preparation of tender documents and WB7-MKD-TRA-03 (2.5 million EUR) for supervision of works (additional EUR 200k required were provided form the EBRD‘s Shareholder Special Fund). For the 2nd subsection Beljakovce-Kriva Palanka (speed 100 km/h) and 3rd, Kriva Palanka-Deve Bair, two grants approved under WBIF - WB7-MKD-TRA-02 (€2.7 million) for the main design and assistance in preparation of tender documents and WB11-MKD-TRA-01 (€3 million, Beljakovce-Kriva Palanka) for the supervision of works. Preparation of the main design for Kriva Palanka-Deve Bair was funded through national IPA I. Therefore main designs and tendering completed. Construction works underway for Kumanovo-Beljakovce section (started March 2014, to be completed end-2019, delays due to archeological sites, underground ammunition and poor budget planning for expropriation). After unsuccessful 1st launch, the tender for works for the 2nd subsection launched again 27/07/2018 (construction to start in 2020, duration 40 months). Construction of the 1,600 m long border tunnel between North Macedonia and Bulgaria will be last implementation lot. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | Yes | 551,000,000 |
| Total investment | | 596,000,000 |
| Investment financing considerations | Financing to date: Four WBIF TA grants of total €9.7 million and INV grant (68,558,824 for Beljakovce-Kriva Palanka implementation, Grant Agreement signed 14/12/2018); EBRD and Italy Gov. TA grants (€4.2 m in total, for Kumanovo-Beljakovce subsection); two sovereign loans from EBRD in amounts of €46.4 million (for Kumanovo-Beljakovce, signed Aug 2012, effective 10/10/2016) and €145 million (for Beljakovce-Kriva Palanka, signed 05/12/2014); country‘s own contribution. Works for 2nd subsection Beljakovce-Kriva Palanka estimated to approx. €152 m. Works for 3rd subsection Kriva Palanka-Deve Bair estimated to approx. €330 m. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Katarina Ciconkova |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Orient/East-Med Corridor (Rail R10), General Rehabilitation of Railway Route 10 (admin. line with Serbia Leshak – Fushë Kosovë – Hani i Elezit – Border with North Macedonia)*

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Orient/East-Med Corridor (Rail R10), General Rehabilitation of Railway Route 10 (admin. line with Serbia Leshak –Fushë Kosovë – Hani i Elezit – Border with North Macedonia) |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Orient/East-Med |
| From | Mitrovica |
| To | Border with North Macedonia |
| Gap rationale | Co-financing approved, Existing link does not meet all TEN-T criteria |
| Country | KOS* |
| Lead Project Beneficiary | Kosovo Railways Infrastructure JSC – INFRAKOS |
| Proponent | Ministry of Finance and |
| Project ID/number | WB.TR.R.20 |
| SEETO Code | Route 10 |
| European Route Code | E-85 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | This project is in line with the Part III of the Indicative Strategy Paper for Kosovo (2014/2020). This project is also compliant with: Strategy for European Integration 2014 – 2020; Declaration of Mid-Term Priority Policies 2014-2016; Mid-Term Expenditure Framework (MTEF) 2014-2016. The project is part of the SEETO Strategic Documents. |
| Strategic relevance | Implementing general rehabilitation of this line, Kosovo* will improve and develop in highest level intermodal transport in local, regional and international level and hence the project is recognized as key priority for railway infrastructure development in Kosovo (SPP). It is included in the SEETO Multi-Annual Plan (MAP) 2016 (the North part Mitrovica-Fushe Kosove nominated as a project eligible for funding). It is included in the Kosovo National Development Strategy (2016-2021) and in the Kosovo Multi Modal Transport Strategy 2015 – 2025. The investment is part of measures in Economic Reform Programme 2019-2021 (ERP).<br>The line is connected with TEN-T Corridor through Kraljevo and Stalac in Serbia and Skopje in North Macedonia. |

| | |
|---|---|
| General description | General rehabilitation of the Railway Route 10, in length of 148 km, is a precondition for development of the railway sector in Kosovo.<br>This existing line is under operation. The entire track in Kosovo is in a poor condition, with serious structural limitations that do not allow for traffic in excess of 60 km/h and in some areas it is limited to 30-40 km/h. As the project is related to rehabilitation of the existing line, there were no alternative analyses related to the alignment. However, alternative options are explored for telecommunication, signalling and electrification options. Rehabilitation of the rail line is divided into two implementation groups. The Phase 1 relates to section Fushë Kosovë/Kosovo Polje – border with North Macedonia, while Phase 2 relate to section Fushë Kosovë/Kosovo Polje – Mitrovicë/Mitrovica. Phase 3 would be the sector Mitrovicë/Mitrovica- (Leshak) admin. border with Serbia. The traction in this line is diesel. Since the parts of the Railway Route 10 in Serbia and North Macedonia are not electrified, in this stage the general rehabilitation and modernisation of the Kosovo part will be done without electrification, but with the completed design for future electrification. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Diesel |
| Max axle load** | 225 kN |
| Max operating speed ** | <80 |
| Maximum train length** | 700 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 149 |
| No of tracks** | Single |
| Condition** | Medium |
| Maximum Designed Speed** | 120 |
| Passenger Traffic** | 120,000 |
| Freight Traffic** | 557,500 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Implementation of this project will make possible: To increase safety and speed conditions of this line; To have interoperable railway infrastructure as a linkage between neighboring countries and wider region; To have better conditions for development of the passenger and freight transport; To increase economic growth and social development; To facilitate trade and economic links with neighboring countries and EU member states; To improve transport capacities; To develop multimodal and intramodal transport in Kosovo and wider; To be part of the Regional and EU Integrated Railway Network. Reduction of travel time; Reduction of accidents and increase of safety; Reduction of operating costs; |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | Realizing this project part of road freight transport will shift to railways, and thus the project would impact to reduction of CO2 and noise emission. Positive impact on climate change from reduction of GHG emissions through diesel consumption reduction. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | C | 01/2010 | 12/2010 |
| Preliminary Design | C | 01/2010 | 12/2010 |
| Environmental and Social Impact Assessment | C | 01/2015 | 01/2016 |
| Valid spatial planning documents | C | 01/2015 | 01/2016 |
| Land property resolved | C | | |
| Main design / detailed design | C | 01/2015 | 04/2019 |
| Tender documentation | C | | |
| Construction and other permits | WiP | | |
| Construction & supervision of works contracts | WiP | 07/2019 | |
| Further project preparation considerations | Total TA grant funds from WBIF amount to EUR 4.74 million with additional 950k received from EBRD (project preparation and PIU support). Prefeasibility study with WBIF technical assistance support (grant TA-KOS-02, €500k). Further grants approved under WBIF for: WB9-KOS-TRA-01, €1.84 million for preparation of detail design and tender documentation for the Phase 1 (completed in 2017); WB12-KOS-TRA-01, €1.4 million for supervision of works services, Section Fushe Kosove-border with North Macedonia; WB14-KOS-TRA-01, €1.00 million for preparation of detail design and tender documentation for Mitrovica-Fushe Kosove/Kosovo Polje (completed in April 2019). Therefore, design activities are completed. Procurement related to the works for the Phase 1 was launched 14/05/2018 and is completed (construction contract signed 07/02/2019, works to be implemented while line in operation). Groundbreaking for the Phase 1 works took place on 02/07/2019 (North Macedonia border-Fushe Kosove, 24 months construction period) while construction works for Phase 2 (Fushe Kosove-Mitrovice) may not start before Q4 2019. | | |
| Risks identified | Political risks related to implementation of the Phase 3. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 500,000 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 600,000 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 210,000,000 |
| Total investment | | 0 |
| Investment financing considerations | WBIF INV grant WB-IG00-KOS-TRA-01 approved in amount of €38.54 million for sections Fushe Kosove/Kosovo Polje-North Macedonia (Phase 1) and additional WBIF INV grant approved (WB-IG01-KOS-TRA-01, in amount of €17.2 million) for sections Fushe Kosove/Kosovo Polje-Mitrovice (Phase 2). Rehabilitation of Railway Route 10 will be financed by EBRD (total €39.9 million, the loan agreement signed in 04/09/2015 and ratified in mid-Feb 2016) and EIB (€42 million loan agreement signed in 06/12/2015 and ratified 06/04/2016). Also, Austrian Government is providing up to EUR 5.9 million loan funds for the tunnel rehabilitation works. For Phase 1 and Phase 2, EU will also donate through WBIF (WB-IG04-KOS-TRA-02, as presented in July 2019 in Poznan) further approx. €27 m for signalling and telecom installations (of which approx. €18.8 m relates to Phase 1 and €8.2 m relates to Phase 2, with total investment estimated for these works €53.805 m). The total estimated investment cost of Phase 1, is €94.15 m. Loan proceedings provided by EBRD (€19.2 m) and EIB (€19.25 m) for the Phase 1 (together with the €38.54 m EU INV grant) yet doesn‘t include signaling and telecommunications (additional procurements and loan funding is needed for these components and so negotiations with the IFIs are undergoing for indicative amounts of €12.4 m each). With addition to the above signalling and TT investment that relates to entire route in Kosovo, breakdown on the blending per phases as planned by the Ministry of Finance is following: Phase 1 - EBRD loan proceeds €19.2 m, EIB loan proceeds €19.25 m, EU INV grant €38.5 m; Phase 2 - EBRD loan proceeds €8.6 m, EIB loan proceeds €9.2 m, EU INV grant €17.2 m; Phase 3 - EBRD loan proceeds €12.1 m, EIB loan proceeds €13 m, EU INV grant €24.1 m. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Alush Grosha |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Mediterranian Corridor (Rail CVc), Overhaul of the railway section Podlugovi-Sarajevo*

| TAB 1 GENERAL INFORMATION | **Identification** |
|---|---|
| Project title | Mediterranian Corridor (Rail CVc), Overhaul of the railway section Podlugovi-Sarajevo |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Mediterranean |
| From | Podlugovi |
| To | Sarajevo (Miljacka junction) |
| Gap rationale | Upgrade of the existing link |
| Country | BIH |
| Lead Project Beneficiary | Public Company Railways of the Federation of Bosnia and Herzegovina |
| Proponent | Ministry of Communications and Transport of the Bosnia and Herzegovina; Ministry transport and |
| Project ID/number | WB.TR.R.01 |
| SEETO Code | Corridor Vc |
| European Route Code | E771 |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The section is part of the Corridor Vc and therefore following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), is identified as part of the Mediterranean Corridor. |
| Strategic relevance | Railway Corridor Vc presents the existing railway line in total length of 661km with general orientation Budapest (HUN)-Vrpolje-S. Šamac (HR)-B. Šamac-Sarajevo-Čapljina (BiH)-Ploče (HR). The section is included in the Transport Master Plan BiH; Framework Transport Strategy BiH 2016-2030; Medium Term Investment Plan for Railways Development; Study on TER compliant railway corridor Vc through BiH. The section in also included in the SEETO Priority project list in 5-year Multi-Annual Development Plan 2016 under Projects Eligible for Funding. The Project is incuded in the country's SPP. |

| | |
|---|---|
| General description | Railway section Sarajevo-Podlugovi 25.4 km long being part of Pan European Corridor Vc has been built and put in operation in 1947 as single railway track. It consists of stations Podlugovi and Sarajevo, and subsection Rajlovac - Rajlovac Teretna - Junction Miljacka (3 km) that together forming the "Sarajevo triangle", connecting the northern and southern branches of Corridor Vc in the Sarajevo rail node. The last track overhaul has been performed in 1966. Reconstruction (main overhaul) of the railway section Sarajevo-Podlugovi shall improve the railway track, the substructure and structures including geometric characteristics of the track to meet TER standards and Interoperability specifications, UIC recommendations and local regulations (installing of UIC 60 rails, sleeper replacement, ballast replacement, switch replacement, installation of rubber panels at level crossings and modernization of SS facilities and equipment). This reconstruction shall provide basic signalling system to enable reliable traffic operation and possible extensions and additions in future, repairs of bridges, culverts, slopes and embankment. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 100-120 |
| Maximum train length** | 700 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 25 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 120 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Key expected benefits include: Reduction of travel times, Increase of traffic capacity for passenger and cargo trains, Reduction of infrastructure maintenance costs, Savings concerning environmental protection as it is more environment friendly mode of transport, reduction of accidents and congestions at level crossings. |
| Climate change mitigation and adaptation aspects | Contribution to environment protection transferring heavy transport from roads to railways using predominantly electric traction. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | WiP | 05/2011 | |
| Preliminary Design | WiP | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | -/- | | |
| Land property resolved | -/- | | |
| Main design / detailed design | WiP | 05/2011 | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | It is noted that WBIF supported preparation of the Project (WBIF TA grant TA2-BIH-TRA-02, €600k) with a Feasibility Study (Nov 2011, approved Jan 2012) which comprised also an environmental elaboration (as Phase I) to assess in economic terms the pre-defined preferred option of a single track overhaul and with a Main Design comprising also draft tender documents (as Phase II) of track overhaul (main design competed 23/04/2013, the documentation has been technically controlled and approved by the commission for revision). However, the most needed for the project preparation to full maturity being an update of technical documentation with regard to project costs and preparation of a tender for services (supervision). To that end, preparation of preliminary and main design and related studies for overhaul / reconstruction / construction interventions on the railway section Doboj - Rasputnica Miljacka is tendered 28/05/2019 (€3.8 million, IPA 2017) and include full compliant preparation of documentation (not necessarily be limited to): a. Upgrade of the existing main designs for overhaul of railway sub-sections Doboj–Maglaj and Podlugovi–Rasputnica Miljacka;<br>b. Design of overhaul / reconstruction of railway sub-sections Maglaj–Jelina, Jelina-Zenica Freight station–Zenica passenger station, inclusively, and Zenica passenger station–Podlugovi;<br>c. Upgrade of the existing main design for existing track of the section Zenica-Rasputnica Miljacka, and design of construction for doubled track along the existing one for sub-section Jelina–Zenica–Podlugovi–Rasputnica Miljacka (note: no conceptual design available for doubled track). This assignment including, as minimum: Review of compliance of the conceptual design with the relevant legislation and spatial plans, Optimisation of alignment, including consideration of connections to adjacent railway sections and collisions with road network; Preliminary design for overhaul / reconstruction / construction interventions; Extracts of documents for obtaining conformities and permits, where required; Feasibility study; Environment impact assessment; Main design for construction of overhaul / reconstruction / construction interventions; Revision of main design; Preparation of tender dossier for overhaul / reconstruction / construction intervention, with an ultimate objective is to enable tendering of works in line with the applicable legislative and regulatory framework of BiH, FBiH, and Republika Srpska, respectively. The TA is expected to start in 1Q 2020 and will last 24 months. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 22,500,000 |
| Total investment | | 0 |
| Investment financing considerations | The Beneficiary considers to apply for EU co-financing. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

***Mediterranian Corridor (Rail CVc), Rehabilitation and modernization works of the railway section Bosanski Samac – Podlugovi to meet with the TEN-T standards***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Mediterranian Corridor (Rail CVc), Rehabilitation and modernization works of the railway section Bosanski Samac – Podlugovi to meet with the TEN-T standards |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Mediterranean |
| From | Bosanski Samac |
| To | Podlugovi |
| Gap rationale | Upgrade of the existing link |
| Country | BIH |
| Lead Project Beneficiary | Repubika Srpska Railways; Public Company Railways of the Federation of Bosnia and Herzegovina |
| Proponent | Ministry of Communications and Transport of the Bosnia and Herzegovina; Ministry of Transport and |
| Project ID/number | WB.TR.R.02 |
| SEETO Code | Corridor Vc |
| European Route Code | E771 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The section is part of the Corridor Vc and therefore following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), is identified as part of the Mediterranean Corridor. |
| Strategic relevance | Railway Corridor Vc presents the existing railway line in total length of 661km with general orientation Budapest (HUN)-Vrpolje-S. Šamac (HR)-B. Šamac-Sarajevo-Čapljina (BiH)-Ploče (HR). The section is included in the Transport Master Plan BiH; Medium Term Investment Plan for Railways Development; Study on TER compliant railway corridor Vc through BiH. |

| | |
|---|---|
| General description | The CVc railway line/sector Šamac–Podlugovi has total length of 210.827 km (in FBiH – 129.073 km and in RS – 81.754 km), and the sections are as follows: State border part (single-track in length of 0.782 km, FBIH), BC Šamac-Grapska (single-track line 56.372 km long, RS), Grapska-Doboj-Maglaj (double-track line is 24.6 km long, RS), Maglaj-Jelina-Zenica (double-track line 76.2 km long, FBiH), Zenica-Podlugovi (single-track line is 52.873 km, FBiH). The project include works on the single-track section Samac-Doboj (while part Kostajnica-Doboj is double track), approximately 63 km long, consisting of replacement of rails, sleepers, ballast cleaning, security stations and level crossings, rehabilitation, repair of electric power equipment and facilities, as well as works on telecommunication installations and devices. On the following double-track section Doboj-Rjecica (Maglaj), approximately 18 km long, and on the single-track section Jelina-Zenica (9 km) aim is to mount rails UIC 60, replacement of sleepers, reconstruction of bridges, platforms, security stations and level crossings. It is noted that urgent sanation works were needed following the catastrophic floods in May 2014 on parts of the Samac-Doboj sections (some 200 m completely reconstructed on part Doboj (Kostajnica)-Bosna river bridge and also approx. 2 km of the railway Samac-Modrica - these were completely reconstructed, incl. substructure/subgrade, in period 16/12/2014-06/02/2015). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 100-120 |
| Maximum train length** | 700 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 211 |
| No of tracks** | Single/Double |
| Condition** | Good |
| Maximum Designed Speed** | 120 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Increase of speed on this section in combination with signalling improvement would increase the capacity of the line, reduce the transportation costs and enable faster connections with neighbouring countries. In addition, the railway transportation with such characteristics shall reduce the transport of freight by roads on this corridor that shall contribute to environmental protection and more comfortable journeys for railway passengers. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | Contribution to environment protection transferring heavy transport from roads to railways using predominantly electric traction. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | WiP | | |
| Preliminary Design | WiP | | |
| Environmental and Social Impact Assessment | WiP | | |
| Valid spatial planning documents | C | | |
| Land property resolved | -/- | | |
| Main design / detailed design | WiP | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |

| | |
|---|---|
| Further project preparation considerations | Main design for Samac-Doboj was prepared back in 2008. FS for this section was prepared from 20/11/2015 to 01/02/2016, following preparation of EIA in 2015. General designs for the overhaul for the sections Doboj-Maglaj and Jelina-Zenica (WBIF TA grant WB5-BIH-TRA-14 approved in amount of €1 million for subsections Doboj-Maglaj and Jelina-Zenica). This TA included Feasibility Study with technical design, traffic capacity analysis and forecasts, elaborate on environment protection and CBA, main designs for both subsections (prepared in 2013), draft tender documentation for the overhaul works. Updating of the feasibility study done in 2017. However, preparation of preliminary and main design and related studies for overhaul / reconstruction / construction interventions on the railway sections Doboj-Podlugovi-Rasputnica Miljacka is tendered 28/05/2019 (€3.8 million grant, IPA 2017) and include full compliant preparation of documentation (not necessarily be limited to): a. Upgrade of the existing main designs for overhaul of railway subsections Doboj–Maglaj and Podlugovi–Rasputnica Miljacka; b. Design of overhaul / reconstruction of railway sub-sections Maglaj–Jelina, Jelina-Zenica Freight station-Zenica passenger station, inclusively, and Zenica passenger station–Podlugovi; c. Upgrade of the existing main design for existing track of the section Zenica-Rasputnica Miljacka, and design of construction for doubled track along the existing one for sub-section Jelina–Zenica–Podlugovi–Rasputnica Miljacka (note: no conceptual design available for doubled track). This assignment including, as minimum: Review of compliance of the conceptual design with the relevant legislation and spatial plans, Optimisation of alignment, including consideration of connections to adjacent railway sections and collisions with road network; Preliminary design for overhaul / reconstruction / construction interventions; Extracts of documents for obtaining conformities and permits, where required; Feasibility study; Environment impact assessment; Main design for construction of overhaul / reconstruction / construction interventions; Revision of main design; Preparation of tender dossier for overhaul / reconstruction / construction intervention, with an ultimate objective is to enable tendering of works in line with the applicable legislative and regulatory framework of BiH, FBiH, and Republika Srpska, respectively. The TA is expected to start in 1Q 2020 and will last 24 months. |
| Risks identified | Technical documentation for Samac-Doboj may need updating. |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 139,470,000 |
| Investment financing considerations | The total grant support request (financing gap) for the investment indicated, for the sections Samac-Doboj, Doboj-Maglaj and Jelina-Zenica is approx. €72 million. Negotiations with EBRD for loan financing (€66 million) and EIB. Grant application WB-IG05-BIH-TRA-07 only for subsection Samac – Doboj – Rjecica (RS/FBiH border) submitted under INV05. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

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# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

***Mediterranian Corridor (Rail CVc), Rehabilitation and modernization works of the railway section Sarajevo – Capljina to meet with the TEN-T standards***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Mediterranian Corridor (Rail CVc), Rehabilitation and modernization works of the railway section Sarajevo – Capljina to meet with the TEN-T standards |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Mediterranean |
| From | Sarajevo (Miljacka junction) |
| To | Capljina (state border) |
| Gap rationale | Upgrade of the existing link |
| Country | BIH |
| Lead Project Beneficiary | Public Company Railways of the Federation of Bosnia and Herzegovina |
| Proponent | Ministry of Communications and Transport of the Bosnia and Herzegovina; Ministry Transport and |
| Project ID/number | WB.TR.R.03 |
| SEETO Code | Corridor Vc |
| European Route Code | E771 |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The section is part of the Corridor Vc and therefore, following a meetings of WB6 Transport Ministers and EU Transport Commissioner, and in particular meetings in Brussels (April 2015) and Riga (TEN-T days, June 2015), is identified as part of the Mediterranean Corridor. |
| Strategic relevance | Railway Corridor Vc presents the existing railway line in total length of 661km with general orientation Budapest (HUN)-Vrpolje-S. Šamac (HR)-B. Šamac-Sarajevo-Čapljina (BiH)-Ploče (HR). The section is included in the Transport Master Plan BiH; Framework Transport Strategy adopted in 2016; Medium Term Investment Plan for Railways Development; Study on TER compliant railway corridor Vc through BiH. The investment aims toward achieving standards defined by the appropriate agreements AGC and AGTC. The project is part of the regional Rehabilitation of Railways in BiH II project. |

| | |
|---|---|
| General description | The railway line is consisting several rail sections of which first being Sarajevo-Bradina. Upgrade of this 36 km long section (superstructure) plus 3 km long tunnel Ivan included improvement of specific components of the railway infrastructure. In principle, the following infrastructure components were foreseen for the recovery and improvement along the aforesaid section: overhaul of the complete permanent way/superstructure (rails, sleepers, track balast, fastenings) with the substructure recovery (only) in some places; installation of interlocking systems and the Route Control System in some stations for local traffic control and dependence between the stations with the open interface for future upgrade (automatic block and centralised traffic control-CTC); installation of telecommunication devices in junctions with the components of the information system; overhaul of specific components of the fixed installations for electric traction.<br>Following these rehabilitations, speeds were increased from Vmax=50 km/h to 80-100 km/h. However, though the tracks foundation (blankets and subgrade) is existing, its reconstruction will still be required (incl. bridges, tunnels, landslides, culverts, canals) due to frequent incidents, almost all parameters of track geometry are beyond the permitted limits, uncomfortable driving, high operating costs. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Electrified |
| Max axle load** | 225 kN |
| Max operating speed ** | 80-100 |
| Maximum train length** | 550 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 163 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 100 |
| Passenger Traffic** | 0 |
| Freight Traffic** | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Benefits assessed are: increase of the maximum running speed of trains on open track from 50 km/h to 80 km/h in freight traffic and from 70 km/h to 100 km/h in passenger traffic, which providing significant savings in travel times for both freight and passengers; increase of the line capacity by elimination of the "bottlenecks" along the line; reduction of infrastructure maintenance costs; improvement of operational conditions of railway traffic from the safety aspect by removal of worn-out track components and installation of appropriate interlocking, telecommunication and FIET2 components. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | Contribution to environment protection transferring heavy transport from roads to railways using predominantly electric traction. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | C | | 06/2006 |
| Preliminary Design | -/- | | |
| Environmental and Social Impact Assessment | -/- | | |
| Valid spatial planning documents | -/- | | |
| Land property resolved | -/- | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | C | | |
| Further project preparation considerations | Project preparation financed with EU grant funding. It is noted that technical documentation prepared for the section Sarajevo-Bradina did not consider ERTMS. Tendering provided under the EBRD Procurement Rules. First phase of the Sarajevo-Bradina railway section overhaul completed in 3Q 2015 and the remaining works are finished in 2018 (though, technical acceptance of works has not yet been completed). On the following sections the entire permanent way/superstructure was restored: Sarajevo-Bradina (40 km, value of works €44 m of which €25.5 m loans from EIB and EBRD), Bradina-Konjic in 2010, Konjic-Capljina in 2015 (100 km, contract signed 09/11/2009, value of works approx. €51.1 m of which €26.1 m for Konjic-Raska Gora and €25 m for Raska Gora-Capljina; with further approx. €11.75 m provided for signalisation for which construction contract signed 29/12/2009) and Čapljina-Ploce (Croatia) overhaul works are completed in 2014, with partial improvement of security in the stations. | | |
| Risks identified | Timely provision of the financial resources for the preparation of the lacking technical documents. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 35,800,000 |
| Total investment | | 44,000,000 |
| Investment financing considerations | No further investments needed as implementation of the Project de facto completed. Funding secured largely under the Rehabilitation of Railways in BiH II programme for which Loan Agreements signed with EBRD and EIB in 2005 in total amount of €156 million (EBRD €70 million and EIB €86 million), of which 60% allocated to rehabilitation projects in Railways FBiH and 40% to Railways of Republika Srpska. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Mediterranean Corridor (Rail CVIII), Modernisation of the railway line Tirana-Durres*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Rail CVIII), Modernisation of the railway line Tirana-Durres |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Mediterranean |
| From | Tirana |
| To | Durres |
| Gap rationale | Co-financing approved; Upgrade of the existing link |
| Country | ALB |
| Lead Project Beneficiary | Albanian Railways (Hekurudha Shqiptare H.SH.) |
| Proponent | Ministry of Infrastructure and Energy |
| Project ID/number | WB.TR.R.04 |
| SEETO Code | Corridor VIII |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following the Meetings on April 2015 in Brussel and June 2015 in Riga with the participation of Transport Ministers and EU Transport Commissioners, this project is identified as part of Rail Core Network which extends the rail coridoreto the Western Balkans Region. Hence the project is included in the National Development Strategies as a rail-line to be upgraded. It has a great impact for connectivity for international links through TIA Airport and seaport of Durres in Adriatic-Ionian Corridor connectivity and the cross-border impact between Transport Community Secreteriat participants (Albania, North Macedonia, Montenegro, BiH, Serbia, Kosovo) and via corridor VIII with EU member states (Greece, Bulgaria), Turkey and beyond. |
| | |

| | |
|---|---|
| Strategic relevance | The project is in compliance with the national policies for the railway sector and in particular:<br>- The Albanian Government Program, The National Strategy on Development and Integration NSDI II 2015-2020,<br>- Transport Sector Strategy and Action Plan 2016-2020 approved by DoCM 811, 16/11/2016<br>- and is part of the Albanian National Package of Single Project Pipeline.<br>The project is also in compliance with the regional priorities for the railway sector as it is:<br>- part of the tentative extension of TEN-T Core Network to Western Balkans (Podgorica-Durres/Tirana),<br>- part of the South East Europe Transport Observatory (SEETO) and initiatives of the EU. |
| General description | The infrastructure is existing and under operation, but is in very poor condition resulting in very slow speeds. The line was modernised in 1997 by means of concrete sleepers and welded rail, but currently a 60kph limit is in place imposed by poor track condition and frequent unauthorized level crossings. Signalling is almost inexistent or obsolete. This project includes the modernisation of existing railway line Tirana-Durres (34.7 km) and construction of new railway line for Rinas Airport (7.4 km). The reconstrucion of Tirana-Durres implies the renovation of railway infrastructure (subgrade improvement, new ballast, new concrete sleepers, new rail S-60kg/ml and CWR), the construction of all the new structures, new railway stations,etc. Contemporary signalling and telecommunication systems will be installed. The new railway line of Airport includes the new alignment, two big railway bridges, two new railway stations and the new railway triangle that comes from two direction Tirana-Durres-Airport. Rehabilitation will allow for speeds of 100-120 km/h. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Traction** | Diesel |
| Max axle load** | 225 kN |
| Max operating speed ** | 100-120 |
| Maximum train length** | 740 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Length** | 42 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 120 |
| Passenger Traffic** | 122,000 |
| Freight Traffic** | 144,000 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | Reduce travel time and contribute to decrease of overcharged road transport; Better acces of the Tirana inhabitants to seaside during the turistic season; Increase trade, services and goods circulation in the area between Durres and Tirana. Better access to main national and institutions and services located in Tirana (health, educations, administration) |
| Climate change mitigation and adaptation aspects | Environmental aspects: a) Biophysical environment: Improve air quality by reducing CO2 emission. b) Socioeconomic aspects: Reduce travel time and contibute to decrease of overcharged road transport; Better acces to seaside during the turistic season; Increase value of land and improve trade, services and goods circulation in the area between Durres and Tirana. Better access to main national and institutions and services (health, educations, administration); c) Climate change: Positive impact from reduction of GHG emissions through diesel consumption reduction . |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 04/2009 | 11/2009 |
| Feasibility study (incl. CBA) | C | 04/2015 | 02/2016 |
| Preliminary Design | C | 01/2009 | 11/2009 |
| Environmental and Social Impact Assessment | C | 04/2015 | 12/2015 |
| Valid spatial planning documents | C | 04/2015 | 02/2016 |
| Land property resolved | WiP | 04/2015 | |
| Main design / detailed design | C | 04/2015 | 02/2016 |
| Tender documentation | C | 08/2016 | 12/2016 |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The project preparatory documentation are completed (incl. detail design and tender documents) with WBIF support (the TA grants). Currently, the beneficiary Albanian Railway has prepared the Council of Minister Decision approving the national contribution for the land acquisition. Procurement for works (open procedure) published 02/05/2018. Awarding of work and supervision contracts is expected within October 2019. Construction works foreseen for 30 months. | | |
| Risks identified | Considerable delays in the tendering procedure. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 270,000 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 275,000 |
| Environmental and Social Impact Assessment | No | 50,000 |
| Valid spatial planning documents | Yes | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 1,215,000 |
| Tender documentation | No | 60,000 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 89,040,000 |
| Total investment | | 93,154,000 |
| Investment financing considerations | EBRD has provided a sovereign loan of €36.87 million (signed 29/12/2016). To complement financing, an EU grant is approved (WB-IG01-ALB-TRA-01, €35.415 million of which €2.48 for SofW) and the Financing Agreement was signed 09/05/2018. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - Rail**

## *Mediterranean Corridor (Rail R2), Improvement of the railway link Durres-Vora - Shkodra - Hani & Hotit*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Mediterranean Corridor (Rail R2), Improvement of the railway link Durres-Vora - Shkodra - Hani & Hotit |
| Sector: | Transport |
| Subsector | Rail |
| Corridor/Route | Mediterranean |
| From | Vora |
| To | Hani & Hotit |
| Gap rationale | Upgrade of the existing link |
| Country | ALB |
| Lead Project Beneficiary | Albanian Railways (Hekurudha Shqiptare H.SH.) |
| Proponent | Ministry of Infrastructure and Energy |
| Project ID/number | WB.TR.R.22 |
| SEETO Code | Route 2 |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Aims at the long-term vision of the Albanian Government for the railway sector, which is the revitalization, restructuring and the integration of the Albanian Railway network into the regional and European railway network. The project is in full compliance with the Rail Code of Albania and contributes to Rail Freight Corridors (RFC) via TEN-T MED. With the signing of the Transport Community Treaty including its ratification in Republic of Albania, after its endorsement and approval in principle by DCM no. 484, dated 11/07/2017 which includes Regulation EU 913/2010, the process of extending the RFC to Western Balkans would be facilitated by this project as well.<br>Additionally, it has a great impact for connectivity for international links through TIA Airport and seaport of Durres in Adriatic-Ionian Corridor connectivity and the cross-border impact between SEETO participants (Albania, North Macedonia, Montenegro, BiH, Serbia, Kosovo) and via corridor VIII with EU member states (Greece, Bulgaria), Turkey and beyond. The project is part of the Governmental Agreement Albania-Montenegro ratified in December 2012. The implementation of the project will contribute to the gradual adaptation of Directive 2012/34/ EU of the European Parliament and of the Council, for establishing a single European railway area, as well as for observance of the included therein railway safety and interoperability guidelines. |

| | |
|---|---|
| Strategic relevance | The project is in compliance with the national policies for the railway sector and in particular:<br>- The Albanian Government Program, The National Strategy on Development and Integration NSDI II 2015-2020,<br>- Transport Sector Strategy and Action Plan 2016-2020 approved by DoCM 811, 16/11/2016<br>- and is part of the Albanian National Package of Single Project Pipeline.<br>The project is also in compliance with the regional priorities for the railway sector as it is:<br>- part of the tentative extension of TEN-T Core Network to Western Balkans (Podgorica-Durres/Tirana),<br>- part of the South East Europe Transport Observatory (SEETO) and initiatives of the EU. |
| General description | The track infrastructure is in very poor condition, resulting in very low speeds, due to the lack of essential maintenance of the infrastructure. The maximum operating speed of the railway is about 40 km/h, in a few sections the operating speed is even lower than 20 km/h. Signalling system, largely destroyed during the unrest periods in 1991 and 1997, is inexistent on the line. The communications between stations are done via radio and there is no controlled safety system for the trains' movement along the line. Freight services are poor with long journey times and low demand. The potential for commodities and raw materials rail transport, for the steel and cement industries in particular is good, and improvements in the system to permit increased speeds, capacity and axle loads compatible with European standards will provide a more attractive service for these industries. This railway track is the main and only line which connects Albania with South East Europe (firstly Montenegro). The increased speed and uniform classification (UIC D4 category, 22.5 tons/axle, and 8.0 tons/m) are to be served through:<br>- replacement and rehabilitation of outdated superstructure components (ballast, sleepers, fastening, switches and tracks);<br>- rehabilitation and improvement of infrastructure components (track bed, culverts, bridges and tunnel);<br>- consolidation of level crossings (proposals for reduction, rehabilitation and/or interlocking improvements);<br>- improvement of interlocking and telecommunications equipment for incorporation into the CTC system;<br>- line fencing (where applicable) and exploring alternatives to physical line fencing. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Traction** | Diesel |
| Max axle load** | 225 kN |
| Max operating speed ** | 100-120 |
| Maximum train length** | 740 |
| Full deployment of ERTMS ** | Yes-1 |
| Track gauge** | 1435 mm |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Length** | 120 |
| No of tracks** | Single |
| Condition** | Good |
| Maximum Designed Speed** | 120 |
| Passenger Traffic** | 42,300 |
| Freight Traffic** | 19,440 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The rehabilitation of Vora-Shkodra-Hani i Hotit railway line shall increase significantly freight traffic entering into/going out of Albania via this indicative extension of TEN-T core network, arriving at port of Durres or going out from Bajza to Tuzi and beyond. Main financial parameters as assessed during WB4-ALB-TRA-09, have determined the socio-economic indicators as follows:<br>- Incremental socioeconomic revenues Vora to Shkodra EUR 4.7 million, Shkodra to Hani Hotit EUR 3.4 million;<br>- Savings in Vehicle Operating Costs Vora to Shkodra EUR 20.85 million, Shkodra to Hani Hotit EUR 7.52 million;<br>- Savings in VOT of Trip/Travel Vora to Shkodra EUR 45.75 million, Shkodra to Hani Hotit EUR 7.19 million;<br>- Savings in Cost of Accidents Vora to Shkodra 6.4 million EUR, Shkodra to Hani Hotit EUR 1.9 million;<br>- Savings in Environmental Cost Vora to Shkodra EUR 102.91 million, Shkodra to Hani Hotit EUR 52.75 million;<br>- Consumer Surplus Vora to Shkodra 0.4 million EUR, Shkodra to Hani Hotit EUR 0.2 million;<br>- Socioeconomic Residual Value of CAPEX Vora to Shkodra EUR 6.8 million, Shkodra to Hani Hotit EUR 3.14 million;<br>The project improves access to use the railway for about 1,000,000 inhabitants and workers in the surrounding area in Albania. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | Reduce travel time; Reduce accidents and increase safety; Reduce operating costs; Reduce fuel consumption; Drastic improvement of regional railway transport (Albania-Montenegro) corridors; Positive impact on climate change from reduction of GHG emissions through diesel consumption reduction. The renewed operation of the railway between Vora to Hani & Hotit and further linkage to Montenegro, changes the transport mode choice to the favor of railways and hence reduces adverse environmental impacts to the wider region. |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2009 | |
| Feasibility study (incl. CBA) | C | 04/2015 | 02/2016 |
| Preliminary Design | WiP | 12/2018 | |
| Environmental and Social Impact Assessment | WiP | 12/2018 | |
| Valid spatial planning documents | C | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | The PFS has been completed as part of TA-ALB-06 “Feasibility study for track renewal and signaling and communication systems in the whole network of Albanian Railway”. CBA has been completed as part of component B Economic/Financial Evaluation of the whole Albanian railway network funded by WB4-ALB-TRA-09 “Detailed Design for Tirana-Durres Railway Section, linkage to Rinas Airport and economic financial appraisal for whole rail network”. The PD, DD and full ESIA package are being prepared under WB16-ALB-TRA-02 study and so this TA is expected to complete all the necessary project preparation studies (incl. tender documents). DD pending to start following approvals of the PD. | | |
| Risks identified | Securing financing; Delays in tendering, construction stage set of risks. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 270,000 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 1,250,000 |
| Environmental and Social Impact Assessment | No | 100,000 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | No | 3,150,000 |
| Tender documentation | No | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 249,175,413 |
| Total investment | | 0 |
| Investment financing considerations | Gov't of Albania is considering applying for an INV grant, once the financial costs will be available. This will be blended with EBRD loan. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Ledina Gjiknuri |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - IWW**

## *River training and dredging works on critical sectors on the SRB-CRO joint stretch of the Danube River*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | River training and dredging works on critical sectors on the SRB-CRO joint stretch of the Danube River |
| Sector: | Transport |
| Subsector | IWW |
| Corridor/Route | Danube/Rhine |
| From | Bezdan |
| To | Backa Palanka |
| Gap rationale | Fairway bottleneck |
| Country | SER |
| Lead Project Beneficiary | Ministry of Construction, Transport and Infrastructure – Directorate for Inland Waterways (Plovput) |
| Proponent | Ministry of Construction, Transport and Infrastructure – Directorate for Inland Waterways (Plovput); The |
| Project ID/number | WB.TR.W.01 |
| SEETO Code | Corridor VII Danube |
| European Route Code | Corridor VII |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | According to the classification established of the main waterway corridors in the EU, the Danube is part of the Rhine-Main-Danube Corridor and the only inland waterway corridor in this classification. Project is in line with EU policies, strategies and objectives and as such in line with: Danube Commission Recommendations; AGN (European Agreement on Main Inland Waterways of International Importance); Joint Statement on Guiding Principles on the Development of Inland Navigation and Environmental Protection in the Danube River Basin; European Union Strategy for Danube Region; etc. |
| | |

| | |
|---|---|
| Strategic relevance | Project is identified in numerous other strategic documents such as: Waterborne Transport Development Strategy of the Republic of Serbia 2015-2025; General Master Plan for Transport in Serbia (2009); Strategy of the of Railway, Road, Inland Waterway, Air and Intermodal; Transport Development in the Republic of Serbia, 2008-2015 (Official Gazette of RS, No. 4/08); General Plan and Feasibility Study for Inland Waterborne Transport in Serbia (2006); Bilateral agreement between Serbia and Croatia on inland navigation and technical maintenance of waterways; Special Purpose Spatial Plan for International IWW danube (Paneuropean Corridor VII), Jan 2015, Republic of Croatia IWW development Strategy 2008 – 2018 (2008), etc. SEETO‘s Multi-Annual Development Plan 2016 identifed this project in the Priority Project List - Projects Eligible for Funding. The Project is included in the country‘s SPP. |
| General description | The purpose of the project is to provide the minimum navigable depth and width of the joint RS–CRO section of the Danube waterway in low water level periods. In this manner, navigation conditions on the Danube river would become more predictable in the sense of available waterway dimensions, more reliable in the sense of logistics and transport planning, and more competitive in relation to comparable modes of transport. During the implementation of the IPA 2010 project “Preparation of documentation for river training and dredging works on critical sectors of the Danube River in Serbia”, 24 critical sectors have been identified on the stretch from Bezdan (Serbian-Hungarian border) to Belgrade, and 17 critical sectors are located on the SRB-CRO joint stretch of the River. Therefore, project relates to the 17 critical section identified by Serbian Water Directorate and accepted by the Croatian counterparts. The Interstate Commission for the Implementation of the Bilateral Agreement responsible for project monitoring has also adopted new characteristic navigation levels toward efforts to harmonise technical solutions between the two countries. The aim is to prepare the documentation that is missing and attain conditions, obtain formal opinions and consents from the relevant institutions in both states (estimated to last three years). Works would be executed within a 3-year period following the documentation completion and attainment of all conditions and permits. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| CEMT class** | VIc |
| Max. vessel length** | 300 |
| Min. draught** | 2.5 / 2.0 |
| Min. clearance/height under bridge** | 8.60 |
| Availability of alternative clean fuels** | --- |
| Connection of IWW ports to rail network** | Yes - 1 |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Operating Speed Up** | 0 |
| Operating Speed Down** | 0 |
| Max pushed barges ** | 6 |
| Max load per barge - | 1,660 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Project implementation would create long-term prospects for the development of inland waterborne transport on the entire Danube river course. Project effects are inextricably connected to the improvement of navigation conditions in other Danube region countries, both upstream and downstream from the project section. This is the only way in which the Danube river can become a part of the integrated system of inland waterways and can significantly contribute to social-economical development of the Republic of Serbia and the entire region. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | Ecological monitoring of hydraulic and dredging works (prior to, during and after the performed hydraulic works) will include hydrology, hydrography, biology, quality of sediments, water quality and other ecological parameters. Possible environment impacts of planned river engineering works may be: Changes in natural composition of the river channel; Changes in hydrologic and hydro-morphologic characteristics or river ecosystems; Hydrologic and hydro-morphologic changes in flood plains (inundations); Changes in the composition of water habitats and wetlands in flood plains; Changes in species populations. Although the full extent of the residual impacts is not known at the current stage, given the type and scale of the investment, these are expected to be moderate. The negative impacts during construction may relate to temporary land occupation, interruption of water flow and ecological continuity in some sections of the river and fragmentation of habitats; general water quality decrease due to turbidity, accidental spills and flow reduction in some sections; increase in dust, particles and noise emissions into the atmosphere during construction activities and material transportation; general reduction of the ecological quality of the site by destabilization of the riverbed and banks and other impacts in existing fauna and flora. During operation, the negative impacts may relate to changes in the hydrological regime (water flow and sedimentation); changes and fragmentation of the river ecological system, both in the riverbed and banks, making fish migration more difficult and affecting existing fauna and flora. Eutrophication and sedimentation interruption impacts could also occur. On the contrary, some positive impacts during operation are also (likely) expected such as reduction of fossil fuels consumption and associated gas emissions due to the expected modal shift from road transport to IWW and the increase of vessels size. Due to the nature of the works to be financed, which mainly concern the rehabilitation and upgrade of existing fluvial infrastructure, in principle, no major social impacts are foreseen (no resettlement as a consequence of this project will take place, voluntary or involuntary, and no restriction of access to natural resources is expected). The full extent of impacts and mitigation schemes are, however, to be assessed during the ESIA and permitting procedures. |

**TAB 6 - MATURITY**

| | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 05/2011 | 01/2013 |
| Feasibility study (incl. CBA) | WiP | | |
| Preliminary Design | WiP | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | C | 03/2011 | 01/2015 |
| Land property resolved | -/- | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |

| | |
|---|---|
| Further project preparation considerations | Technical components of the project include the following:<br>− Involving all interested parties of the project in the regular stakeholder forum (bearing in mind the existence of great number of protected areas and sensitive habitats of endangered species alongside this segment of the Danube river);<br>− Morphological modelling of all 17 sectors;<br>− Multicriteria analysis and selection of the most favourable solution;<br>− Harmonisation of the Feasibility study and preparation of preliminary designs;<br>− Preparation of the Environmental impact assessment study in crossborder context;<br>− Preparation of the main designs (based on the selection of the best solution through multicriteria analysis)<br>− Preparation of compensation measures with regard to environment;<br>− Preparation of tender documentation for hydraulic and dredging works and for the supervision and ecological monitoring of hydraulic and dredging works;<br>− Realisation of hydraulic engineering works (combination of dredging of river sediments and unsubstantiated hydraulic structures, such as chevrons, river groynes, brinks, etc.)<br>− Supervision and ecological monitoring over the works (monitoring prior to, during and after the performed hydraulic works). Feasibility study with preliminary designs have been prepared (IPA 2010) for these 17 sectors, based on the hydrodynamic modelling results. However, as per the national legislation, these are subject to approval by State Revision Committe following prior bilateral agreement of technical solutions. It is necessary to conduct the morphological modelling for the aforementioned 17 critical sections after which the best possible solutions shall be selected. |
| Risks identified | Serbia and Croatia haven‘t yet signed agreement on broder line. Main risk identified is related to lack of results or delay in agreeing technical solutions between the two countries. Other possible significant risk relates to delays in preparation of EIA under cross-border concept which may be delayed or may impose strict limitations and/or compensation measures. |

**TAB 7 - FINANCING**

| | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 150,000 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | Yes | 3,250,000 |
| Tender documentation | Yes | 90,000 |
| Construction and other permits | Yes | 10,000 |
| Construction & supervision of works contracts | Yes | 45,000,000 |
| Total investment | | 48,500,000 |

| | |
|---|---|
| Investment financing considerations | The project has been proposed for financing within IPA 2014-2020 - EUR 48.5 million in total (including the preparation of complete documentation and the execution of works in both states):<br>− EUR 3.5 million for preparatory activities, including the harmonisation of technical solutions between the two states, Environmental impact assessment study in the cross-border context, approval of the Feasibility study and preliminary designs in both states, main designs for critical sections with hydraulic structures, tender documentation for works and for the supervision and ecological monitoring);<br>− EUR 40 million for hydraulic and dredging works;<br>− EUR 5 million for supervision and ecological monitoring over hydraulic and dredging works.<br>At first, no loans were foreseen for this project. However, the financing scheme is amended as the project is being part/component of the Framework Loan Agreement (Improvement of Serbian Inland Waterway Infrastructure, in total for all components €100 million, signed 23/11/2018). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - IWW**

***River training and dredging works on critical sectors on the sectors on the Danube river in Serbia between Backa Palanka and Belgrade***

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | River training and dredging works on critical sectors on the sectors on the Danube river in Serbia between Backa Palanka and Belgrade |
| Sector: | Transport |
| Subsector | IWW |
| Corridor/Route | Danube/Rhine |
| From | Backa Palanka |
| To | Belgrade |
| Gap rationale | Fairway bottleneck |
| Country | SER |
| Lead Project Beneficiary | Ministry of Construction, Transport and Infrastructure – Directorate for Inland Waterways (Plovput) |
| Proponent | Ministry of Construction, Transport and Infrastructure – Directorate for Inland Waterways (Plovput) |
| Project ID/number | WB.TR.W.02 |
| SEETO Code | Corridor VII Danube |
| European Route Code | Corridor VII |
| Other Project/LOT Code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | According to the classification established of the main waterway corridors in the EU, the Danube is part of the Rhine-Main-Danube Corridor and the only inland waterway corridor in this classification. Project is in line with EU policies, strategies and objectives and as such in line with: Danube Commission Recommendations; AGN (European Agreement on Main Inland Waterways of International Importance); Joint Statement on Guiding Principles on the Development of Inland Navigation and Environmental Protection in the Danube River Basin; European Union Strategy for Danube Region; etc. |
| Strategic relevance | Project is identified in numerous other strategic documents such as: Waterborne Transport Development Strategy of the Republic of Serbia 2015-2025; General Master Plan for Transport in Serbia (2009); Strategy of the of Railway, Road, Inland Waterway, Air and Intermodal Transport Development in the Republic of Serbia, 2008-2015; General Plan and Feasibility Study for Inland Waterborne Transport in Serbia (2006); Law on Navigation and Ports on Inland Waterways, etc. |

| | |
|---|---|
| General description | Project “River training and dredging works on critical sectors on the Danube River in Serbia” was kicked-off in May 2011 and is 100% funded by the European Union, under the IPA 2010 Programme. The main objective of the project is preparation of documentation for river training and dredging works in order to enable and improve safety of navigation along the critical sectors of the Danube River in Serbia during periods of low water levels and thus removing these critical sectors. It includes 6 critical sectors between Backa Palanka and Belgrade (Sectors 18-24 - Susek, Futog, Arankina Ada, Čortanovci, Beška and Preliv). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| CEMT class** | VIc |
| Max. vessel length** | 300 |
| Min. draught** | 2.5 |
| Min. clearance/height under bridge** | 9.70 |
| Availability of alternative clean fuels** | --- |
| Connection of IWW ports to rail network** | Yes - 2 |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Operating Speed Up** | 0 |
| Operating Speed Down** | 0 |
| Max pushed barges ** | 0 |
| Max load per barge - | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Implementation of the project would create long-term prospects for development of inland waterborne transport along the entire course of the Danube river. The effects of the project are inseparably interconnected with the advancement of the navigation conditions in other countries of the Danube region, both upstream and downstream from the project section. That is the only way to make the Danube river more competitive on the Pan-European transport market, and to make a substantial contribution to the overall social and economic development of the Republic of Serbia and the entire Danube region. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | The EIA study prepared concludes that it is not expected that the project implementation will have negative impact on climate, geology, or quality of the soil. The proposed combination of river training activities is not expected to have significant adverse impacts and the ecological status of the Danube and its riparian wetland areas, although modifications to the hydro-morphology and local ecological conditions will occur. In case the recommendation for mitigation measures is followed it is possible to avoid the most severe risk of impacts during the construction phase. The EIA study identifies mitigation measures. The impact of climate change on the flow pattern as well as the consequences for the ecosystem is quite uncertain. It is therefore highly recommended that such potential changes are monitored carefully as a part of a monitoring programme. |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 12/2006 |
| Feasibility study (incl. CBA) | C | 12/2011 | 08/2012 |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | 11/2012 | 06/2013 |
| Valid spatial planning documents | C | | |
| Land property resolved | -/- | | |
| Main design / detailed design | C | | |
| Tender documentation | C | 04/2014 | 11/2015 |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | WiP | 08/2018 | |
| Further project preparation considerations | The following documentation is finalized and approved: Feasibility study with preliminary designs; Environmental impact assessment study; Dredging works – field survey; Main designs for critical sections with hydraulic structures; Technical inspection of the main projects has been completed; All permits for all critical sections have been obtained; Construction permits have been obtained; Tender procedure for supervision and environmental monitoring of river training and dredging works on critical sections on the Danube river is ongoing. The project is considered fully prepared and no further preparation activities envisaged. | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 9,300,000 |
| Total investment | | 0 |
| Investment financing considerations | The project implementation has been proposed for financing within IPA 2013 plus 15% State contribution (total value 14.2 million EUR):<br>- 12.2 million EUR for hydraulic and dredging works;<br>- 2 million EUR for supervision and ecological monitoring of the hydraulic and dredging works. Tendering for the above activities took place in 1H 2015 (under the FIDIC Construction Contract). Commercial contracts were signed: On 02/06/2017 for SofW and ecological manahement over hydrotechnical and dredging works on the critical sectors; On 06/06/2017 for hydrotechical and dredging works on the critical sectors. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - IWW**

## *River training and dredging works on critical sectors on the Sava river*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | River training and dredging works on critical sectors on the Sava river |
| Sector: | Transport |
| Subsector | IWW |
| Corridor/Route | Danube/Rhine |
| From | Brcko |
| To | Belgrade |
| Gap rationale | Fairway bottleneck |
| Country | SER |
| Lead Project Beneficiary | Ministry of Construction, Transport and Infrastructure – Directorate for Inland Waterways (Plovput) |
| Proponent | Ministry of Construction, Transport and Infrastructure – Directorate for Inland Waterways (Plovput) |
| Project ID/number | WB.TR.W.06 |
| SEETO Code | Sava River |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | According to the classification established of the main waterway corridors in the EU, this strech of Sava river is part of the Rhine/Danube Corridor. Project is in line with EU policies, strategies and objectives and as such in line with: Framework Agreement on the Sava River Basin (FASRB); Strategy for the Implementation of the Framework Agreement on the Sava River Basin (2011); Decision 26/06 of the International Commission for the Sava River Basin on the Adoption of Detailed Parameters for Waterway Classification on the Sava River; AGN (European Agreement on Main Inland Waterways of International Importance - signed by Serbia in Dec 2013); European Union Strategy for Danube Region; Danube Commission Recommendations; Multi-Annual Plan 2012-2016 on the South East Europe Core Regional Transport Network and Memorandum of Understanding on the South East Europe Core Regional Transport Network; Joint Statement on Guiding Principles on the Development of Inland Navigation and Environmental Protection in the Danube River Basin, etc. |
| | |

| | |
|---|---|
| Strategic relevance | Project is identified in numerous other strategic documents such as: Waterborne Transport Development Strategy of the Republic of Serbia 2015-2025; General Master Plan for Transport in Serbia (2009); Strategy of the Railway, Road, Inland Waterway, Air and Intermodal Transport Development in the Republic of Serbia, 2008-2015 (Official Gazette RS, No. 4/08); General Plan and Feasibility Study for Inland Waterborne Transport in Serbia (2006); Master Plan for Inland Waterways; Bilateral agreement between Serbia and Bosnia and Herzegovina on inland navigation and technical maintenance of waterways (2012), etc. The Project is included in the country‘s SPP. |
| General description | The purpose of the project is to provide the minimum depth and width of the Sava river waterway in low water level periods. In that manner, navigation conditions on the Sava river would become more predictable in the sense of available waterway dimensions, more reliable in the sense of logistics and transport planning, and more competitive in relation to comparable modes of transport. The stretch of the Sava River in Serbia is 211 km, out of which 33 km is a common stretch between Serbia and Bosnia and Herzegovina. However, the project area is the Sava River from rkm 0 to rkm 211 on which six critical sections for navigation have been determined. Technical components of the project imply the following:<br>− Involving all interested parties of the project in the regular stakeholder forum (bearing in mind the existence of great number of protected areas and sensitive habitats of endangered species alongside this river section);<br>− Morphological modelling;<br>− Multicriteria analysis and selection of the most favourable solution;<br>− Revision of the Feasibility study and preparation of preliminary designs;<br>− Preparation of the Environmental impact assessment study (in crossborder context for the river section upstream the Drina confluence)<br>− Preparation of main designs (based on the selection of the best solution through the multicriteria analysis)<br>− Preparation of compensation measures related to the environment;<br>− Preparation of tender documentation for hydraulic and dredging works and for the supervision and ecological monitoring of the hydraulic and dredging works (the monitoring includes hydrology, hydrography, biology, quality of sediments, water quality and other ecological parameters)<br>− Realisation of hydraulic engineering works (combination of dredging of river sediments and unsubstantiated hydraulic structures, such as river groynes, brinks, etc.)<br>− Supervision and ecological monitoring over the works (monitoring prior to, during and after the executed hydraulic engineering works). |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| CEMT class** | Va |
| Max. vessel length** | 0 |
| Min. draught** | 2 |
| Min. clearance/height under bridge** | 7.00 |
| Availability of alternative clean fuels** | --- |
| Connection of IWW ports to rail network** | Yes - 2 |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Operating Speed Up** | 0 |
| Operating Speed Down** | 0 |
| Max pushed barges ** | 0 |
| Max load per barge - | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Project implementation would contribute to the integration of the Sava river in the Pan-European transport network as improvement of navigation condition (to be navigable 265 days/year) would positively influence inter-modality potential of the Sava River and integration to multimodal transport chains. This way, the Sava river can become a part of the integrated system of inland waterways and can significantly contribute to social-economical development of the Republic of Serbia and of the entire region. It would improve navigation safety, increase efficiency of transport and capacity and predictability of the network (by enabling deeper load of barges) and reduce traveling time and operation costs (by eliminating need of convoys separating). |
| Climate change mitigation and adaptation aspects | The Sava River valley contains numerous sensitive and endangered habitats. These habitats are recognized by NATURA 2000. Although Serbia and B&H are still not part of NATURA 2000 network, they did some research of possible NATURA 2000 sites. Along the Sava River, few habitat types are identified as possible NATURA 2000 sites. There are four protected areas in Republic of Serbia. Three are IBA sites (Majzecova Bašta, Obedska Bara and Vinicna), and two are Ramsar sites (Zasavica and Obedska Bara). On the left bank of Sava, there are three protected areas, while on the right bank is one protected area (Zasavica). Although it was roughly envisaged that construction works will be in safe distance from the protected areas and the potential NATURA 2000 sites, and thus significant impact is not expected, EIA/ESIA are to be fully addressed for the Project with inclusion of all interested parties and stajekolders in the process. Positive impact on climate change mitigation is expected ($CO_2$ emission reduction). |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 12/2006 | 03/2007 |
| Feasibility study (incl. CBA) | WiP | 12/2007 | |
| Preliminary Design | WiP | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | C | | |
| Land property resolved | -/- | | |
| Main design / detailed design | WiP | | |
| Tender documentation | WiP | | |
| Construction and other permits | WiP | | |
| Construction & supervision of works contracts | WiP | 01/2017 | |
| Further project preparation considerations | The ISRBC commissioned (funded by the Riparian states) Pre-Feasibility Study for Rehabilitation and Development of the Sava River Waterway (2007) and Feasibility study and Project Documentation for the Rehabilitation and Development of Transport and Navigation on the Sava River Waterway (FS for navigation on the Sava River from Belgrade (rkm 0) to Sisak (rkm 585), prepared in 2008 with data 2001-2004). It was expected that by end of 2015, the preparation of Environmental impact assessment study, revision/update of the existing Feasibility study and preparation of preliminary designs, preparation of main designs and tender documentation for hydraulic engineering and the supervision and ecological monitoring over works would be completed under the IPA project approved for BiH (Preparatory works, Detailed designs and Tender Documentation for Civil works to restore the River Sava to Class Va from Belgrade to Brčko, rkm 0.0 - rkm 234.0). However that project was cancelled in April 2014. It is foreseen that preparation of the documentation missing and attaining requirements, obtaining opinions and consents would last 1.5 years. First step towards that goal was preparation of new Preliminary design and Feasibility study, and not only technical review of the existing technical documentation/preliminary designs and update of the feasibility study prepared in 2008 (which doesn‘t contain financial analysis, uses outdated guidelines for CBA, etc). Works would be executed within the 2-year period from the moment of the completion of preparation of the documentation and the attaining of all requirements and obtaining permits. In Nov 2017 works completed for Kamicak sector. Design for dredging on Sabac sector is prepared and works started in Aug 2018, stopped due to poor hydrometeorologocal conditions and continued in July 2019. ToR was prepared (MCTI own funds) for hydrotechical and dredging works for Usce Drine and Save sector and preparation of the outstanding/update of the technical documentation will be provided through EIB‘s donation (ERI-ITA). | | |
| Risks identified | The process of transboundary EIA, especially when the border between Serbia and Bosnia and Herzegovina and also between Serbia and Croatia are not set by bilateral agreements, might prove complicated and time-consuming. In order to reduce the risk of failing the objectives of this cross-border project, an international Steering Committee has been established to guide the project execution, and it has members from Croatia, all entities of Bosnia and Herzegovina and Republic of Serbia. Other main risks identified insofar including: delays in project start - continuation and implementation; potential changes in riverbed caused by extreme floods. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 250,000 |
| Environmental and Social Impact Assessment | Yes | 100,000 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | Yes | 550,000 |
| Tender documentation | Yes | 90,000 |
| Construction and other permits | Yes | 10,000 |
| Construction & supervision of works contracts | Yes | 8,300,000 |
| Total investment | | 0 |
| Investment financing considerations | The project has been proposed for financing within IPA 2014-2020 (EUR 9.3 million in total):− EUR 1 million – preparatory activities, revision and update of the existing Feasibility study (ISRBC, 2008), Environmental impact assessment study, approvals of the Feasibility study and preliminary designs, preparation of detail designs for critical sections with hydraulic structures, tender documentation for the works and for the supervision and ecological monitoring);− EUR 7 million: hydraulic and dredging works;− EUR 1.3 million: supervision and ecological monitoring over the hydraulic works and dredging works. Implementation will be financed with the State budget for critical sectors Kamicak, Sabac, Sremska Mitrovica and Klenak and, for sectors Usce Drine and Sava, financing will be provided with 50% from the EIB‘s Framework Loan Agreement (€100 million in total for Danube and Sava, Development of River Transport Infrastructure) and 50% from IPA. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - IWW Port**

## *Rhine-Danube Corridor, Belgrade Port*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Rhine-Danube Corridor, Belgrade Port |
| Sector: | Transport |
| Subsector | IWW |
| Corridor/Route | Danube/Rhine |
| From | |
| To | |
| Gap rationale | New river port infrastructure |
| Country | SER |
| Lead Project Beneficiary | Ministry of Construction, Transport and Infrastructure – Directorate for Inland Waterways (Plovput) |
| Proponent | Ministry of Construction, Transport and Infrastructure – Directorate for Inland Waterways (Plovput); Port |
| Project ID/number | WB.TR.W.07 |
| SEETO Code | Corridor VII Danube |
| European Route Code | Corridor VII |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The Port of Belgrade is recognised in Regulation 1315/2013/U (European Parliament and of the Council on Union Guidelines for the Development of the Trans-European Transport Network) and amended Delegated Regulation 2016/758 Regulation (Feb 2016, in regards to adapting Annex III thereto, by which new maps of the extension of the TEN-T were implemented) as a part of TEN-T Inland Core Network and located along the Rhine-Danube Inland Waterway Corridor. It also aims to realisation of strategic actions under Dimension I 'Transport' from the South East Europe 2020 Strategy. The Republic of Serbia clearly expressed intention to implement this Project during the EU-Serbia Stabilisation and Association Agreement - Sub-committee on transport, energy, environment, climate change and regional meetings, as well as within the Negotiation position for the Chapter 21. |
| Strategic relevance | The Project is of strategic relevance and it was included in the Single Project Pipeline, and is recognized within the Strategy on Development of Waterborne Transport of the Republic of Serbia 2015-2025. The New Port of Belgrade project has been also recognized within SEETO Multi Annual Plan for 2018. |

| | |
|---|---|
| General description | Main objective of the project is to provide a multimodal transport hub in Belgrade gravity area (Inland Port of International Importance) along the inland waterway TEN-T Rhine-Danube Corridor with connections to road and rail TEN-T CX and CXb (Orient/East-Med Corridor). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| CEMT class** | VIc |
| Max. vessel length** | 0 |
| Min. draught** | |
| Min. clearance/height under bridge** | 0.00 |
| Availability of alternative clean fuels** | --- |
| Connection of IWW ports to rail network** | --- |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Operating Speed Up** | 0 |
| Operating Speed Down** | 0 |
| Max pushed barges ** | 0 |
| Max load per barge - | 0 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | As the port lies at the intersection of three important transport corridors (IWW Corridor Rhine-Danube as well as road and railway Corridor X), it therefore provides the possibility of projecting competitive transshipment results; Strengthening the capacity and competitiveness of the local and national economy; |
| Climate change mitigation and adaptation aspects | Modal shifting of cargo from roads to inland waterways transport; Mitigated harmful effects on the environment, and reduced pollution and noise generated by the existing Port of Belgrade |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | NS | | |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | WiP | 04/2016 | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Previous draft project preparation documentation (including the spatial plan) was not prepared as per appropriate standards so project preparation pending to start with the WBIF TA WB20-SRB-TRA-02 (the ToR under finalisation). | | |
| Risks identified | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 800,000 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | No | 258,000 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 180,000,000 |
| Total investment | | 0 |
| Investment financing considerations | Historically, the line Ministry signed Memorandum of Cooperation with China Environmental Energy Holdings CO Ltd for project implementation (for the pre-set location) on 16/04/2015. A concession model was considered for financing and implementation. However, in 2018 the line ministry is supported by EIB in project preparation (through WBIF). The implementation of the project is planned to be in line with EU policies and core directives as regard to public procurement (the works and supervision contracts will be awarded in accordance with EU PRAG procedures (together with EIB Guide to Procurement). Total investment is estimated to be €180 million of which some €90 million for port infrastructure. For implementation financing, MCTI plans blending - to submit an application to WBIF for INV grant financing (up to 50%) and for remainder through IFI‘s (EIB) loan. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - IWW**

## *Rehabilitation and improvement of the Sava river waterway*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Rehabilitation and improvement of the Sava river waterway |
| Sector: | Transport |
| Subsector | IWW |
| Corridor/Route | Danube/Rhine |
| From | Brcko |
| To | Confluence with Drina river (Raca) |
| Gap rationale | Fairway bottleneck |
| Country | BIH |
| Lead Project Beneficiary | Ministry of Communications and Transport RS; Ministry of Communications and Transport FBIH; Brčko |
| Proponent | Ministry of Finance and Treasury of BiH; Ministry of Communication and Transport of Bosnia and |
| Project ID/number | WB.TR.W.04 |
| SEETO Code | Sava River |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, the Project is pre-identified as part of the TEN-T Pan-European Core Corridor Rhine/Danube extending through Western Balkans. |
| Strategic relevance | A final decision regarding the class of navigation has been made by the ISRBC and the Riparian Countries. The Sava River Waterway shall be rehabilitated to Class Va status on the sector from the river mouth (rkm 0) at Belgrade to Brčko (rkm 234) and to Class IV status on the sector from Brčko (rkm 234) to Sisak (rkm 594). The SEETO 5-year Multi-Annual Development Plan 2016 indicates it as a project eligible for funding. The Project is included in the country‘s SPP. |
| General description | The objective of the Project is to improve the operational performance and safety on the Sava River, contributing to improved utilization of the river ports. The scope relates to the Sava River waterway/fairway from the confluence of Drina river into Sava (Raca) to Brčko (rkm 234). The proposed project vary from dredging and the construction of river training works and bank protection works, to the implementation of river information services and upgrading of aids to navigation. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| CEMT class** | Va |
| Max. vessel length** | 110 |
| Min. draught** | 2.8 / 2.5 |
| Min. clearance/height under bridge** | 7.00 |
| Availability of alternative clean fuels** | Yes |
| Connection of IWW ports to rail network** | --- |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Operating Speed Up** | 0 |
| Operating Speed Down** | 0 |
| Max pushed barges ** | 0 |
| Max load per barge - | 0 |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Promoting the water transport, regional transport development between the ports on the river Sava. The investment in the fairway is designed to facilitate trade, regional integration and sustainable growth and thus have a positive impact on the broader economy of Bosnia and Herzegovina. An increase in the cargo volume by more than 25%, i.e. by 100,000 tons/year is expected. In addition, there will be lower operational costs for the Port of Brčko and thus more competitive cargo handling fees for the private sector active in the region. |
| Climate change mitigation and adaptation aspects | For a given waterway which in line with strategic spatial plans, there are no areas which would restrict the implementation, providing appropriate mitigation measures are executed. Climate change resilience will be considered in this process. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 12/2006 | 03/2007 |
| Feasibility study (incl. CBA) | C | 12/2007 | 07/2008 |
| Preliminary Design | C | 12/2007 | 07/2008 |
| Environmental and Social Impact Assessment | WiP | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | PFS (incl. preliminary design solution) and feasibility study (FS) prepared (supported/financed by ISRBC). FS (incl. CBA) analysed two scenarios, first of which is improvement of the river Sava waterway to navigation class IV and the second one being improvement of the river Sava waterway to navigation class Va. Also, the ToR for main design requires improvement of the river Sava waterway to navigation class IV (between Sisak and Brcko) and to navigation class Va (from Brcko toward Belgrade). Such "mixed" (class-from-to) scenario not analysed by FS (incl. CBA). Anyway, FS needs to be updated (in accordance with the EC guide to CBA). Also, Preliminary desing is based on surveys executed before 2014 floods so needs to be updated on basis of new surveys and with updated unit prices. The next steps toward preparation of the River Sava fairway improvement project involves addressing the gaps in the earlier feasibility work in areas such as river morphology, climate change, and integration with other ongoing projects (Requirements of the EU Water Framework Directive), prior to preparing the detailed design for the interventions, the exact costing, and the draft tender documentation for the engineering works. Previously, BiH received IPA 2010 grant funding (€1.6m, trust funds administered by the World Bank) the component for the preparation of the detailed design and the Environmental and Social Impact Assessment (ESIA) for the Sava River from the mouth of the river (river kilometer -rkm 0) at the confluence with the Danube river at Belgrade to Brčko (rkm 234). However, the above IPA grant which preconditioned approval of the credit line, was cancelled (and consequently all contracts signed terminated) as Republika Srpska entity revoked its commitment. BiH applied and received WBIF TA grant (Round 15). The request of €860k include completion of ESIA study (€260k) and preparation of detail design and tender documentation (€600k). To pending preparation considerations (as indicated in the WBIF Round 15 grant application) are: finishing the preparation of the necessary design and tender documentation for the civil works interventions to permit safe and efficient navigation on the section for the River Sava waterway from 179,7 rkm to 234 rkm and thus introduce reliable vessel operations; completion of a full ESIA including an Environmental and Social Management Plan (ESMP) and an Environmental and Social Management Framework (ESMF). WB is supporting preparation of Sava and Drina Corridor Integrated Development Program (due to be finished in 2020). | | |
| Risks identified | The main risk being potential lack of a political willingness necessary for project implementation; Cross-boundary coordination issues; | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 65,000 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 108,047 |
| Environmental and Social Impact Assessment | Yes | 50,000 |
| Valid spatial planning documents | Yes | 0 |
| Land property | No | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 0 |
| Investment financing considerations | Financial options yet unknown, though initial options include loan funding and potential investment co-financing. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - IWW**

## *Demining of the Sava River right bank from the confluence of Drina river of the confluence of Una river*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Demining of the Sava River right bank from the confluence of Drina river of the confluence of Una river |
| Sector: | Transport |
| Subsector | IWW |
| Corridor/Route | Danube/Rhine |
| From | Donja Gradina (confluence of Una river) |
| To | Raca (confluence of Drina river) |
| Gap rationale | Fairway bottleneck |
| Country | BIH |
| Lead Project Beneficiary | Ministry of Communications and Transport RS; Ministry of Communications and Transport FBIH; Brčko |
| Proponent | Ministry of Finance and Treasury of BiH; Ministry of Communication and Transport of Bosnia and |
| Project ID/number | WB.TR.W.05 |
| SEETO Code | Sava River |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, the Project is pre-identified as part of the TEN-T Pan-European Core Corridor Rhine/Danube extending through Western Balkans. The programme will contribute directly to EU regional priorities agreed on by EU and WB6 leaders during the recent EU Western Balkan (WB6) Summit on 17 May 2018, to improve transport infrastructure in the BiH and the region. |
| Strategic relevance | Common development priorities stated in the CPF across Sava River Basin riparian countries include investment in economic infrastructure to enhance growth, improvement of coping capacity against environmental risks, and protection of natural resources to achieve sustainable growth. A final decision regarding the class of navigation has been made by the ISRBC and the Riparian Countries. The Sava River Waterway shall be rehabilitated to Class Va status on the sector from the river mouth (rkm 0) at Belgrade to Brčko (rkm 234) and to Class IV status on the sector from Brčko (rkm 234) to Sisak (rkm 594). The SEETO 5-year Multi-Annual Development Plan 2016 as a project eligible for funding. The Projet is included in the country‘s SPP. |

| | |
|---|---|
| General description | According to Bosnia and Herzegovina's Mine Action Center (BHMAC), there are 144 identified sites, covering an area of 7.1 million m2 along the Sava River bank, that need to be demined—especially at the confluence of the Sava with the Una and Drina rivers (to be cleared in such a way that 1.1 million m2 is for cleaning and the rest to be subject to technical survey). The project scope plans to completely remove and destroy of the unexploded ordinances (UXO) from the riverbank, completely remove and destroy of the UXO from the riverbed and to completely demine of suspected landmine contaminated areas. The most critical sectors are should be undertaken in the critical sections (priority) are between Jaruge (Croatia) and Novi Grad (BiH). As such demining is a prerequisite for any flood protection and navigation activities, such as civil works (dredging and port rehabilitation activities), to be proposed by Sava and Drina Rivers Integrated Corridor Development Program (SDIP). |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| CEMT class** | IV |
| Max. vessel length** | 110 |
| Min. draught** | 2.8 / 2.5 |
| Min. clearance/height under bridge** | 7.00 |
| Availability of alternative clean fuels** | Yes |
| Connection of IWW ports to rail network** | --- |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Operating Speed Up** | 7 |
| Operating Speed Down** | 17 |
| Max pushed barges ** | 0 |
| Max load per barge - | 1,450 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | Key benefints are opening of the river bank for local communities, development of socio-economic activities along the river bank and securing river to be safe for navigation. |
| Climate change mitigation and adaptation aspects | While the restoration of the navigability of the Sava river waterway would have a major impact on reducing transport costs, the design of the interventions (dredging, river training, etc.) can be adapted to simultaneously revitalize and protect floodplains and wetlands (including those European Natura2000 network and/or are Ramsar sites). All environmental aspects and climate change mitigation will be processed in a EIA/ESIA document. |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | NS | | |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | WiP | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Beneficiary provided only the main design for demining. Although these activities are not a typical civil/construction works (meaning that they do not need to be elaborated by CD and PD etc.) still need to be covered by PFS and FS as will generate a certain financial cost. Taking into account that a demining process is one of a important preconditions for the Sava river watreway improvement, it would be very practical to include a deminig costs into the Sava river waterway improvement costs and in such a way to update the existing studies for the Sava river waterway. Demining project design preparation was partly done by ITF, and the rest is in process of project preparation by Federal Management of Civil Protection, Armed Forces of BIH etc. Existing designs are outdated and these must be site revised. | | |
| Risks identified | The main risk is a potential lack of political will related to securing/commit to financials in order to implement the Sava river waterway improvement which is directly dependable to demining activities. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 41,010,000 |

| | |
|---|---|
| Investment financing considerations | BiH applied for the IPA grant (€4m, IPA 2010) blended with the WB loan funds ($30m) for demining activities (the grant implementation preconditioned loan agreement with WB). However, the above grant, and consequently WB financing, was cancelled. Negotiations with WB may be reinitiated in 2020 (loan amount €32.65 million). The Beneficiary hasplans to submitted an INV grant application to WBIF INV R05 (WB-IG05-BIH-TRA-08, €8.36 million). |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Aleksandra Ploco |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**TRA - IWW Port**

## *Reconstruction and modernisation of River Port of Brcko*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Reconstruction and modernisation of River Port of Brcko |
| Sector: | Transport |
| Subsector | IWW |
| Corridor/Route | Danube/Rhine |
| From | Brcko |
| To | Brcko |
| Gap rationale | Co-financing approved; Upgrade of the existing river port |
| Country | BIH |
| Lead Project Beneficiary | Public Company Port Brcko |
| Proponent | Ministry of Finance and Treasury of BiH, Ministry of Communication and Transport of Bosnia and |
| Project ID/number | WB.TR.W.03 |
| SEETO Code | Sava River |
| European Route Code | |
| Other Project/LOT Code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Following a meetings of WB6 Transport Ministers and EU Transport Commissioner, the Project is pre-identified as part of the TEN-T Pan-European Core Corridor Rhine/Danube extending through Western Balkans. |
| Strategic relevance | The Sava River waterway, along the territory of BiH, is compliant in terms of European Conference of Ministers of Transport (ECMT) inland waterway classification. From the eastern point of the confluence with the Drina River to the western point of the confluence with the Una River it is compatible with TEN-T standards in terms of maximum vessel length, tonnage, and minimum height under bridge. The International Sava River Basin Commission, with its Feasibility study for the Sava waterway rehabilitation project accepted in 2008, enabled the activation of plans for modernization of the Port of Brcko. The project has been included in the BIH Single Project Pipeline (SPP) and is included also on the SEETO 5-year Multi-Annual Development Plan 2016 as a project eligible for funding. The Port of Brcko will play a central role in providing interconnectivity with the land-based transport modes (road, rail) and is an essential transit point for cargo traffic flows to and from the heavy industries in Bosnia and Herzegovina, increasing multimodality. |

| | |
|---|---|
| General description | The Port of Brcko is located in the north-eastern part of Bosnia and Herzegovina, on the right side of the Sava River which is of class IV navigability, and has an average navigation period of 260 days/year. The project Reconstruction and Modernisation of the River Port of Brcko is divided in several components which are different in deliverables and status of implementation, including availability of technical documentation. Several segments are ready to be executed under Phase 1: Increasing of port's transhipment capacity and transport connectivity between the port and road and railway network through construction of railway track to the Brcko port on the section of harbour crane path (263 m); Reconstruction of approx. 4.5 km industrial railway track (construction of 2.87 km of new track) on the line from the Train station Brcko Novo to the Port of Brcko with reconstruction of connections for industrial zone; Construction of the asphalt plateau with drainage of rainfall (4,500 m2); Reconstruction of the access road from Bijeljinska Street (main road M14.1) to the Port of Brcko (900 m); Supply and installation of the portal (harbour) crane with bearing capacity 16.0/27.5 t. The following segments have been indicated as Phase 2: Harbour basin ("aquatorium") cleaning and maintenance; Development of the infrastructure for transferring diesel and liquid cargo. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| CEMT class** | Va |
| Max. vessel length** | 110 |
| Min. draught** | 2.8 / 2.5 |
| Min. clearance/height under bridge** | 7.00 |
| Availability of alternative clean fuels** | Yes |
| Connection of IWW ports to rail network** | Yes - 1 |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Operating Speed Up** | 10 |
| Operating Speed Down** | 5 |
| Max pushed barges ** | 4 |
| Max load per barge - | 1,600 |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | By implementing this project, together with rehabilitation of the Sava River Waterway, the competitive position of the Port of Brcko will highly increase. The current level of operational efficiency of the Port of Brcko will significantly improve. Moreover, it will have an impact to the overall competitiveness of the Brcko District as transportation hub in BiH and the region. Relocation of rail-industrial tracks from the central urban zone will educe time travel lossess on the City‘s street network. |

| | |
|---|---|
| Climate change mitigation and adaptation aspects | This project will enable positive long-term effects on environment by reducing emission harmful gases caused by regular road transportation. Construction of the asphalt plateau will reduce the risk of pollution of the waterfront and the potential risk pouring harmful substances into the Sava River |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | -/- | | |
| Preliminary Design | -/- | | |
| Environmental and Social Impact Assessment | C | 07/2012 | 09/2012 |
| Valid spatial planning documents | WiP | 04/2011 | |
| Land property resolved | NS | | |
| Main design / detailed design | C | 01/2012 | 10/2012 |
| Tender documentation | NS | | |
| Construction and other permits | WiP | 04/2012 | |
| Construction & supervision of works contracts | NS | | |

| | |
|---|---|
| Further project preparation considerations | The design documentation and EIA provided in 2012, while also all permits provided in the same year. Beneficiary provided four designs which related to construction and reconstruction of the connection railway tracks, road and asphalt plateau. Valid spatial planning document was prepared and adopted and urban and environment permits issued for all related projects. On the other hand, construction permits were obtained for (only) three of those components back in 2012. Though, these were expired and renewals were needed (one issued to date and for two the renewal process is underway). No PFS and FS (including CBA) provided, neither preliminary designs made prior the main designing phase. EBRD provided technical assistance to the Beneficiary‘s PIU (€250k through donor funded Technical Cooperation Funds Programme) since 2017. PIU nominated 10/04/2019. It is concluded however on 03/07/2019 that the spatial planning documentation needs to be updated in order to be aligned with the main design for the new rail tracks. In addition, there are two additional segments of the project‘s Phase 2 which are in stage of preparation. For these Phase 2 segments it is necessary to prepare appropriate feasibility studies and other technical documentation. |
| Risks identified | Inefficient operations of the Port do have a negative effects on its competitiveness and the development of traffic flow and indirectly on creating a stimulating economic environment in the Brcko District. Aligning spatial planning documents to design documentation made may further delay the implementation. Lack of investments in improving the Port‘s basin (Sava river aquatorium) may hamper the feasibility of the project. |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 80,000 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | No | 14,407,975 |
| Total investment | | 0 |
| Investment financing considerations | For the Phase 1 components, BiH negotiated with EBRD for €10 million loan (3y grace, 15y payment, 1% interest rate, signed 22/12/2016 but effective only after 06/03/2019) and at the same time (re)submitted an INV grant application to WBIF (IG01 in 2016, €3.08 million, as per the following breakdown: TA - €0.22 million for supervision and project management/support to PIU), INV - €2.86 million). The grant (part of the package of four EU-financed infrastructure investments in BiH agreed in 2017 at the WB Summit in Trieste) was conditionally reserved and will be unblocked in 2019 (BD Assembly‘s decision triggered by Decision of the Brcko District Assembly made on 13/03/2019 to invest the budget funds). With the INV grant approved, the EBRD loan amounts to €7 million effectively. The funding needed for remaining project preparation and for investment financing. World Bank is interested to support acquatorium cleaning, construciton of container terminal and other components not included in EBRD financing. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Danko Gavrilovic |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Bajina Bašta (RS) - Višegrad (BA) - Pljevlja (ME) / SRB part*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Bajina Bašta (RS) - Višegrad (BA) - Pljevlja (ME) / SRB part |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE8 Transbalkan Corridor / Transbalkan corridor phase I |
| From | Bajina Bašta |
| To | Pljevlja 2, Višegrad |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | Ministry of Mining and Energy of Serbia |
| Project ID/number | WB6.EN.E.01-1 |
| ECS PECI 2016 candidate lis | El_01 c |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET002 |
| WBIF project code | PRJ-MULTI-ENE-002 (WB5-REG-ENE-02, WB13-REG-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project represents Section IV of the Trans Balkan North-South corridor, linking Central Europe with Italy over the HVDC submarine cable. The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013, 2016 and 2018).<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the Serbian Energy Strategy, National TYNDP and it is fully supported by the Energy Regulatory Authority. |
| Strategic relevance | The project is of the highest strategic importance for pan-European connectivity of electricity transmission infrastructure.<br>The project is of strategic importance for the connectivity of the WB6 area, as well as for the establishment and facilitation of the regional electricity wholesale and balancing market.<br>This project is consistent with the Serbian Energy Strategy, Action Plan, and is fully supported by the Energy Regulatory Authority (AERS) and Ministry of Mining and Energy.<br>Due to its importance, project is suppoted by the special "Law for establishment of public interest and special procedure for expropriation and provision of documentation for the implementation of projects of 400kV transmission system facilities within Transbalkan Corridor - first phase". |

| | |
|---|---|
| General description | New double circuit 400kV OHL connecting existing substation Pljevlja 2 (ME), substation Bajina Bašta (RS) and substation Višegrad (BA). The line will be constructed on double circuit towers and will in great part use the corridor of the existing 220kV lines in all three countries. The majority of the line is located in Serbia (83.5km), compared to the sections in Montenegro (15.7km) and Bosnia and Hercegovina (17.3km).<br><br>This project includes only section of the OHL in Montenegro, i.e. from the existing substation Bajina Basta (RS) to the border crossing points towards Montenegro and BiH defined in the main design. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | 300 |
| OHL / cable - approximate length (km)** | 83.5 |
| OHL - Number of circuits** | double |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | The project will deliver economic benefits in Bosnia and Herzegovina, Montenegro and Serbia, and is, as a whole, financially viable for the TSOs in those countries, with unequal distribution of benefits.<br>Implementation of this Project is likely to produce significant economic and electricity market benefits to the broader SEE Region in general, especially when the Lastva – Čevo - Pljevlja 400kV connection in ME is complete and the undersea HVDC cable to Italy is commissioned.<br>The project enables full utilisation of HVDC cable ME-IT.<br>There is no impact on RES generation constraints from new interconnection since no RES spillages are observed (not foreseen in that region)<br>The project satisfies all recommended security criteria.<br>The overall NPV is medium and not equally spreaded over the countries, with lower benefits in Serbia and Bosnia and Herzegovina and higher in Montenegro.<br><br>The project benefits will be reviewed during the WBIF financed (WB13-REG-ENE-01) Main Design activities wehich are on-going. |
| B1 - Security of supply (EENS in GWh) | no variation |
| B2 - Social-economic welfare | 4.4 |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | -47.2 |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | positive |
| B7 - Flexibility | positive |
| NPV (low / medium / high) | low |
| Environmental aspects and climate change mitigation/adaptation | - Alternative OHL corridors considered<br>- Utilize corridor of existing 220 kV OHL (as much as posible), which will be dismantled<br>- Avoidance strategy during corridor routing implemented<br>- Selected corridor passes through existing National Park Tara and Park of Nature Mokra Gora, also identified as Emerlad sites, utilizing corridor of existing 220 kV OHL<br>- Mitigation strategy proposed<br>- Environmental and Social Management and Monitoring proposed<br>- Coordination with operational planning and operations department required for sdevelopment of Project Implementation Plan and during construction to facilitate use of existing OHL corridor |

**TAB 6 - MATURITY**

| Status of activities/works | From | To |
|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 03/2013 | 02/2015 |
| Feasibility study (incl. CBA) | C | 03/2013 | 02/2015 |
| Preliminary Design | C | 08/2016 | 02/2017 |
| Environmental and Social Impact Assessment | WiP | 03/2013 | 01/2021 |
| Valid spatial planning documents | WiP | 01/2016 | 02/2018 |
| Land property resolved | NS | 03/2020 | 03/2021 |
| Main design / detailed design | WiP | 09/2019 | 09/2021 |
| Tender documentation | NS | 10/2021 | 04/2022 |
| Construction and other permits | NS | 09/2020 | 12/2021 |
| Construction & supervision of works contracts | NS | 05/2022 | 05/2024 |

| | |
|---|---|
| Further project preparation considerations | Preliminary design, feasibility study and draft EIA were prepared through WB5-REG-ENE-02 TA grant support. Main Design, ESIA update and PIP development, as well as permitting activities are currently on-going with the WBIF support (WB13-REGENE-01 project).The expropriation procedure is significantly facilitated by the new "Law for establishment of public interest and special procedure for expropriation and provision of documentation for the implementation of projects of 400kV transmission system facilities within Transbalkan Corridor - first phase". Therefore, the land acquisition procedure may be considered to be already initiated by adoption of this law. |
| Further ESIA considerations | During the main design activites, which are currently on-going, existing ESIA will be updated to reflect specifi issues related to exact tower positions. |
| Risks and critical issues | The fact that the line section in Serbia is critical for establishing the complete corridor and especially combined low benfits for Serbia and EMS, with high financing requirements, may slow down the project implementation. During the main design activites, under the same IFI financing, update of the system study will be done to assess benefits for Serbia under revised conditions in the regional network. |
| Cross-border aspects | Connection points at the border have been officially agreed and confirmed among involved TSOs.Special attention should be paid to the slightly different legislation and procedures that applied in different countries |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 250,000 |
| Environmental and Social Impact Assessment | Yes | 50,000 |
| Valid spatial planning documents | Yes | 50,000 |
| Land property | Yes | 4,500,000 |
| Main design / detailed design | Yes | 500,000 |
| Tender documentation | Yes | 75,000 |
| Construction and other permits | Yes | 250,000 |
| Construction & supervision of works contracts | Yes | 41,400,000 |
| Total investment | | 47,075,000 |
| Investment financing considerations | The costs for forest cutting, including the fee to the relevant authorities, is included in the "Land property" costs. Dismantling of 220kV lines is included in the construction price.<br>For procurement, FIDIC Red Book conditions are assumed.<br>WBIF Grant (800k€) for Technical Design Docs and TSO support approved in Round 13 (June 2015).<br><br>Proposed financing structure for the Transbalkan Corridor in Serbia, sections I, III and IV, according to the GAF submitted to WBIF, is as follows (OHL + SS):<br>- Investment: 134.4 mil.€<br>- Loan: 50 mil.€ (EBRD)<br>- Grant: 49.3 mil.€ (WBIF)<br>- EMS equity proceeds: 35.1 mil.€ | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400 kV OHL Kragujevac - Kraljevo (RS)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400 kV OHL Kragujevac - Kraljevo (RS) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE8 Transbalkan Corridor / Transbalkan corridor phase I |
| From | Kragujevac 2 |
| To | Kraljevo 3 |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | Ministry of Mining and Energy of Serbia |
| Project ID/number | WB6.EN.E.02 |
| ECS PECI 2016 candidate lis | EI_01 (a) |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET018 |
| WBIF project code | PRJ-SRB-ENE-008 ( WB-IG00-SRB-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project represents Section II of the Trans Balkan North-South corridor, linking Central Europe with Italy over the HVDC submarine cable. The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013, 2016 and 2018).<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the Serbian Energy Strategy, National TYNDP and it is fully supported by the Energy Regulatory Authority. |
| Strategic relevance | The project is of the highest strategic importance for pan-European connectivity of electricity transmission infrastructure.<br>The project is of strategic importance for the connectivity of the WB6 area, as well as for the establishment and facilitation of the regional electricity wholesale and balancing market.<br>This project is consistent with the Serbian Energy Strategy, Action Plan, and is fully supported by the Energy Regulatory Authority (AERS) and Ministry of Mining and Energy.<br>Due to its importance, project is supported by the special "Law for establishment of public interest and special procedure for expropriation and provision of documentation for the implementation of projects of 400kV transmission system facilities within Transbalkan Corridor - first phase". |

| | |
|---|---|
| General description | The new internal 400 kV OHL will connect existing SS Kragujevac 2 with SS Kraljevo 3, which is planned for upgrade to 400 kV voltage level. The project represents the first phase of upgrade of the aging 220kV network in central and western Serbia to 400kV level.<br>This line will enhance the possibility of energy transits in direction north-east to south-west and east to west.<br>Together with upgrade of SS Kraljevo 3 by introducing new transformation 400/220kV and new 110kV network development, the project contributes to improvement of voltage levels in the 110kV network.<br>Upgrade to 400kV level ensures stable operation of existing PSHPP Bajina Bašta. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | 1200 |
| OHL / cable - approximate length (km)** | 59.3 |
| OHL - Number of circuits** | single |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | As the feasibility study, involving ENTSO-E CBA methodology was not done, the benefits B1-B7 were not calculated. The benefits are descriptive, as defined by the Feasibility Study with Preliminary Design (according to Serbian legislation).<br>According to this document, the project<br>- contributes to strengthening of national and regional transmission corridor north-east - south-west,<br>- contributes to network upgrade to 400kV level,<br>- enables future 400kV connections towards substations Bajina Bašta and Niš 2 and<br>- contributes to achieving pre-conditions to gradually abandon 220kV level in this part of Serbia. |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | N/A |
| B2 - Social-economic welfare | N/A |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | N/A |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | N/A |
| B7 - Flexibility | N/A |
| NPV (low / medium / high) | low |
| Environmental aspects and climate change mitigation/adaptation | - No alternative OHL corridors considered by the EIA study (done in the feasibility study phase, involving environmental aspect and contribution of national nature protection institutes)<br>- Mitigation measures and monitoring programme proposed<br>- Opinions / conditions from competent authorities respected<br>- Social Impact Assessment not performed |

**TAB 6 - MATURITY**

| | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2011 | 01/2014 |
| Feasibility study (incl. CBA) | C | 01/2015 | 02/2015 |
| Preliminary Design | C | 01/2015 | 02/2015 |
| Environmental and Social Impact Assessment | C | 01/2015 | 02/2016 |
| Valid spatial planning documents | C | 01/2013 | 04/2015 |
| Land property resolved | C | 01/2016 | 03/2017 |
| Main design / detailed design | C | 06/2017 | 09/2018 |
| Tender documentation | C | 08/2019 | 11/2019 |
| Construction and other permits | C | 06/2017 | 09/2018 |
| Construction & supervision of works contracts | WiP | 06/2019 | 12/2021 |
| Further project preparation considerations | Project is ready for implementation. Construction works are due to start in early 2020. | | |
| Further ESIA considerations | EIA study finalised in Oct 2015. Public consultations finalised in Dec 2015. | | |
| Risks and critical issues | No anticipated risks | | |
| Cross-border aspects | N/A | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 70,000 |
| Environmental and Social Impact Assessment | No | 40,000 |
| Valid spatial planning documents | No | 15,000 |
| Land property | Yes | 1,600,000 |
| Main design / detailed design | No | 220,000 |
| Tender documentation | Yes | 70,000 |
| Construction and other permits | Yes | 150,000 |
| Construction & supervision of works contracts | Yes | 16,750,000 |
| Total investment | | 18,915,000 |
| Investment financing considerations | The costs for forest cutting, including the fee to the relevant authorities, is included in the "Land property" costs.<br>Dismantling of 220kV lines is included in the construction price.<br>For procurement, FIDIC Red Book conditions are assumed.<br>Financing structure, according to IPA II Multi-country Action Programme, is as follows (OHL + SS):<br>- Investment: 28 mil. (togetehr with extension of SS Kraljevo 3)€<br>- Loan: 14.27 mil.€ (KfW)<br>- Grant: 6.6 mil.€ (IPA II 2015, including TA)<br>- EMS equity proceeds: remaining costs | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Bajina Bašta - Obrenovac (RS)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Bajina Bašta - Obrenovac (RS) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE8 Transbalkan Corridor / Transbalkan corridor phase I |
| From | Bajina Bašta |
| To | Obrenovac |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | Ministry of Mining and Energy of Serbia |
| Project ID/number | WB6.EN.E.05 |
| ECS PECI 2016 candidate lis | EI_01 (b) |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET021 |
| WBIF project code | PRJ-SRB-ENE-007 (TA-SER-26, WB14-SRB-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project represents Section III of the Trans Balkan North-South corridor, linking Central Europe with Italy over the HVDC submarine cable.<br>The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013, 2016 and 2018).<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the Serbian Energy Strategy, National TYNDP and it is fully supported by the Serbian Energy Regulatory Authority. |
| Strategic relevance | The project is of the highest strategic importance for pan-European connectivity of electricity transmission infrastructure.<br>The project is of strategic importance for the connectivity of the WB6 area, as well as for the establishment and facilitation of the regional electricity wholesale and balancing market.<br>This project is consistent with the Serbian Energy Strategy, Action Plan, and is fully supported by the Energy Regulatory Authority (AERS) and Ministry of Mining and Energy.<br>Due to its importance, project is suppoted by the special "Law for establishment of public interest and special procedure for expropriation and provision of documentation for the implementation of projects of 400kV transmission system facilities within Transbalkan Corridor - first phase". |

| | |
|---|---|
| General description | Double circuit 400 kV OHL between upgraded substation Bajina Bašta and substation Obrenovac. Part of larger regional transmission corridor northeast-southwest.<br>It will in great part use the corridor of the existing 220kV line.<br>The line length is approx. 115 km and the possibility for lead-in into SS Valjevo 3 (upgrade necessary as well) had been considered for future stages. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | 300 |
| OHL / cable - approximate length (km)** | 115 |
| OHL - Number of circuits** | double |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | The FS was done before new CBA Methodology of ENTSO-E was introduced, including the benefits B1-B7. Therefore, the benefits are descriptive.<br>According to financial and economic assessment within the FS, the project<br>- increases transmission network capacity, as well as regional and pan-European network interconnectivity,<br>- supports development of electricity wholesale and balancing market and facilitates their operation,<br>- improves security of electricity supply by strengthening connection between 2 major generation nodes in the region and<br>- increases efficiency of PSHPP Bajina Bašta. |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | positive |
| B2 - Social-economic welfare | positive |
| B3 - RES Integration | positive |
| B4 - Variation in losses - monetized variation in losses (GWh) | 130.4 |
| B5 - Variation of CO2 emissio | positive |
| B6 - Resilience | positive |
| B7 - Flexibility | positive |
| NPV (low / medium / high) | high |
| Environmental aspects and climate change mitigation/adaptation | - Alternative OHL corridors considered<br>- Utilize corridors of existing 220 kV OHL (as much as posible), which will be dismantled<br>- Avoidance strategy during corridor routing implemented<br>- Mitigation strategy proposed<br>- Environmental and Social Management and Monitoring proposed |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2009 | 01/2010 |
| Feasibility study (incl. CBA) | C | 06/2010 | 04/2012 |
| Preliminary Design | C | 06/2010 | 02/2017 |
| Environmental and Social Impact Assessment | C | 06/2010 | 02/2017 |
| Valid spatial planning documents | WiP | 02/2015 | 06/2020 |
| Land property resolved | NS | 06/2021 | 06/2023 |
| Main design / detailed design | WiP | 11/2018 | 11/2020 |
| Tender documentation | NS | 01/2021 | 06/2021 |
| Construction and other permits | NS | 12/2019 | 12/2020 |
| Construction & supervision of works contracts | NS | 09/2021 | 09/2023 |
| Further project preparation considerations | The project is in phase of development of the Main Design, updated ESIA and Project Implementation Plan. This acttivity is executed with WBIF support (WB14-SRB-ENE-01) and includes also obtaining all necesary permits and consents for construction.<br><br>The expropriation (land aquisition) procedure is significantly facilitated by the new "Law for establishment of public interest and special procedure for expropriation and provision of documentation for the implementation of projects of 400kV transmission system facilities within Transbalkan Corridor - first phase". Therefore, the land aquisition procedure may be consdired to be already initiated by adoptation of this law. | | |
| Further ESIA considerations | During the main design activites, which are currently on-going, existing ESIA will be updated to reflect specifi issues related to exact tower positions. | | |
| Risks and critical issues | The project is a precondition for the other projects in the corridor, first of all for interconnection Serbia - Montenegro - BiH.<br><br>Since this is an upgrade of the existing 220kV OHL of strategic importance for Serbian transmission network, as well as a direct connection between two strongest generation nodes in the region, sequences of decommissioning and construction works shall be carefully planned. | | |

| | |
|---|---|
| Cross-border aspects | The affected border crossings are SRB to BIH, MNE and CRO in terms of increased cross-border transmission capacities. |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 250,000 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 770,000 |
| Environmental and Social Impact Assessment | No | 30,000 |
| Valid spatial planning documents | No | 75,000 |
| Land property | Yes | 5,200,000 |
| Main design / detailed design | Yes | 650,000 |
| Tender documentation | Yes | 120,000 |
| Construction and other permits | Yes | 230,000 |
| Construction & supervision of works contracts | Yes | 44,250,000 |
| Total investment | | 51,575,000 |
| Investment financing considerations | For procurement, FIDIC Red Book conditions are assumed.<br>According to usual practice, land property, construction and other permits are financed by EMS<br>The costs for forest cutting, including the fee to the relevant authorities, is included in the "Land property" costs.<br>Dismantling of 220kV lines is included in the construction price.<br>WBIF Grant (800k€) for Technical Design Docs and TSO support approved in Round 14 (December 2015).<br><br>Proposed financing structure for the Transbalkan Corridor in Serbia, sections I, III and IV, according to the GAF submitted to WBIF, is as follows (OHL + SS):<br>- Investment: 134.4 mil.€<br>- Loan: 50 mil.€ (EBRD)<br>- Grant: 49.3 mil.€ (WBIF)<br>- EMS equity proceeds: 35.1 mil.€ | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Pančevo (RS) - Resita (RO) / SRB part*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Pančevo (RS) - Resita (RO) / SRB part |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Mid Continental East corridor / Transbalkan corridor phase I |
| From | Pančevo 2 |
| To | Resita |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | Ministry of Mining and Energy of the Republic of Serbia |
| Project ID/number | WB6.EN.E.07 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET020 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | This project is the only WB6 project which was part of EU PCI - Project of Common Interest 2015.<br>The project is important part of the Trans Balkan North-South corridor, linking Central Europe with Italy over the HVDC submarine cable, and at the same time part of the Mid-Continental East corridor according to the PCI and ENTSO-E classification. The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013 and 2016).<br>The project is part of the ENTSO-E TYNDP 2014 and 2018.<br>The project is part of the Serbian Energy Strategy, National TYNDP and it is fully supported by the Energy Regulatory Authority. |
| Strategic relevance | Mid-Continental East Corridor, in particular the interconnection between Serbia and Romania and upgrade of existing 220kV network in Eastern Banat in Romania to 400kV will strengthen the East-West corridor of the WB6 area. The projects in this PCI cluster 3.2.2 are:<br>• 400 kV OHL Resita (RO) - Pančevo (RS)<br>• 400 kV OHL Portile de Fier - Resita (RO)<br>• Upgrading of existing 220kV OHLs to 400 kV Resita – Timisoara – Sacalaz - Arad (RO)<br>• New 400/kV S/S Resita (RO) |

| | |
|---|---|
| General description | New interconnection between Serbia and Romania is 131 km long double circuit 400kV OHL (63 km on Romanian side and 68 km on Serbian side).<br>Project also includes upgrade of existing 220kV network in Eastern Banat in Romania to 400kV, in particular:<br>- New 400 kV OHL Portile de Fier - Resita (RO)<br>- Upgrade of existing 220kV OHLs to 400 kV Resita – Timisoara – Sacalaz - Arad (RO)<br>- New 400/kV S/S Resita (RO) |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | Direction A: 737 - Direction B: 453 |
| OHL / cable - approximate length (km)** | 68 |
| OHL - Number of circuits** | double, with one circuit erected |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | N/A |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | N/A |
| B2 - Social-economic welfare | N/A |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | N/A |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | N/A |
| B7 - Flexibility | N/A |
| NPV (low / medium / high) | |
| Environmental aspects and climate change mitigation/adaptation | N/A |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | C | 11/2015 | 11/2017 |
| Further project preparation considerations | N/A | | |
| Further ESIA considerations | N/A | | |
| Risks and critical issues | N/A | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | | 0 |
| Environmental and Social Impact Assessment | | 0 |
| Valid spatial planning documents | | 0 |
| Land property | | 0 |
| Main design / detailed design | | 0 |
| Tender documentation | | 0 |
| Construction and other permits | | 0 |
| Construction & supervision of works contracts | | 0 |
| Total investment | | 0 |
| Investment financing considerations | The project was financed by EMS equity proceeds, as EMS share of the Transbalkan Corridor phase I financing. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *Upgrade of the existing 220 kV OHL Niš - Kruševac (RS) to 400 kV OHL*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Upgrade of the existing 220 kV OHL Niš - Kruševac (RS) to 400 kV OHL |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Upgrade of 220kV network in Central Serbia to 400kV |
| From | Nis 2 |
| To | Kruševac 1 |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | |
| Project ID/number | WB6.EN.E.17 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | N/A |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | --- |
| Voltage of OHL (kV)** | --- |
| Voltage levels of SS (kV/kV)* | |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | |
| OHL / cable - approximate length (km)** | |
| OHL - Number of circuits** | |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | | | |
| Feasibility study (incl. CBA) | | | |
| Preliminary Design | | | |
| Environmental and Social Impact Assessment | | | |
| Valid spatial planning documents | | | |
| Land property resolved | | | |
| Main design / detailed design | | | |
| Tender documentation | | | |
| Construction and other permits | | | |
| Construction & supervision of works contracts | | | |
| Further project preparation considerations | | | |
| Further ESIA considerations | | | |
| Risks and critical issues | | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | --- | 0 |
| Environmental and Social Impact Assessment | --- | 0 |
| Valid spatial planning documents | --- | 0 |
| Land property | --- | 0 |
| Main design / detailed design | --- | 0 |
| Tender documentation | --- | 0 |
| Construction and other permits | --- | 0 |
| Construction & supervision of works contracts | --- | 0 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Kruševac - Kraljevo (RS)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Kruševac - Kraljevo (RS) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Upgrade of 220kV network in Central Serbia to 400kV |
| From | Kruševac 1 |
| To | Kraljevo 3 |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | |
| Project ID/number | WB6.EN.E.19 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | N/A |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | --- |
| Voltage of OHL (kV)** | --- |
| Voltage levels of SS (kV/kV)* | |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | |
| OHL / cable - approximate length (km)** | |
| OHL - Number of circuits** | |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | | | |
| Feasibility study (incl. CBA) | | | |
| Preliminary Design | | | |
| Environmental and Social Impact Assessment | | | |
| Valid spatial planning documents | | | |
| Land property resolved | | | |
| Main design / detailed design | | | |
| Tender documentation | | | |
| Construction and other permits | | | |
| Construction & supervision of works contracts | | | |
| Further project preparation considerations | | | |
| Further ESIA considerations | | | |
| Risks and critical issues | | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | --- | 0 |
| Environmental and Social Impact Assessment | --- | 0 |
| Valid spatial planning documents | --- | 0 |
| Land property | --- | 0 |
| Main design / detailed design | --- | 0 |
| Tender documentation | --- | 0 |
| Construction and other permits | --- | 0 |
| Construction & supervision of works contracts | --- | 0 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Bajina Bašta - Kraljevo (RS)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Bajina Bašta - Kraljevo (RS) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Transbalkan corridor phase II |
| From | Bajina Bašta |
| To | Kraljevo 3 |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | Ministry of Mining and Energy of Serbia |
| Project ID/number | WB6.EN.E.20 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET022 |
| WBIF project code | PRJ-SRB-ENE-006 (WB9-SER-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project is part of the Phase II of the TransBalkan Corridor. |
| Strategic relevance | The project is important for Serbian transmission network but it is not in the first priority at the moment. |
| General description | The project is also part of the central Serbia electricity transmission system upgrade from 220 kV to 400 kV voltage level. The project should increase the transfer capabilities in direction east - west and replace the aging 220kV network in the region. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | 500 |
| OHL / cable - approximate length (km)** | 150 |
| OHL - Number of circuits** | double |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The project is the first phase of the central Serbia electricity transmission system upgrade from 220 kV to 400 kV voltage level and should replace the aging 220kV network which runs through the densely populated area. It should contribute to decrease of losses and increase of technical resilience during the operation and maintenance of the network in the region. |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | N/A |
| B2 - Social-economic welfare | N/A |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | N/A |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | N/A |
| B7 - Flexibility | N/A |
| NPV (low / medium / high) | low |
| Environmental aspects and climate change mitigation/adaptation | EIA study completed. |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | C | 07/2015 | 02/2018 |
| Preliminary Design | WiP | 07/2015 | 04/2017 |
| Environmental and Social Impact Assessment | C | 07/2015 | 02/2018 |
| Valid spatial planning documents | NS | 06/2021 | 05/2023 |
| Land property resolved | NS | 01/2026 | 01/2030 |
| Main design / detailed design | NS | 01/2026 | 01/2028 |
| Tender documentation | NS | 01/2028 | 06/2028 |
| Construction and other permits | NS | 01/2026 | 01/2028 |
| Construction & supervision of works contracts | NS | 08/2028 | 09/2030 |
| Further project preparation considerations | All timing for preparation of project documentation, after FS is finalised is made based on the assumptions.<br>No Project Implementation Plan is available yet.<br>Investmetn decision is pending. | | |
| Further ESIA considerations | ? | | |
| Risks and critical issues | The project is developed over an aging, but well developed existing 220kV network. The benefits of the project are fully achieved once the 220kV level is abandoned and the dynamics of this is uncertain. | | |
| Cross-border aspects | N/A | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 800,000 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | Yes | 150,000 |
| Land property | Yes | 9,000,000 |
| Main design / detailed design | Yes | 800,000 |
| Tender documentation | Yes | 100,000 |
| Construction and other permits | Yes | 200,000 |
| Construction & supervision of works contracts | Yes | 56,000,000 |
| Total investment | | 67,050,000 |
| Investment financing considerations | The given project costs are based on the results of the Feasibility Study. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Pančevo - Belgrade West (RS)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Pančevo - Belgrade West (RS) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Closing 400kV ring around Belgrade |
| From | WPP Cibuk |
| To | Belgrade West |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | |
| Project ID/number | WB6.EN.E.22 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | N/A |
| WBIF project code | PRJ-SRB-ENE-015 (WB21-SER-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project supports RES development in accordance with national energy strategy and REAP. |
| Strategic relevance | The project is important for strengthening secutiy of electricity supply in the Belgrade area, and for facilitation of the wind power plants development in the northwestern part of Serbia. It also increases cross-border transmission capacity to Romania. |
| General description | The project consists of construction of new 400kV OHL between new 400kV substation near WPP Cibuk and future 400kV substation Belgrade West. It also includes option for upgrading of the exsiting intercnnection to Romania (Djerdap - Portille de Fier) from single to double 400kV OHL. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | 400/110 |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | Direction A: 622 - Direction B: 347 |
| OHL / cable - approximate length (km)** | 60 |
| OHL - Number of circuits** | 1 |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | NS | | |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Pre-feasibility study includes system studies, conceptual design and cost-benefit analysis. Upon completion of the Pre-feasibility study further steps and relevant timing will be defined. | | |
| Further ESIA considerations | Upon completion of the PESIA (scoping) within the Pre-feasibility study further steps and relevant timing will be defined. | | |
| Risks and critical issues | No risks or critical issues have been identified so far | | |
| Cross-border aspects | Significant impact on increase of the cross-border capacity is expected. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 600,000 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 0 |
| Investment financing considerations | According to Pre-feasibility study GAF, estimation for overall project costs is € 52.14 million Including SS Belgrade West). EMS plan is to provide own contribution of € 5.74 million, KfW loan of € 34 million and grant funds (including WBIF grants for preparation of project documentation) of € 12.4 million. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *Upgrade of the existing 220/110kV SS Kraljevo 3 (RS) to 400kV*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Upgrade of the existing 220/110kV SS Kraljevo 3 (RS) to 400kV |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE8 Transbalkan Corridor / Transbalkan corridor phase I |
| From | Kraljevo 3 |
| To | N/A |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | Ministry of Mining and Energy of Serbia |
| Project ID/number | WB6.EN.E.03 |
| ECS PECI 2016 candidate lis | EI_01 (a) |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET018 |
| WBIF project code | PRJ-SRB-ENE-008 ( WB-IG00-SRB-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | As part of the 400 kV OHL Kragujevac - Kraljevo project, this activity also belongs to Section II of the Trans Balkan North-South corridor, linking Central Europe with Italy over the HVDC submarine cable.<br>The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013, 2016 and 2018).<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the Serbian Energy Strategy, National TYNDP and it is fully supported by the Energy Regulatory Authority. |
| Strategic relevance | The project is of the highest strategic importance for pan-European connectivity of electricity transmission infrastructure.<br>The project is of strategic importance for the connectivity of the WB6 area, as well as for the establishment and facilitation of the regional electricity wholesale and balancing market.<br>This project is consistent with the Serbian Energy Strategy, Action Plan, and is fully supported by the Energy Regulatory Authority (AERS) and Ministry of Mining and Energy.<br>Due to its importance, project is supported by the special "Law for establishment of public interest and special procedure for expropriation and provision of documentation for the implementation of projects of 400kV transmission system facilities within Transbalkan Corridor - first phase". |

| | |
|---|---|
| General description | This project is part of 400 kV OHL Kragujevac - Kraljevo project, being its precondition. The project represents the first phase of upgrade of the aging 220kV network in central and western Serbia to 400kV level.<br>The line will enhance the possibility of energy transits in direction north-east to south-west and east to west.<br>The project contributes to improvement of voltage levels in the 110kV network. Upgrade to 400kV level ensures stable operation of existing PSHPP Bajina Bašta. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | substation or converter station |
| Voltage of OHL (kV)** | |
| Voltage levels of SS (kV/kV)* | 400/220/110 |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | 1200 |
| OHL / cable - approximate length (km)** | N/A |
| OHL - Number of circuits** | N/A |
| SS - Installed capacity (MVA)** | 400 |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | As the feasibility study, involving ENTSO-E CBA methodology was not done, the benefits B1-B7 were not calculated. The benefits are descriptive, as defined by the Feasibility Study with Preliminary Design (according to Serbian legislation).<br>According to this document, the project<br>- contributes to strengthening of national and regional transmission corridor north-east - south-west,<br>- contributes to network upgrade to 400kV level,<br>- enables future 400kV connections towards substations Bajina Bašta and Niš 2 and<br>- contributes to achieving pre-conditions to gradually abandon 220kV level in this part of Serbia. |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | N/A |
| B2 - Social-economic welfare | N/A |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | N/A |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | N/A |
| B7 - Flexibility | N/A |
| NPV (low / medium / high) | low |
| Environmental aspects and climate change mitigation/adaptation | Project is implemented at the location of the existing substation. |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | 01/2012 | 01/2013 |
| Feasibility study (incl. CBA) | C | 06/2013 | 06/2014 |
| Preliminary Design | C | 06/2013 | 06/2014 |
| Environmental and Social Impact Assessment | C | 07/2013 | 07/2014 |
| Valid spatial planning documents | C | | |
| Land property resolved | -/- | | |
| Main design / detailed design | C | 04/2015 | 07/2016 |
| Tender documentation | C | 08/2019 | 11/2019 |
| Construction and other permits | C | 06/2017 | 09/2018 |
| Construction & supervision of works contracts | WiP | 06/2019 | 12/2021 |
| Further project preparation considerations | Project is ready for implementation. Construction works are due to start in early 2020. | | |
| Further ESIA considerations | EIA study finalised in Oct 2015. Public consultations finalised in Dec 2015. | | |
| Risks and critical issues | No anticipated risks | | |
| Cross-border aspects | N/A | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 100,000 |
| Environmental and Social Impact Assessment | No | 50,000 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 180,000 |
| Tender documentation | Yes | 50,000 |
| Construction and other permits | Yes | 200,000 |
| Construction & supervision of works contracts | Yes | 8,500,000 |
| Total investment | | 9,080,000 |
| Investment financing considerations | For procurement, FIDIC Red Book conditions are assumed.<br>Financing structure, according to IPA II Multi-country Action Programme, is as follows (OHL + SS):<br>- Investment: 28 mil.€(together with OHL Kragujevac Kraljevo)<br>- Loan: 14.27 mil.€ (KfW)<br>- Grant: 6.6 mil.€ (IPA II 2015, including TA)<br>- EMS equity proceeds: remaining costs | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *Upgrade of the existing 220/110kV SS Bajina Bašta to 400kV*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Upgrade of the existing 220/110kV SS Bajina Bašta to 400kV |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE8 Transbalkan Corridor / Transbalkan corridor phase I |
| From | Bajina Bašta |
| To | N/A |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | Ministry of Mining and Energy of Serbia |
| Project ID/number | WB6.EN.E.06 |
| ECS PECI 2016 candidate lis | EI_01 (b) |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | N/A |
| WBIF project code | PRJ-SRB-ENE-007 (TA-SER-26, WB14-SRB-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | As part of the 400 kV OHL Obrenovac - Bajina Basta project, this activity also belongs to Section III of the Trans Balkan North-South corridor, linking Central Europe with Italy over the HVDC submarine cable.<br>The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013, 2016 and 2018).<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the Serbian Energy Strategy, National TYNDP and it is fully supported by the Serbian Energy Regulatory Authority. |
| | |

| | |
|---|---|
| Strategic relevance | The project is of the highest strategic importance for pan-European connectivity of electricity transmission infrastructure.<br>The project is of strategic importance for the connectivity of the WB6 area, as well as for the establishment and facilitation of the regional electricity wholesale and balancing market.<br>This project is consistent with the Serbian Energy Strategy, Action Plan, and is fully supported by the Energy Regulatory Authority (AERS) and Ministry of Mining and Energy.<br>Due to its importance, project is suppoted by the special "Law for establishment of public interest and special procedure for expropriation and provision of documentation for the implementation of projects of 400kV transmission system facilities within Transbalkan Corridor - first phase".<br>Upgrading of this substation to 400kV is strategically important for the transmission network in the region, for the security of power supply to final consumers, and finally for the power system balancing and optimisation of power generation. |
| General description | Upgrade of the existing 220/110 kV substation in Bajina Bašta to 400/220/110 kV substation as part of the projec OHL Obrenovac - Bajina Basta (Trans-Balkan Corridor Section III) as well as part of the overall western Serbia system upgrade to 400 kV voltage level project .<br>Substation Bajina Basta is strattegically important transmission network node.It is not only the point of connection between power systems of Serbia, Montenegro and Bosnia and herzegovina, but also very powerful generation node with nearly 1000MW of installed power, hosting also the biggest reversible hydro power plant (600MW pump storage) in the region. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | substation or converter station |
| Voltage of OHL (kV)** | |
| Voltage levels of SS (kV/kV)* | 400/220/35 |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | 300 |
| OHL / cable - approximate length (km)** | N/A |
| OHL - Number of circuits** | N/A |
| SS - Installed capacity (MVA)** | 400 |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | The benefits of the project are achieved through construction of transmission lines, while the substation upgrade project is a preconditions to connection of lines as projected.<br>According to financial and economic assessment within the FS, the whole project (OHL and SS)<br>- increases transmission network capacity, as well as regional and pan-European network interconnectivity,<br>- supports development of electricity wholesale and balancing market and facilitates their operation,<br>- improves security of electricity supply by strengthening connection between 2 major generation nodes in the region and<br>- increases efficiency of PSHPP Bajina Bašta. |
| B1 - Security of supply (EENS in GWh) | N/A |
| B2 - Social-economic welfare | N/A |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | N/A |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | N/A |
| B7 - Flexibility | N/A |
| NPV (low / medium / high) | |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2009 | 01/2010 |
| Feasibility study (incl. CBA) | C | 03/2013 | 02/2015 |
| Preliminary Design | C | 06/2016 | 02/2017 |
| Environmental and Social Impact Assessment | C | 06/2010 | 02/2017 |
| Valid spatial planning documents | WiP | 05/2015 | 02/2020 |
| Land property resolved | NS | 06/2021 | 06/2023 |
| Main design / detailed design | WiP | 07/2019 | 04/2020 |
| Tender documentation | NS | 01/2021 | 06/2021 |
| Construction and other permits | NS | 05/2020 | 12/2020 |
| Construction & supervision of works contracts | NS | 09/2021 | 05/2023 |
| Further project preparation considerations | The project is in phase of development of the Main Design (including access roads), updated ESIA and Project Implementation Plan. This acttivity is executed with WBIF support (WB14-SRB-ENE-01) and includes also obtaining all necesary permits and consents for construction. | | |
| Further ESIA considerations | During the main design existing ESIA will be updated, if required. | | |
| Risks and critical issues | The project is a precondition for the other projects in the corridor, in order to connect the new lines. | | |

| | |
|---|---|
| Cross-border aspects | Termination point for new 400kV OHL Bajina Basta (RS) - Pljevlja (ME) -- Videgrad (BA) |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 70,000 |
| Environmental and Social Impact Assessment | No | 30,000 |
| Valid spatial planning documents | No | 30,000 |
| Land property | Yes | 250,000 |
| Main design / detailed design | Yes | 150,000 |
| Tender documentation | Yes | 50,000 |
| Construction and other permits | Yes | 75,000 |
| Construction & supervision of works contracts | Yes | 10,500,000 |
| Total investment | | 11,155,000 |
| Investment financing considerations | For procurement, FIDIC Red Book conditions are assumed.<br>According to usual practice, land property, construction and other permits are financed by EMS<br><br>WBIF Grant (800k€) for Technical Design Docs and TSO support (together with 400kV OHL Obrenovac - Bajina Bašta) approved in Round 14 (December 2015).<br><br>Proposed financing structure for the Transbalkan Corridor in Serbia, sections I, III and IV, according to the GAF submitted to WBIF, is as follows (OHL + SS):<br>- Investment: 134.4 mil.€<br>- Loan: 50 mil.€ (EBRD)<br>- Grant: 49.3 mil.€ (WBIF)<br>- EMS equity proceeds: 35.1 mil.€ | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *Upgrade of the existing 220/110kV SS Kruševac 1 (RS) to 400kV*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Upgrade of the existing 220/110kV SS Kruševac 1 (RS) to 400kV |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Upgrade of 220kV network in Central Serbia to 400kV |
| From | Kruševac 1 |
| To | |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | |
| Project ID/number | WB6.EN.E.18 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | N/A |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | --- |
| Voltage of OHL (kV)** | --- |
| Voltage levels of SS (kV/kV)* | |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | |
| OHL / cable - approximate length (km)** | |
| OHL - Number of circuits** | |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | | | |
| Feasibility study (incl. CBA) | | | |
| Preliminary Design | | | |
| Environmental and Social Impact Assessment | | | |
| Valid spatial planning documents | | | |
| Land property resolved | | | |
| Main design / detailed design | | | |
| Tender documentation | | | |
| Construction and other permits | | | |
| Construction & supervision of works contracts | | | |
| Further project preparation considerations | | | |
| Further ESIA considerations | | | |
| Risks and critical issues | | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | --- | 0 |
| Environmental and Social Impact Assessment | --- | 0 |
| Valid spatial planning documents | --- | 0 |
| Land property | --- | 0 |
| Main design / detailed design | --- | 0 |
| Tender documentation | --- | 0 |
| Construction and other permits | --- | 0 |
| Construction & supervision of works contracts | --- | 0 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400/110kV SS Belgrade West (RS)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400/110kV SS Belgrade West (RS) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Closing 400kV ring around Belgrade |
| From | Belgrade West |
| To | |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EMS |
| Proponent | |
| Project ID/number | WB6.EN.E.21 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | N/A |
| WBIF project code | PRJ-SRB-ENE-015 (WB21-SER-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project supports RES development in accordance with national energy strategy and REAP. |
| Strategic relevance | The project is important for strengthening secutiy of electricity supply in the Belgrade area, and for facilitation of the wind power plants development in the northwestern part of Serbia. It also increases cross-border transmission capacity to Romania. |
| General description | The project consist of development of new 400/110kV substation Belgrade West. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | substation or converter station |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | 400/110 |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | Direction A: 622 - Direction B: 347 |
| OHL / cable - approximate length (km)** | |
| OHL - Number of circuits** | |
| SS - Installed capacity (MVA)** | 2x300 |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | NS | | |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Pre-feasibility study includes system studies, conceptual design and cost-benefit analysis. Upon completion of the Pre-feasibility study further steps and relevant timing will be defined. | | |
| Further ESIA considerations | Upon completion of the ESIA scoping within the Pre-feasibility study further steps and relevant timing will be defined. | | |
| Risks and critical issues | No risks or critical issues have been identified so far. | | |
| Cross-border aspects | Significant impact on increase of the cross-border capacity is expected | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 0 |
| Investment financing considerations | According to Pre-feasibility study GAF, estimation for overall project costs is € 52.14 million (together with the 60km OHL line SS Belgrade West-SS WPP Cibuk). EMS plan is to provide own contribution of € 5.74 million, KfW loan of € 34 million and grant funds (including WBIF grants for preparation of project documentation) of € 12.4 million. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *PSHPP Djerdap 3(Phase 1)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | PSHPP Djerdap 3(Phase 1) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Storage capacity in west Serbia |
| From | N/A |
| To | N/A |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EPS |
| Proponent | |
| Project ID/number | WB6.EN.E.28 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | EG021 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | --- |
| Voltage of OHL (kV)** | --- |
| Voltage levels of SS (kV/kV)* | |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | |
| OHL / cable - approximate length (km)** | |
| OHL - Number of circuits** | |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | | | |
| Feasibility study (incl. CBA) | | | |
| Preliminary Design | | | |
| Environmental and Social Impact Assessment | | | |
| Valid spatial planning documents | | | |
| Land property resolved | | | |
| Main design / detailed design | | | |
| Tender documentation | | | |
| Construction and other permits | | | |
| Construction & supervision of works contracts | | | |
| Further project preparation considerations | | | |
| Further ESIA considerations | | | |
| Risks and critical issues | | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | --- | 0 |
| Environmental and Social Impact Assessment | --- | 0 |
| Valid spatial planning documents | --- | 0 |
| Land property | --- | 0 |
| Main design / detailed design | --- | 0 |
| Tender documentation | --- | 0 |
| Construction and other permits | --- | 0 |
| Construction & supervision of works contracts | --- | 0 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *PSHPP Bistrica*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | PSHPP Bistrica |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Storage capacity in west Serbia |
| From | N/A |
| To | N/A |
| Gap rationale | |
| Country | SER |
| Lead Project Beneficiary | EPS |
| Proponent | |
| Project ID/number | WB6.EN.E.29 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | EG020 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | --- |
| Voltage of OHL (kV)** | --- |
| Voltage levels of SS (kV/kV)* | |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | |
| OHL / cable - approximate length (km)** | |
| OHL - Number of circuits** | |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | | | |
| Feasibility study (incl. CBA) | | | |
| Preliminary Design | | | |
| Environmental and Social Impact Assessment | | | |
| Valid spatial planning documents | | | |
| Land property resolved | | | |
| Main design / detailed design | | | |
| Tender documentation | | | |
| Construction and other permits | | | |
| Construction & supervision of works contracts | | | |
| Further project preparation considerations | | | |
| Further ESIA considerations | | | |
| Risks and critical issues | | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | --- | 0 |
| Environmental and Social Impact Assessment | --- | 0 |
| Valid spatial planning documents | --- | 0 |
| Land property | --- | 0 |
| Main design / detailed design | --- | 0 |
| Tender documentation | --- | 0 |
| Construction and other permits | --- | 0 |
| Construction & supervision of works contracts | --- | 0 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Bajina Bašta (RS) - Višegrad (BA) - Pljevlja (ME) / MNE part*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Bajina Bašta (RS) - Višegrad (BA) - Pljevlja (ME) / MNE part |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE8 Transbalkan Corridor / Transbalkan corridor MNE part |
| From | Pljevlja 2 |
| To | Bajina Bašta, Višegrad |
| Gap rationale | |
| Country | MNE |
| Lead Project Beneficiary | CGES |
| Proponent | Ministry of Economy of Montenegro |
| Project ID/number | WB6.EN.E.01-2 |
| ECS PECI 2016 candidate lis | EI_01 c |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET002 |
| WBIF project code | PRJ-MULTI-ENE-002 (WB5-REG-ENE-02, WB13-REG-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project represents Section IV of the Trans Balkan North-South corridor, linking Central Europe with Italy over the HVDC submarine cable. The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013, 2016 and 2018).<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the Montenegrin Energy Strategy, National TYNDP and it is fully supported by the Energy Regulatory Authority. |
| Strategic relevance | This project is of significant regional significance, and is endorsed by both DG Energy. ENTSO-E (ENTSO-E TYNDP 2018) and the Energy Community (ECS PECI 2018).<br>Beneficiaries in all three countries, via their respective line ministries and governments have expressed support to continue developing design and tender documentation.<br>TSO in Montenegro will consider financing options for construction.<br>This project is consistent with the Energy Strategies, Action Plans, Investment plans and capital development plans for the countries, and is well-supported in CGES with Montenegrin line ministry. |

| | |
|---|---|
| General description | New double circuit 400kV OHL connecting existing substation Pljevlja 2 (ME), substation Bajina Bašta (RS) and substation Višegrad (BA). The line will be constructed on double circuit towers and will in great part use the corridor of the existing 220kV lines in all three countries. The majority of the line is located in Serbia (83.5km), compared to the sections in Montenegro (15.7km) and Bosnia and Hercegovina (17.3km).<br><br>This project includes only section of the OHL in Montenegro, i.e. from the existing substation Pljevlja 2 (ME) to the border crossing points towards Serbia and BiH defined in the main design. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | 300 |
| OHL / cable - approximate length (km)** | 15.7 |
| OHL - Number of circuits** | double |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | The project as a whole will deliver economic benefits in Bosnia and Herzegovina, Montenegro and Serbia, and is, as a whole, financially viable for the TSOs in those countries, with unequal distribution of benefits.<br>Implementation of this Project is likely to produce significant economic and electricity market benefits to the broader SEE Region in general, especially when the Lastva – Čevo - Pljevlja 400kV connection in ME is complete and the undersea HVDC cable to Italy is commissioned.<br>The project enables full utilisation of HVDC cable ME-IT.<br>There is no impact on RES generation constraints from new interconnection since no RES spillages are observed (not foreseen in that region)<br>The project satisfies all recommended security criteria.<br>The overall NPV is medium and not equally spreaded over the countries, with lower benefits in Serbia and Bosnia and Herzegovina and higher in Montenegro.<br><br>The project benefits will be reviewed during the WBIF financed (WB13-REG-ENE-01) Main Design activities wehich are on-going. |
| B1 - Security of supply (EENS in GWh) | no variation |
| B2 - Social-economic welfare | 5 |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | 10.4 |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | positive |
| B7 - Flexibility | positive |
| NPV (low / medium / high) | high |
| Environmental aspects and climate change mitigation/adaptation | - Utilize corridor of existing 220 kV OHL (as much as possible), which will be dismantled<br>- Corridor passes through Emerald site Cehotina River, utilizing corridor of existing 220 kV OHL<br>- Mitigation strategy proposed<br>- Environmental and Social Management and Monitoring proposed<br>- Coordination with operational planning and operations department required for sdevelopment of Project Implementation Plan and during construction to facilitate use of existing OHL corridor |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 03/2013 | 02/2015 |
| Feasibility study (incl. CBA) | C | 03/2013 | 02/2015 |
| Preliminary Design | WiP | 08/2016 | 04/2020 |
| Environmental and Social Impact Assessment | C | 03/2013 | 04/2017 |
| Valid spatial planning documents | WiP | 06/2015 | 10/2017 |
| Land property resolved | WiP | 04/2017 | 03/2021 |
| Main design / detailed design | WiP | 09/2019 | 09/2021 |
| Tender documentation | NS | 10/2021 | 04/2022 |
| Construction and other permits | NS | 09/2020 | 12/2021 |
| Construction & supervision of works contracts | NS | 05/2022 | 05/2023 |
| Further project preparation considerations | Preliminary design, feasibility study and draft EIA were prepared through WB5-REG-ENE-02 TA grant support. Additional work is on-going concerning Preliminary Design and EIA for extension of the SS Pljevlja 2, executed through the WBIF support (project WB13-REG-ENE-01). | | |

| | |
|---|---|
| Further ESIA considerations | During the main design activites, which are currently on-going, EIA for reconstruction of the SS Pljevlja 2 will be done in accordacne with the local legislation. |
| Risks and critical issues | The project is dependent on the development of the part of the line in Serbia. |
| Cross-border aspects | Connection points at the border have been officially agreed and confirmed among involved TSOs. Special attention should be paid to the slightly different legislation and procedures that applied in different countries |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 320,000 |
| Environmental and Social Impact Assessment | Yes | 10,000 |
| Valid spatial planning documents | Yes | 20,000 |
| Land property | Yes | 150,000 |
| Main design / detailed design | No | 0 |
| Tender documentation | Yes | 75,000 |
| Construction and other permits | Yes | 15,000 |
| Construction & supervision of works contracts | Yes | 6,000,000 |
| Total investment | | 6,590,000 |
| Investment financing considerations | Dismantling of 220kV lines is included in the construction price.<br>For procurement, FIDIC Yellow Book conditions are assumed.<br>WBIF Grant (800k€) for Technical Design Docs and TSO support approved in Round 13 (June 2015).<br><br>Financing structure for the Transbalkan Electricity Corridor (I): Grid Section in Montenegro (SS Lastva, SS Pljevlja, 400kV OHL Lastva - Pljevlja and 400kV OHL Pljevlja border of Serbia), according to IPA II Multi-country Action Programme, is as follows :<br>- Investment: 127 mil.€, lead IFI: EBRD<br>- Loan: 25 mil.€ (KfW)<br>- Grant: 25 mil.€ (IPA II 2015, including TA) | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400 kV OHL Pljevlja - Lastva (MNE)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400 kV OHL Pljevlja - Lastva (MNE) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE8 Transbalkan Corridor / Transbalkan corridor, MNE part |
| From | Lastva |
| To | Pljevlja 2 |
| Gap rationale | |
| Country | MNE |
| Lead Project Beneficiary | CGES |
| Proponent | Ministry of Economy of Montenegro |
| Project ID/number | WB6.EN.E.04 |
| ECS PECI 2016 candidate lis | El_01 (d) |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET017 |
| WBIF project code | PRJ-MNE-ENE-001 (TA-MON-02, WB-IG00-MNE-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project is important part of the Trans Balkan North-South corridor, linking Central Europe with Italy over the HVDC submarine cable.<br>The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013, 2016 and 2018).<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the Montenegrin Energy Strategy, National TYNDP and it is fully supported by the Energy Regulatory Authority. |
| Strategic relevance | The project is of the highest strategic importance for pan-European connectivity of electricity transmission infrastructure.<br>The project is of strategic importance for the connectivity of the WB6 area, as well as for the establishment and facilitation of the regional electricity wholesale and balancing market.<br>The project is important for improvement of security of electricity supply in the Montenegrin power system and for facilitation of Renewable Energy Sources along its route.<br>By strengthening of the transmission grid in the important coastal area, this project is significant contribution to investments in progress of national economy and commerce. |

| | |
|---|---|
| General description | Reinforcement of the Montenegrin internal 400 kV transmission network with this project new single circuit 400kV OHL between existing substation Pljevlja 2 and new substation Lastva. The project also includes following infrastructure:<br>- New single circuit 400kV OHL Lastva - Pljevlja 2.<br>- New 400/110/35 kV SS Lastva,<br>- Diversion of the existing 400kV OHL Trebinje (BiH) - Podgorica (MNE) into new SS Lastva near Cevo |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | 1200 |
| OHL / cable - approximate length (km)** | 151 |
| OHL - Number of circuits** | single |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | N/A |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | N/A |
| B2 - Social-economic welfare | N/A |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | N/A |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | N/A |
| B7 - Flexibility | N/A |
| NPV (low / medium / high) | |
| Environmental aspects and climate change mitigation/adaptation | N/A |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 01/2009 | 01/2010 |
| Feasibility study (incl. CBA) | C | 01/2011 | 01/2013 |
| Preliminary Design | C | 01/2012 | 01/2014 |
| Environmental and Social Impact Assessment | C | 01/2011 | 01/2013 |
| Valid spatial planning documents | C | 01/2010 | 01/2013 |
| Land property resolved | WiP | 01/2015 | 01/2021 |
| Main design / detailed design | C | 12/2013 | 04/2016 |
| Tender documentation | C | 12/2012 | 11/2014 |
| Construction and other permits | C | 03/2014 | 12/2014 |
| Construction & supervision of works contracts | WiP | 01/2014 | 12/2021 |
| Further project preparation considerations | N/A | | |
| Further ESIA considerations | N/A | | |
| Risks and critical issues | Potential construction delay due to severe and unpredictable weather conditions and severe terrain conditions. | | |
| Cross-border aspects | HVDC submarine cable between Italy and Montenegro in the SS Lastva where this OHL terminates. Utilisation of the HVDC cable capacity is closely connected to the implementation of this project. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | | 0 |
| Environmental and Social Impact Assessment | | 0 |
| Valid spatial planning documents | | 0 |
| Land property | | 0 |
| Main design / detailed design | | 0 |
| Tender documentation | | 0 |
| Construction and other permits | | 0 |
| Construction & supervision of works contracts | | 0 |
| Total investment | | 0 |
| Investment financing considerations | Financing structure for the Transbalkan Electricity Corridor (I): Grid Section in Montenegro (SS Lastva, SS Pljevlja, 400kV OHL Lastva - Pljevlja and 400kV OHL Pljevlja border of Serbia), according to IPA II Multi-country Action Programme, is as follows :<br>- Investment: 127 mil.€, lead IFI: EBRD<br>- Loan: 25 mil.€ (KfW)<br>- Grant: 25 mil.€ (IPA II 2015, including TA) | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Bitola (MK) - Elbasan (AL) / MKD part, including SS Ohrid*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Bitola (MK) - Elbasan (AL) / MKD part, including SS Ohrid |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE9 |
| From | Bitola 2 |
| To | Elbasan 2 |
| Gap rationale | |
| Country | MKD |
| Lead Project Beneficiary | MEPSO |
| Proponent | Ministry of Economy |
| Project ID/number | WB6.EN.E.11-1 |
| ECS PECI 2016 candidate lis | EI_02 |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET001 |
| WBIF project code | PRJ-MULTI-ENE-001 |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013, 2016 and 2018).<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the Macedonian Energy Strategy, MEPSO TYNDP and it is fully supported by the Macedonian Energy Regulatory Commission. |
| Strategic relevance | The Project is strategically important as important part of the East-West corridor linking Greece, Bulgaria, Albania and former Yugoslav republic of Macedonia.<br>The project is strategically important for the region because it contributes to the further strengthening of the interconnectivity among power systems in the WB6 region, improves security of supply, and with enhanced cross border electricity exchange contributes to the regional electricity market development.<br>The project is very important for former Yugoslav republic of Macedonia because it strengthens main generation node in Bitoal and further develops network in the strategical touristic area of Ohrid. |

| | |
|---|---|
| General description | This new 400 kV interconnection project consists of the following components:<br>- New single 400 kV 95km long OHL between 400/110 kV SS Bitola 2 (MKD) and Albanian border,<br>- New 400kV SS Ohrid |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | Direction A: 1157 - Direction B: 2709 |
| OHL / cable - approximate length (km)** | 95 |
| OHL - Number of circuits** | single |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | According to financial and economic assessment within the FS, the whole project<br>- increases transmission network capacity, as well as regional network interconnectivity,<br>- supports development of electricity wholesale and balancing market and facilitates their operation,<br>- improves security of electricity supply by strengthening connection between 2 complementary power systems, one dominately thermal and other dominantely hydro and<br>- supports integration of RES in the area. |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | 93.4 |
| B2 - Social-economic welfare | 5.4 |
| B3 - RES Integration | 112 |
| B4 - Variation in losses - monetized variation in losses (GWh) | 23 |
| B5 - Variation of CO2 emissio | -161000 |
| B6 - Resilience | no impact |
| B7 - Flexibility | moderate impact |
| NPV (low / medium / high) | high |
| Environmental aspects and climate change mitigation/adaptation | - Alternative OHL corridors considered<br>- Avoidance strategy during corridor routing implemented<br>- Mitigation strategy proposed<br>- Environmental and Social Management and Monitoring proposed |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | 01/2012 | 01/2013 |
| Preliminary Design | C | 01/2012 | 01/2013 |
| Environmental and Social Impact Assessment | C | 01/2012 | 07/2015 |
| Valid spatial planning documents | C | 01/2012 | 01/2013 |
| Land property resolved | WiP | 10/2017 | 10/2020 |
| Main design / detailed design | C | 05/2016 | 05/2018 |
| Tender documentation | C | 01/2019 | 06/2019 |
| Construction and other permits | C | 05/2017 | 05/2018 |
| Construction & supervision of works contracts | WiP | 09/2019 | 10/2021 |
| Further project preparation considerations | The construction works started. | | |
| Further ESIA considerations | Due diligence and update of ESIA package, prepared in 2013, was done in June 2015. In 2016, the monitoring of birds migration was finalised. Additional biodiversity analysis was done during the final determination of tower positions (Main Design), in acco | | |
| Risks and critical issues | Specific legislation which enables the possibility to contract construction works before construction permit is issued for the complete line. It may accelerate the contracting for construction and implementation, but contains implementation risks as well. | | |
| Cross-border aspects | Precise border connection point was officially agreed and confirmed between TSOs. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 405,000 |
| Environmental and Social Impact Assessment | No | 125,000 |
| Valid spatial planning documents | No | 50,000 |
| Land property | No | 5,200,000 |
| Main design / detailed design | No | 750,000 |
| Tender documentation | No | 150,000 |
| Construction and other permits | No | 450,000 |
| Construction & supervision of works contracts | No | 34,870,000 |
| Total investment | | 42,000,000 |
| Investment financing considerations | Preliminary Design and ESIA were done within the FS stage.<br>WBIF Grant (900k€) for Detailed Design and Tender documents approved in Round 9 (June 2013).<br><br>Financing structure, according to IPA II Multi-country Action Programme, is as follows (OHL + SS):<br>- Investment: 49 mil.€ (includes additional internal MEPSO project)<br>- Loan: 37 mil.€ (EBRD)<br>- Grant: 12 mil.€ (IPA II 2015, including TA) | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Bajina Bašta (RS) - Višegrad (BA) - Pljevlja (ME) / BIH part*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Bajina Bašta (RS) - Višegrad (BA) - Pljevlja (ME) / BIH part |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE8 Transbalkan Corridor / Transbalkan corridor BiH part |
| From | Višegrad |
| To | Bajina Bašta, Pljevlja 2 |
| Gap rationale | |
| Country | BIH |
| Lead Project Beneficiary | NOS BiH; Elektroprenos / Elektroprijenos BiH |
| Proponent | Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina |
| Project ID/number | WB6.EN.E.01-3 |
| ECS PECI 2016 candidate lis | El_01 c |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET002 |
| WBIF project code | PRJ-MULTI-ENE-002 (WB5-REG-ENE-02, WB13-REG-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project represents Section IV of the Trans Balkan North-South corridor, linking Central Europe with Italy over the HVDC submarine cable. The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013, 2016 and 2018).<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the BiH TYNDP and it is fully supported by the State Energy Regulatory Commission. |
| Strategic relevance | This project is of significant regional significance, and is endorsed by both DG Energy. ENTSO-E (ENTSO-E TYNDP 2018 and the Energy Community (ECS PECI 2018).<br>Beneficiaries in all three countries, via their respective line ministries and governments have expressed support to continue developing design and tender documentation.<br>Elektroprenos / Elektroprijenos BiH will consider financing options for construction.<br>This project is consistent with the Energy Strategies, Action Plans, Investment plans and capital development plans for the countries, and is well-supported in NOS, Elektroprenos / Elektroprijenos BiH, with BiH line ministry (MOFTER). |

| | |
|---|---|
| General description | New double circuit 400kV OHL connecting existing substation Pljevlja 2 (ME), substation Bajina Bašta (RS) and substation Višegrad (BA). The line will be constructed on double circuit towers and will in great part use the corridor of the existing 220kV lines in all three countries. The majority of the line is located in Serbia (83.5km), compared to the sections in Montenegro (15.7km) and Bosnia and Hercegovina (17.3km).<br><br>This project includes only section of the OHL in BiHo, i.e. from the existing substation Visegrad (BA) to the border crossing points towards Serbia and Montenegro defined in the main design. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | 300 |
| OHL / cable - approximate length (km)** | 17.3 |
| OHL - Number of circuits** | double |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | The project will deliver economic benefits in Bosnia and Herzegovina, Montenegro and Serbia, and is, as a whole, financially viable for the Beneficiaries in those countries, with unequal distribution of benefits.<br>Implementation of this Project is likely to produce significant economic and electricity market benefits to the broader SEE Region in general, especially when the Lastva – Čevo - Pljevlja 400kV connection in ME is complete and the undersea HVDC cable to Italy is commissioned.<br>The project enables full utilisation of HVDC cable ME-IT.<br>There is no impact on RES generation constraints from new interconnection since no RES spillages are observed (not foreseen in that region)<br>The project satisfies all recommended security criteria.<br>The overall NPV is medium and not equally spreaded over the countries, with lower benefits in Serbia and Bosnia and Herzegovina and higher in Montenegro.<br><br>The project benefits will be reviewed during the WBIF financed (WB13-REG-ENE-01) Main Design activities wehich are on-going. |
| B1 - Security of supply (EENS in GWh) | no variation |
| B2 - Social-economic welfare | 0.3 |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | 1 |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | positive |
| B7 - Flexibility | positive |
| NPV (low / medium / high) | low |
| Environmental aspects and climate change mitigation/adaptation | - Utilize corridor of existing 220 kV OHL (except near the existing termination point), which will be dismantled.<br>- Mitigation strategy proposed<br>- Environmental and Social Management and Monitoring proposed<br>- Coordination with operational planning and operations department required for sdevelopment of Project Implementation Plan and during construction to facilitate use of existing OHL corridor |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | 03/2013 | 02/2015 |
| Feasibility study (incl. CBA) | C | 03/2013 | 02/2015 |
| Preliminary Design | C | 08/2016 | 04/2017 |
| Environmental and Social Impact Assessment | WiP | 03/2013 | 06/2020 |
| Valid spatial planning documents | WiP | 10/2016 | 04/2020 |
| Land property resolved | NS | 04/2020 | 04/2021 |
| Main design / detailed design | WiP | 09/2019 | 09/2021 |
| Tender documentation | NS | 10/2021 | 04/2022 |
| Construction and other permits | NS | 09/2020 | 12/2021 |
| Construction & supervision of works contracts | NS | 05/2022 | 05/2023 |
| Further project preparation considerations | Preliminary design, feasibility study and draft EIA were prepared through WB5-REG-ENE-02 TA grant support. Currently, Main Design and EIA are currently ongoing, being prepared though the WBIF support (WB13-REG-ENE-01).The land acquisition was identified by Elektroprenos / Elektroprijenos BiH as a risk and is therefore time consuming. | | |

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|---|---|
| Further ESIA considerations | EIA for the OHL will be done during the main design activities, which are on-going, in accordance with the local legislation. |
| Risks and critical issues | The project is dependent on the development of the part of the line in Serbia.Land acquisition process may be very time consuming according to the experience of Elektroprenos / Elektroprijenos BiH. |
| Cross-border aspects | Connection points at the border have been officially agreed and confirmed among involved TSOs.Special attention should be paid to the slightly different legislation and procedures that applied in different countries |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 330,000 |
| Environmental and Social Impact Assessment | Yes | 15,000 |
| Valid spatial planning documents | Yes | 20,000 |
| Land property | Yes | 70,000 |
| Main design / detailed design | No | 0 |
| Tender documentation | Yes | 75,000 |
| Construction and other permits | Yes | 5,000 |
| Construction & supervision of works contracts | Yes | 7,500,000 |
| Total investment | | 8,015,000 |
| Investment financing considerations | The line uses in high percentage the existing corridor, which decreases the costs for permits and consents. Dismantling of 220kV lines is included in the construction price.<br><br>WBIF Grant (800k€) for Technical Design and Tender Docs approved in Round 13 (June 2015). Currently, BiH is not eligible to use the grant funds. | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Banja Luka (BA) - Lika (HR) / BIH part*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Banja Luka (BA) - Lika (HR) / BIH part |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE1 |
| From | Banja Luka 6 |
| To | Lika |
| Gap rationale | |
| Country | BIH |
| Lead Project Beneficiary | NOS BiH; Elektroprenos / Elektroprijenos BiH |
| Proponent | Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina |
| Project ID/number | WB6.EN.E.13 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET004 |
| WBIF project code | PRJ-MULTI-ENE-005 |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013). Due to the modified qualification criteria, in spite of its importance this project was not part of the EU PCI list for 2016.<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the NOS BiH/Elektroprenos BiH TYNDP and it is fully supported by the Energy Regulatory Commission.<br>The European Commission has recognized in 2013 this project as Project of Common Interest (PCI) for European Union. In later assessment project was not part of the PMI list. |
| Strategic relevance | This project is of significant regional importance, extending east-west links to the power systems of Croatia, Slovenia and Italy. This connection improves reliability of the regional network, increases cross-border transmission capacities and support regional electricity market establishment and operation.<br>The project is highly important for the power system in BiH, because it closes 400kV loop and extends transmission backbone into far west of the country.<br>The project is extremely important for the power system of Croatia, because it strengthens strategically important transmission network in the costal area and facilitates foreseen RES generation developments. |

| | |
|---|---|
| General description | The project proposal consists of new 400kV interconnection line between Bosnia and Herzegovina and Croatia, with new 400 kV substation Lika (HR), which is the key pre-condition for this new interconnection line to Bosnia and Herzegovina. Total length of the line is 155 km (45 km in Croatia, and 110 km in BiH). The complete project also consists of the following sections in Croatia:<br>- Upgrade of the existing SS Brinje from 220kV to 400kV<br>- Upgrade of existing 220kV OHLs Brinje-Velebit-Konjsko to 400kV. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | Direction A: 612 - Direction B: 594 |
| OHL / cable - approximate length (km)** | 110 |
| OHL - Number of circuits** | TBD |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| Assessed benefits/impact | New interconnection between Croatia and Bosnia and Herzegovina power systems in its central parts is strengthening the regional transmission network corridor East - West and reliable operation of the overall regional transmission network. |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | N/A |
| B2 - Social-economic welfare | N/A |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | N/A |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | N/A |
| B7 - Flexibility | N/A |
| NPV (low / medium / high) | |
| Environmental aspects and climate change mitigation/adaptation | There were no environmental assessments so far.<br>Tender for Feasibility Study has been launched on April 6th, 2016. |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | -/- | | |
| Feasibility study (incl. CBA) | C | 06/2016 | 04/2019 |
| Preliminary Design | NS | 01/2020 | 01/2021 |
| Environmental and Social Impact Assessment | C | 06/2016 | 02/2018 |
| Valid spatial planning documents | NS | 06/2022 | 05/2024 |
| Land property resolved | NS | 05/2024 | 05/2026 |
| Main design / detailed design | NS | 01/2026 | 01/2028 |
| Tender documentation | NS | 01/2028 | 06/2028 |
| Construction and other permits | NS | 01/2026 | 01/2027 |
| Construction & supervision of works contracts | NS | 09/2028 | 12/2030 |
| Further project preparation considerations | All timing for preparation of project documentation, after FS is finalised, is made based on the assumptions. No Project Implementation Plan is available yet. | | |
| Further ESIA considerations | Within Feasibility Study ESIA assessment was done. It is expected that for the Construction Permit environmental assessment from the Feasibility Study will have to be updated to the level of EIA study. | | |
| Risks and critical issues | The pre-condition for the project in BiH is development of other related 400kV upgrade projects in Croatia. Due to the fact that Croatia is a member state of EU and BiH is not and that the financing sources and opportunities are different, the synchronisation of implementation process is questioned. | | |
| Cross-border aspects | According to the Croatian TSO (HOPS), precondition for execution of this project is either prior or simultaneous execution of the projects for upgrading of the existing 220kV network in the coast area in Croatia, associated with the development of new 400 | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 750,000 |
| Environmental and Social Impact Assessment | Yes | 50,000 |
| Valid spatial planning documents | Yes | 50,000 |
| Land property | Yes | 3,500,000 |
| Main design / detailed design | No | 0 |
| Tender documentation | Yes | 150,000 |
| Construction and other permits | Yes | 100,000 |
| Construction & supervision of works contracts | Yes | 30,000,000 |
| Total investment | | 34,600,000 |
| Investment financing considerations | Feasibility Study was done for the complete line, including Croatian part. The given project costs are based on assumptions. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Bitola (MK) - Elbasan (AL) / ALB part*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Bitola (MK) - Elbasan (AL) / ALB part |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE9 |
| From | Elbasan 2 |
| To | Bitola 2 |
| Gap rationale | |
| Country | ALB |
| Lead Project Beneficiary | OST |
| Proponent | Ministry of Economy, Trade and Energy of Albania |
| Project ID/number | WB6.EN.E.11-2 |
| ECS PECI 2016 candidate lis | EI_02 |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET001 |
| WBIF project code | PRJ-MULTI-ENE-001 |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project is endorsed by DG Energy and Energy Community, listed as a Project of Energy Community Interest (PECI 2013, 2016 and 2018).<br>The project is part of the ENTSO-E TYNDP 2018.<br>The project is part of the Albanian Energy Strategy, OST TYNDP and it is fully supported by the Energy Regulatory Commission.<br>The project is fully in line with the EU's pre-accession strategy (to develop the regional energy market and strengthen energy security) and the national IPA programme for Albania.<br>The project is also in line with the i) Upcoming National Energy Strategy for 2015-2030; ii) National Action Plan for the implementation of Strategy; and iii) OST Action Plan as part of Short Term Plan for Albanian Power Sector. |
| | |

| | |
|---|---|
| Strategic relevance | The project is strategically important as important part of the East-West corridor linking Greece, Bulgaria, Albania and former Yugoslav Republic of Macedonia.<br>The project is strategically important for the region because it contributes to the further strengthening of the interconnectivity among power systems in the WB6 region, improves security of supply, and with enhanced cross border electricity exchange contributes to the regional electricity market development.<br>The project is very important for Albania because it further strengthens internal 400kV network and connects power system of Albaia which is entirely HPP based with the neighbouring TPP dominated power systems. |
| General description | In Albania, this new 400 kV interconnection project consists of the following components:<br>- New single 400 kV 56km long OHL between 400 SS Elbasan (ALB) and MKD border,<br>- Upgrade works in the SS Elbasan<br>- Compensation equipment in SS Elbasan<br>This project is part of the major transmission network development in Albania which includes also construction of the new 400kV OHL Elbasan-Fieri and new 400/220kV SS Fieri. |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Provisional GTC (MW)** | Direction A: 1157 - Direction B: 2709 |
| OHL / cable - approximate length (km)** | 56 |
| OHL - Number of circuits** | single |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| **TAB 5 - IMPACTS AND BENEFITS** | **Description** |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | According to financial and economic assessment within the FS, the whole project<br>- increases transmission network capacity, as well as regional network interconnectivity,<br>- supports development of electricity wholesale and balancing market and facilitates their operation,<br>- improves security of electricity supply by strengthening connection between 2 complementary power systems, one dominantly thermal and other dominantly hydro and<br>- supports integration of RES in the area. |
| B1 - Security of supply (EENS in GWh) | 93.4 |
| B2 - Social-economic welfare | 5.4 |
| B3 - RES Integration | 112 |
| B4 - Variation in losses - monetized variation in losses (GWh) | 23 |
| B5 - Variation of CO2 emissio | -161000 |
| B6 - Resilience | no impact |
| B7 - Flexibility | moderate impact |
| NPV (low / medium / high) | high |
| Environmental aspects and climate change mitigation/adaptation | According to the ESIA from the feasibility study, since protected areas have been avoided in the OHL route, there are no major environmental concerns associated to the execution of this project.<br>Before start of the construction, existing EIA needs to be updated, sent to the National Environmental Agency opinion/approval. |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | 01/2012 | 01/2013 |
| Preliminary Design | C | 01/2012 | 01/2013 |
| Environmental and Social Impact Assessment | C | 01/2012 | 02/2016 |
| Valid spatial planning documents | C | | |
| Land property resolved | WiP | 10/2017 | 12/2020 |
| Main design / detailed design | C | 09/2016 | 09/2018 |
| Tender documentation | C | 10/2018 | 06/2019 |
| Construction and other permits | C | 12/2016 | 10/2017 |
| Construction & supervision of works contracts | NS | 03/2020 | 04/2022 |
| Further project preparation considerations | Prequalification for construction contractor is on-going (closed). Tender for construction is expected before the end of 2019. | | |
| Further ESIA considerations | EIA (in accordance with the local legislation) and ESIA (following KfW requirements) have been completed. Final activities were done during the main design, when determining final tower positions. | | |
| Risks and critical issues | So far, there are no risks that may jeopardise execution of the entire project, but there are risks that may delay planned commissioning and energising of the OHL.<br><br>OST emphasised that potential risk for timely completion of this project is associated with the land acquisition, which is planned to be done partly during the construction. | | |

| | |
|---|---|
| Cross-border aspects | |
| | Precise border connection point was officially agreed and confirmed between TSOs. |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 400,000 |
| Environmental and Social Impact Assessment | No | 100,000 |
| Valid spatial planning documents | No | 50,000 |
| Land property | No | 5,250,000 |
| Main design / detailed design | No | 500,000 |
| Tender documentation | No | 150,000 |
| Construction and other permits | No | 150,000 |
| Construction & supervision of works contracts | No | 63,400,000 |
| Total investment | | 70,000,000 |
| Investment financing considerations | WBIF Grant (600k€) for Technical Design Docs and ESIA update (WB12-ALB-ENE-01) approved in Round 12 (December 2014)<br><br>Financing structure, according to IPA II Multi-country Action Programme, is as follows (OHL + SS):<br>- Investment: 70 mil.€ (includes additional internal OST project 400kV OHL Elbasan - Fier)<br>- Loan: 50 mil.€ (KfW)<br>- Grant:14 mil.€ (IPA II 2015, including TA) | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400 kV OHL Tirana (ALB) - Pristina (Kosovo*)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400 kV OHL Tirana (ALB) - Pristina (Kosovo*) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | CSE9 |
| From | Tirana 2 |
| To | Kosovo B |
| Gap rationale | |
| Country | MULTI |
| Lead Project Beneficiary | OST; KOSTT |
| Proponent | Ministry of Economy, Trade and Energy of Albania; Ministry of Economy of Kosovo* |
| Project ID/number | WB6.EN.E.12 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET014 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project was endorsed by Energy Community, listed as a Project of Energy Community Interest (PECI 2013).<br>The project was part of the ENTSO-E TYNDP 2014<br>The project is of significant regional importance because it contributes to creation of regional electricity wholesale and balancing market. |
| Strategic relevance | This project improves balancing capability of two connected power systems, due to the fact that one of them is purely TPP based (Kosovo*) and the other one is practically purely HPP based (Albania). |
| General description | New single circuit 242km long 400kV OHL. Part of the line in Albania, 78km long section ending in SS Tirana, will be mounted as second circuit of the towers on existing 400kV OHL Podgorica (MNE) - Tirana (ALB). |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | N/A |
| Voltage of connection network the storage facility is connected to (kV)** | N/A |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | Direction A: 1157 - Direction B: 2709 |
| OHL / cable - approximate length (km)** | 242 |
| OHL - Number of circuits** | single |
| SS - Installed capacity (MVA)** | N/A |
| Storage facility - Installed capacity (MW)** | N/A |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | N/A |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | N/A |
| B2 - Social-economic welfare | N/A |
| B3 - RES Integration | N/A |
| B4 - Variation in losses - monetized variation in losses (GWh) | N/A |
| B5 - Variation of CO2 emissio | N/A |
| B6 - Resilience | N/A |
| B7 - Flexibility | N/A |
| NPV (low / medium / high) | |
| Environmental aspects and climate change mitigation/adaptation | N/A |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| Construction & supervision of works contracts | C | 06/2014 | 06/2016 |
| Further project preparation considerations | N/A | | |
| Further ESIA considerations | N/A | | |
| Risks and critical issues | N/A | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | | 0 |
| Environmental and Social Impact Assessment | | 0 |
| Valid spatial planning documents | | 0 |
| Land property | | 0 |
| Main design / detailed design | | 0 |
| Tender documentation | | 0 |
| Construction and other permits | | 0 |
| Construction & supervision of works contracts | | 0 |
| Total investment | | 0 |
| Investment financing considerations | The project was financed both in Albania and in Kosovo* from KfW loan. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *Upgrade of the existing 220 kV OHL Đakovo (HR) - Tuzla (BA) to 400 kV*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Upgrade of the existing 220 kV OHL Đakovo (HR) - Tuzla (BA) to 400 kV |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Upgrading of existing 220 kV lines between HR and BA to 400 kV lines |
| From | Đakovo |
| To | Tuzla |
| Gap rationale | |
| Country | MULTI |
| Lead Project Beneficiary | HOPS;NOS BiH, Elektroprenos / Elektroprijenos BiH |
| Proponent | |
| Project ID/number | WB6.EN.E.23 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET006 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | The project necessity stems for the need to increase the target transfer capacity between HR and BA in order to accommodate exploitation of RES and market integration, according to the results by the Common Planning Studies based on TYNDP2014 Vision 4. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | --- |
| Voltage of OHL (kV)** | --- |
| Voltage levels of SS (kV/kV)* | |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | |
| OHL / cable - approximate length (km)** | |
| OHL - Number of circuits** | |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | | | |
| Feasibility study (incl. CBA) | | | |
| Preliminary Design | | | |
| Environmental and Social Impact Assessment | | | |
| Valid spatial planning documents | | | |
| Land property resolved | | | |
| Main design / detailed design | | | |
| Tender documentation | | | |
| Construction and other permits | | | |
| Construction & supervision of works contracts | | | |
| Further project preparation considerations | | | |
| Further ESIA considerations | | | |
| Risks and critical issues | | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | --- | 0 |
| Environmental and Social Impact Assessment | --- | 0 |
| Valid spatial planning documents | --- | 0 |
| Land property | --- | 0 |
| Main design / detailed design | --- | 0 |
| Tender documentation | --- | 0 |
| Construction and other permits | --- | 0 |
| Construction & supervision of works contracts | --- | 0 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *Upgrade of the existing 220 kV OHL Đakovo (HR) - Gradačac (BA) to 400 kV*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Upgrade of the existing 220 kV OHL Đakovo (HR) - Gradačac (BA) to 400 kV |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Upgrading of existing 220 kV lines between HR and BA to 400 kV lines |
| From | Đakovo |
| To | Gradačac |
| Gap rationale | |
| Country | MULTI |
| Lead Project Beneficiary | HOPS;NOS BiH, Elektroprenos / Elektroprijenos BiH |
| Proponent | |
| Project ID/number | WB6.EN.E.24 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | ET006 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | The project necessity stems for the need to increase the target transfer capacity between HR and BA in order to accommodate exploitation of RES and market integration, according to the results by the Common Planning Studies based on TYNDP2014 Vision 4. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | --- |
| Voltage of OHL (kV)** | --- |
| Voltage levels of SS (kV/kV)* | |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | |
| OHL / cable - approximate length (km)** | |
| OHL - Number of circuits** | |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | | | |
| Feasibility study (incl. CBA) | | | |
| Preliminary Design | | | |
| Environmental and Social Impact Assessment | | | |
| Valid spatial planning documents | | | |
| Land property resolved | | | |
| Main design / detailed design | | | |
| Tender documentation | | | |
| Construction and other permits | | | |
| Construction & supervision of works contracts | | | |
| Further project preparation considerations | | | |
| Further ESIA considerations | | | |
| Risks and critical issues | | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | --- | 0 |
| Environmental and Social Impact Assessment | --- | 0 |
| Valid spatial planning documents | --- | 0 |
| Land property | --- | 0 |
| Main design / detailed design | --- | 0 |
| Tender documentation | --- | 0 |
| Construction and other permits | --- | 0 |
| Construction & supervision of works contracts | --- | 0 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Ernestinovo (HR) - Sombor (RS)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Ernestinovo (HR) - Sombor (RS) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | New 400 kV interconnection between Serbia and Croatia |
| From | Ernestinovo |
| To | Sombor |
| Gap rationale | |
| Country | MULTI |
| Lead Project Beneficiary | HOPS;EMS |
| Proponent | |
| Project ID/number | WB6.EN.E.25 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | N/A |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | The project necessity stems for the need to increase the transfer capacity between RS and HR in order to accommodate connection of RES and improve market integration, according to the results by the Common Planning Studies based on TYNDP2014 Vision 4. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | --- |
| Voltage of OHL (kV)** | --- |
| Voltage levels of SS (kV/kV)* | |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | |
| OHL / cable - approximate length (km)** | |
| OHL - Number of circuits** | |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | | | |
| Feasibility study (incl. CBA) | | | |
| Preliminary Design | | | |
| Environmental and Social Impact Assessment | | | |
| Valid spatial planning documents | | | |
| Land property resolved | | | |
| Main design / detailed design | | | |
| Tender documentation | | | |
| Construction and other permits | | | |
| Construction & supervision of works contracts | | | |
| Further project preparation considerations | | | |
| Further ESIA considerations | | | |
| Risks and critical issues | | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | --- | 0 |
| Environmental and Social Impact Assessment | --- | 0 |
| Valid spatial planning documents | --- | 0 |
| Land property | --- | 0 |
| Main design / detailed design | --- | 0 |
| Tender documentation | --- | 0 |
| Construction and other permits | --- | 0 |
| Construction & supervision of works contracts | --- | 0 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *Upgrade of the existing 400 kV OHL Portile de Fier (RO) - Djerdap (RS) to double circuit*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Upgrade of the existing 400 kV OHL Portile de Fier (RO) - Djerdap (RS) to double circuit |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | Upgrading existing single 400 kV interconnection line between Romania and Serbia to double 400 kV line |
| From | Portile de Fier |
| To | Djerdap |
| Gap rationale | |
| Country | MULTI |
| Lead Project Beneficiary | EMS;TEL |
| Proponent | |
| Project ID/number | WB6.EN.E.26 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | N/A |
| WBIF project code | PRJ-SRB-ENE-015 (WB21-SER-ENE-01) |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | The project supports RES development in accordance with national energy strategy and REAP. |
| Strategic relevance | The project is important for strengthening secutiy of electricity supply in the Belgrade area, and for facilitation of the wind power plants development in the northwestern part of Serbia. It also increases cross-border transmission capacity to Romania. |
| General description | The project consists of construction of new 400kV OHL between existing 400kV substation Pancevo and future 400kV substation Belgrade West. It also includes option for upgrading of the exsiting intercnnection to Romania (Djerdap - Portille de Fier) from single to double 400kV OHL. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | high-voltage overhead transmission line |
| Voltage of OHL (kV)** | 400 |
| Voltage levels of SS (kV/kV)* | |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | 1000 |
| OHL / cable - approximate length (km)** | 2 |
| OHL - Number of circuits** | 1 |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | NS | | |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| Construction & supervision of works contracts | NS | | |
| Further project preparation considerations | Pre-feasibility study includes system studies, conceptual design and cost-benefit analysis. Upon completion of the Pre-feasibility study further steps and relevant timing will be defined. | | |
| Further ESIA considerations | Upon completion of the ESIA scoping within the Pre-feasibility study further steps and relevant timing will be defined. | | |
| Risks and critical issues | No risks or critical issues have been identified so far. | | |
| Cross-border aspects | Significant impact on increase of the cross-border capacity is expected. | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 0 |
| Investment financing considerations | Financing is currently included within the Belgrade WEST substation and 400kV OHL Belgrade West - WPP Cibuk projects. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | IPF Project Team |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Electricity**

## *400kV OHL Sofia West (BG) - Niš (RS)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | 400kV OHL Sofia West (BG) - Niš (RS) |
| Sector: | Energy |
| Subsector | Electricity |
| Corridor/Route | New double 400 kV interconnection line between Bulgaria and Serbia |
| From | Sofia West |
| To | Nis 2 |
| Gap rationale | |
| Country | MULTI |
| Lead Project Beneficiary | ESO EAD;EMS |
| Proponent | |
| Project ID/number | WB6.EN.E.27 |
| ECS PECI 2016 candidate lis | N/A |
| ENTSO-E RgIP TYNDP 2016 | |
| ECS PECI 2013 | N/A |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | |
| Strategic relevance | |
| General description | The project stems from the need to increase the transfer capacity between Bulgaria and Serbia in order to accommodate connection of RES and improve electricity market. |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of electricity infrastructure (TEN-E) | --- |
| Voltage of OHL (kV)** | --- |
| Voltage levels of SS (kV/kV)* | |
| Voltage of connection network the storage facility is connected to (kV)** | |

**Sector/subsector specific attributes

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Provisional GTC (MW)** | |
| OHL / cable - approximate length (km)** | |
| OHL - Number of circuits** | |
| SS - Installed capacity (MVA)** | |
| Storage facility - Installed capacity (MW)** | |

**Sector/subsector specific attributes

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | |

| | |
|---|---|
| B1 - Security of supply (EENS in GWh) | |
| B2 - Social-economic welfare | |
| B3 - RES Integration | |
| B4 - Variation in losses - monetized variation in losses (GWh) | |
| B5 - Variation of CO2 emissio | |
| B6 - Resilience | |
| B7 - Flexibility | |
| NPV (low / medium / high) | --- |
| Environmental aspects and climate change mitigation/adaptation | |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | | | |
| Feasibility study (incl. CBA) | | | |
| Preliminary Design | | | |
| Environmental and Social Impact Assessment | | | |
| Valid spatial planning documents | | | |
| Land property resolved | | | |
| Main design / detailed design | | | |
| Tender documentation | | | |
| Construction and other permits | | | |
| Construction & supervision of works contracts | | | |
| Further project preparation considerations | | | |
| Further ESIA considerations | | | |
| Risks and critical issues | | | |
| Cross-border aspects | | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | --- | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | --- | 0 |
| Environmental and Social Impact Assessment | --- | 0 |
| Valid spatial planning documents | --- | 0 |
| Land property | --- | 0 |
| Main design / detailed design | --- | 0 |
| Tender documentation | --- | 0 |
| Construction and other permits | --- | 0 |
| Construction & supervision of works contracts | --- | 0 |
| Total investment | | 0 |
| Investment financing considerations | | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Albania underground storage Dumre A2*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Albania underground storage Dumre A2 |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Project part of SEE ring |
| From | Dumre |
| To | ALB |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | Ministry of Energy and Industry, National Agency for Natural Resources, Albpetrol |
| Proponent | Albpetrol |
| Project ID/number | WB6.EN.G.001-2 |
| ECS PECI 2016 candidate list | No |
| TYNDP ID | |
| ECS PECI 2013 | no reference |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Project part of the Albanian gasification strategy. Included in National Energy Strategy 2018-2030 and National Single Project Pipeline. |
| Strategic relevance | Project of regional relevance |
| General description | Underground gas storage facility in Albania. Dumre A1 and Dumre A2 are considered as alternatives. Gas storage is one of the sub-projects that shall accompany the gas study, as an important element for covering the peak demand and balancing seasonal supply. Possible potentials for gas storage are exploited sources of gas, oil and salt-formation (salt-cellar) (Dumre zone). In exploited sources of natural gas can stock about 1.8 BCM like the object of Tortonian in Povelce, Divjaka and Frakulla sources. With big perspective is presented Dumreja, for considerable reserves that can stock in it. By preliminary evaluations results that Albania has a storage capacity big enough, not just for our country, but and for the other countries of region which are part of TAP project.. |

| | |
|---|---|
| Project phasing | |
| Corridor description | Part of SEE gas ring |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of gas infrastructure (TEN-G) | Storage facility |
| Pipeline length (km) | n.a. |
| Pipeline capacity mcm/day | n.a. |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | 1.2 |
| UGS sendout capacity (mcm/day) | 6 |

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Pipeline pressure (Bar) | n.a. |
| Pipeline diameter (mm) | n.a. |
| Number of comressors (pipeline) | n.a. |
| Compressor power (MW) | n.a. |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 2 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Project will have regional impact securing regional gas storage and peak supply for Albania and region |
| B1 - Security of supply | Winter regional gas storage and peak supply option and could help Albania to meet N-1 criterion. |

| | |
|---|---|
| B2 - Social-economic welfare | Project can level the potentional seasonal price gas peaks and help decrease winter gas prices |
| B3 - Market Integration | Project of gas storage, as concept has a big regional interest, where besides Albania will profit and such countries : Macedonia, Greece, Montenegro, Kosovo. It will help market integration |
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Project will enable reduction of SO2, NOx and other particulate matter by allowing new gas power plants to be developed and development of gas consumption in the new areas, replacing other more pollutant fossil fuels.<br><br>Project will enable development of gas power plants in Albania and the region which will support RES intermittency |
| B5 - Competition | Project can level the potentional seasonal price gas peaks and help decrease winter gas prices |
| B6 - Lifting isolation of at least one EC country | n.a. |
| B7 - Reducing bottlenecks | n.a. |
| NPV (low / medium / high) | TBD |
| Environmental aspects and climate change mitigation/adaptation | n.a. |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | NS | | |
| Feasibility study (incl. CBA) | WiP | 2020 | 2021 |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | WiP | 2020 | 2021 |
| Valid spatial planning documents | C | | 2018 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| | NS | | |
| Further project preparation considerations | Dumre A1 and Dumre A2 are alternatives. Feasibility study needs to be undertaken to determine the project. | | |
| Further ESIA considerations | ESIA needs to be undertaken | | |
| Risks and critical issues | Standard project development risks: market, technical, environmental | | |
| Cross-border aspects | no | | |

**TAB 7 - FINANCING**

| | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| | | |

| | | |
|---|---|---|
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 73 |
| Investment financing considerations | TBD subject to sucessful project development. Financing structure still being considered. | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Interconnection Pipeline BiH - HR (Split-Zagvozd-Posusje-Travnik)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Interconnection Pipeline BiH - HR (Split-Zagvozd-Posusje-Travnik) |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Pipeline part of small SEE gas ring - connection Croatia south-BH-Croatia north |
| From | Travnik |
| To | Zagvozd (with additional section to Split) |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | BH Gas Ltd., Plinacro ltd. |
| Proponent | BH Gas Ltd., Plinacro ltd. |
| Project ID/number | WB6.EN.G.003 |
| ECS PECI 2016 candidate list | gas_03 |
| TYNDP ID | TRA-N-851 (BA); TRA-N-302 (HR) |
| ECS PECI 2013 | gas_03 |
| WBIF project code | PRJ-MULTI-ENE-005 |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Pipeline is included to the Strategic Plan and Program of the Energy Sector of FBiH 2009, Comprehensive Energy strategy until 2035 of FBiH, Comprehensive Energy strategy until 2035 of BiH. Project is also in TYNDP 2018-2027 of Croatia and three years business plan of BH-Gas 2019-2021. |
| Strategic relevance | This project is of great interest for the development of the natural gas sector in B&H, as its implementation would provide new route of supply B&H with gas, with a possibility of diversification of supply sources and increase in security of supply of the existing transportation system of B&H. The construction of this gas pipeline(s) would enable the B&H gas transmission system to connect with the Croatian gas transmission system, and then with the potential route of the IAP Project. This direction implies the possibility to use the potential LNG terminal in Croatia for the needs of BH Gas Company, which adds additional value to the project. |
| General description | Gas interconnection Bosnia and Herzegovina/Croatia (Zagvozd-Posusje-Travnik). Route Split-Zagvozd with pipeline length 52 km is considered with IAP construction. Alternative pipeline pressure considered is 75 bar. |

| | |
|---|---|
| Project phasing | |
| Corridor description | Pipeline part of small SEE gas ring - connection Croatia south-BH-Croatia north |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 162 (184 + 52 additional for Zagvozd-Split) |
| Pipeline capacity mcm/day | 4 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Pipeline pressure (Bar) | 75 |
| Pipeline diameter (mm) | 500 |
| Number of compressors (pipeline) | 0 |
| Compressor power (MW) | 0 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Project enables the gasification of southern part of Bosnia&Herzegovina |
| | |

| | |
|---|---|
| B1 - Security of supply | Opening completely new border transmission capacity between Bosnia and Herzegovina and Croatia. Capacity of reverse flow - new point of entry for natural gas and new transmission routes for the needs of B&H; - increasing security of supply, - providing the access to storage facilities in Croatia and the other surrounding countries; - facilitating the gasification of considerable part of Bosnia and Herzegovina - Using natural gas from other supply sources - this gas pipeline(s) with its extension in Croatia could be a branch pipeline from a possible Adriatic-Ionian Pipeline planned to be connected to Trans-Adriatic Pipeline planned to supply natural gas from sources in Caspian Sea. Also it will be possible to use natural gas from the planned LNG terminal on the island of Krk as well as from the Central European gas network and storage facilities. Natural gas supply of Bosnia and Herzegovina comes from one supply route – Serbia in Zvornik of daily capacity up to 2 mil.m3 of gas which today meets peak demand for gas both in an average year and in 1in20. In 1in50 this capacity does not meet the peak demand. Peak gas consumption is expected to increase several times by 2030: up to 7.4 mil. m3 in 1in50. By the construction of the new supply direction from Croatia the total daily capacity of both pipelines will amount to 6.2 mil.m3 per day which will provide safe gas supply of total peak capacity in a an average year and in 1in20 in the year 2030, that is, 84 percent of the total peak load in 2030 in 1in50. providing the access to storage facilities in Croatia and the other surrounding countries; |
| B2 - Social-economic welfare | Market expansion and increasing the competitiveness of natural gas; - Improving the structure of natural gas consumption by increasing consumption by non-interruptible industrial consumers, what will enable balancing the interruptible seasonal consumption and providing an opportunity of setting out more favourable terms and conditions for purchase and transport of natural gas. - Facilitating the gasification of considerable part of Bosnia and Herzegovina - Facilitating economic development. |
| B3 - Market Integration | Yes: integration of the Bosnian and Herzegovinian gas transmission system with the Croatian and then regional –European gas transmission systems; provide new gas supply direction and potential new sources of supply for Bosnia and Herzegovina, which is now depending on one route and one source of supply. |
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Project will enable reduction of SO2, NOx and other particulate matter by allowing new gas power plants to be developed and development of gas consumption in the new areas, replacing other more pollutant fossil fuels.<br>Project will enable development of gas power plants in BiH which will support RES intermittency |
| B5 - Competition | Project enables a new supply route including new suppliers on the market of BA; 1.5 (in 109 Nm3/y) 100 (in %) |
| B6 - Lifting isolation of at least one EC country | Partially, gasification of the southern part of Bosnia and Herzegovina |
| B7 - Reducing bottlenecks | yes |
| NPV (low / medium / high) | CBA shows positive NPV |
| Environmental aspects and climate change mitigation/adaptation | - Reducing CO2 and SO2 emissions in B&H and region<br>- Preliminary ESIA (July 2013) for two potential branch connection gas pipeline routes on Croatian territory only (evaluation of options and proposal for preferred solution based on multi-criteria analysis).<br>- ESIA package for the final route decision to be developed in next design stage. |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 2013 |
| Feasibility study (incl. CBA) | WiP | | 2020 |
| Preliminary Design | WiP | | 2020 |
| Environmental and Social Impact Assessment | WiP | | 2020 |
| Valid spatial planning documents | WiP | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | 2022 |

| | | | |
|---|---|---|---|
| Tender documentation | NS | | 2023 |
| Construction and other permits | NS | | 2022 |
| | NS | | 2024 |
| Further project preparation considerations | Per plan of the project promoter: 2020 Feasibility study, Preliminary design, ESIA<br>2020 Location and Environmental permit, Right of way (geodetic works)<br>2020-2022 Archaeological examination<br>2021-2022 Main/detailed design, right of way (implementation)<br>2022 Construction permit<br>2022-2023 Contracting of pipes, equipment and works<br>2023-2024 Logging<br>2023-2024 Construction | | |
| Further ESIA considerations | ESIA needs to be undertaken. Preliminary analysis of ESIA prepared within the scope. | | |
| Risks and critical issues | Imposed measures from the Ministerial Council of the Energy Community to the Bosnia-Herzegovina on December 2015 are currently stopped possibilities for BiH infrastructure gas projects to be eligible to EU Funds. Standard project development risks. | | |
| Cross-border aspects | BH-Gas has very good cooperation with Croatian TSO Plinacro on planned cross-border interconnections on matching technical capacities. Main obstacle could be lack of primary and secondary gas legislation on BiH side (network codes, congestion management, capacity allocation, etc.). | | |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 101 (116 + 48 additional for Zagvozd-Split) |
| Investment financing considerations | Existing natural gas market is undeveloped and not able to cover assessed project cost related to preliminary activities, so BH-Gas over last years has applied to the available funds (WBIF, Programme of Public Investments of Federation of BiH). Project is feasible for HR with assumption that IAP exist, for BiH it is feasible either way. Additional 48 mil. € for route Split-Zagvozd. | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Interconnection pipeline BiH-HR (Slobodnica-Brod-Zenica)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Interconnection pipeline BiH-HR (Slobodnica-Brod-Zenica) |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Pipeline part of small SEE gas ring - connection Croatia south-BH-Croatia north |
| From | Slobodnica |
| To | Zenica |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | BH Gas Ltd., Plinacro ltd. |
| Proponent | BH Gas Ltd., Plinacro ltd. |
| Project ID/number | WB6.EN.G.006 |
| ECS PECI 2016 candidate list | gas_01 |
| TYNDP ID | TRA-N-224 (BA); TRA-N-066 (HR) |
| ECS PECI 2013 | gas_01 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Project is a part of strategic projects of Federation BiH and partially of Republic of Srpska. Project is also in the development activities in three years business plan of BH-Gas 2019-2021. |
| Strategic relevance | This project is of great interest for the development of the natural gas sector in B&H, as its implementation would provide supply north-west part of B&H with gas, with a possibility of diversification of supply sources B&H and increase in security of supply in case to be extended to the existing transportation system of B&H. This direction implies the possibility to use the potential LNG terminal in Croatia for the needs of BH Gas Company, which adds additional value to the project. |
| | |

| | |
|---|---|
| General description | Gas interconnection Bosnia and Herzegovina/Croatia (Slobodnica-Bosanski Brod-Zenica) (gas pipeline). This project is of great interest for the development of the natural gas sector in B&H, as its implementation would provide new route of supply B&H with gas, with a possibility of diversification of supply sources and increase in security of supply of the existing transportation system of B&H, and especially in the circumstances of the natural gas supply of the refineries Brod and Modrica and planned power plant (PP) Zenica and CCGT Kakanj, as well as the expansion of the market and increase in the competitiveness of natural gas. The construction of this gas pipeline would enable the B&H gas transmission system to connect with the Croatian gas transmission system through the pipeline from Slavonski Brod to Donji Miholjac, and then with the Hungarian pipeline. Pipeline will enable supply of gas from Baumgarten and access to Cratian and Hungarian gas storage. Total pipeline length 140 km (including Croatian section is cca 146 km). |
| Project phasing | |
| Corridor description | Pipeline part of small gas ring - conection Croatia south-BH-Croatia north |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 140 (146) |
| Pipeline capacity mcm/day | 3.5 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Pipeline pressure (Bar) | 75 |
| Pipeline diameter (mm) | 500 BIH, 700 HR |
| Number of compressors (pipeline) | 0 |
| Compressor power (MW) | 0 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Project is opening completely new border transmission capacity between Croatia and Bosnia and Herzegovina |
| B1 - Security of supply | Yes: integration of the Bosnian and Herzegovinian gas transmission system with the Croatian gas transmission system provide new gas supply direction for Bosnia and Herzegovina. Capacity of reverse flow - new point of entry for natural gas and new transmission routes for the needs of B&H;- increasing security of supply, market expansion and increasing the competitiveness of natural gas; - providing the access to storage facilities in Croatia and the other surrounding countries; - Using natural gas from other supply sources. Also it will be possible to use natural gas from the planned LNG terminal on the island of Krk as well as from the Central European gas network . The project will have an impact on the increase resilience of the system in Croatia and Bosnia and Herzegovina. |
| B2 - Social-economic welfare | Improving the structure of natural gas consumption by increasing consumption by non-interruptible industrial consumers, what will enable balancing the interruptible seasonal consumption and providing an opportunity of setting out more favourable terms and conditions for purchase and transport of natural gas. - facilitating the gasification of considerable part of Bosnia and Herzegovina and facilitating economic development. |
| B3 - Market Integration | Yes: integration of the Bosnian and Herzegovinian gas transmission system with the Croatian gas transmission system. |
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Project will enable reduction of SO2, NOx and other particulate matter by allowing new gas power plants to be developed and development of gas consumption in the new areas, replacing other more pollutant fossil fuels.<br>Project will enable development of gas power plants in BiH which will support RES intermittency |
| B5 - Competition | Over the Croatian gas system it should enable this region acces Central-European gas. With the development of TAP/IAP it would allow acces to Caspian natural gas sources; and with development of LNG in Croatia acces to LNG sources: Qatar, Egypt, Algeria, Nigeria, potentialy Cyprus and Israel.BH5 |
| B6 - Lifting isolation of at least one EC country | This should be second supply route of gas and will lift isolation of BiH, and will enable gasification of the northern part of Bosnia and Herzegovina |
| B7 - Reducing bottlenecks | yes |
| NPV (low / medium / high) | TBD |
| Environmental aspects and climate change mitigation/adaptation | Reducing CO2 and SO2 emissions in B&H |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 2006 |
| Feasibility study (incl. CBA) | NS | | 2021 |
| Preliminary Design | NS | | 2021 |
| Environmental and Social Impact Assessment | NS | | 2021 |
| Valid spatial planning documents | WiP | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | 2022 |
| Tender documentation | NS | | 2025 |
| | | | |

| | | | |
|---|---|---|---|
| Construction and other permits | NS | | 2023 |
| | NS | | 2026 |
| Further project preparation considerations | Per plan of the project promoter: 2021 Feasibility study and CBA, Preliminary design, ESIA, Right of way (geodetic works)<br>2022 Location permit, Main/detailed design, Archaeological examination<br>2023 Construction permit, Right of way (implementation)<br>2025 Contracting of pipes, equipment and works<br>2026 Logging, Construction | | |
| Further ESIA considerations | ESIA needs to be undertaken | | |
| Risks and critical issues | Regarding the fact that the part of this project runs through Republika Srpska Entity, the main obstacle is lack of political support of the official representatives of this entity to the Project.<br>Imposed measures from the Ministerial Council of the Energy Community to the Bosnia-Herzegovina on December 2015 are currently stopped possibilities for BiH infrastructure gas projects to be eligible to EU Funds.<br>Project is additionally endangered by the Republika Srpska by trying to realize the direct supply of a Oil Refinery Brod from neighbouring Croatia. | | |
| Cross-border aspects | BH-Gas has very good cooperation with Croatian TSO Plinacro on planned cross-border interconnections on matching technical capacities. Main obstacle could be lack of primary and secondary gas legislation on BiH side (network codes, congestion management, capacity allocation, etc.). | | |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 85 (95) |
| Investment financing considerations | Existing natural gas market is undeveloped and not able to cover assessed project cost related to preliminary activities, so BH-Gas over last years has applied to the available funds (WBIF). Total investment: 95 mln € (10 Croatia, 85 Bosnia and Herzegovina) | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Interconnection Pipeline BiH - HR (Licka Jesenica-Trzac-Bosanska Krupa)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Interconnection Pipeline BiH - HR (Licka Jesenica-Trzac-Bosanska Krupa) |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Pipeline of local interst |
| From | Lička Jesenica |
| To | Bosanska Krupa |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | BH Gas Ltd., Plinacro ltd. |
| Proponent | BH Gas Ltd., Plinacro ltd. |
| Project ID/number | WB6.EN.G.007 |
| ECS PECI 2016 candidate list | gas_02 |
| TYNDP ID | TRA-N-910 (BA); TRA-N-303 (HR) |
| ECS PECI 2013 | gas_02 |
| WBIF project code | PRJ-MULTI-ENE-004 |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Project is a part of strategic projects of Federation BiH and Framework Energy strategy of BIH until 2035. Project is also in the development activities in three years business plan of BH-Gas 2019-2021. |
| Strategic relevance | New point of entry for natural gas of local interest for Unsko-Sanski Canton and on the long term base the new transmission routes for the needs of B&H in case of extension to the existing system in Travnik; |
| General description | Gas interconnection Bosia and Herzegovina (Unsko Sanski Canton) - Croatia. Total interconnection length is 110 km (80 km BIH section with main route 35 km and branches 45 km, 30 km Croatian section). Diameters of branches are: 250 to Bihać and Velika Kladuša and 150 to Buzim. |
| Project phasing | |

| | |
|---|---|
| Corridor description | Project is of local interest, it is not part of any corridor |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 80 (110) |
| Pipeline capacity mcm/day | 2 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Pipeline pressure (Bar) | 50 |
| Pipeline diameter (mm) | 500 main, 250 branches |
| Number of compressors (pipeline) | 0 |
| Compressor power (MW) | 0 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Project will have local impact securing gas supply to Unsko-sanski canton |
| B1 - Security of supply | New point of entry for natural gas and on the long term base the new transmission routes for the needs of B&H; • increasing the competitiveness of natural gas; increasing security of supply for B&H in case of extension to the existing system in Travnik; • providing the access to storage facilities in Croatia and the other surrounding countries; • it will be possible to use natural gas from the planned LNG terminal on the island of Krk as well The project will have an impact on the increase long-term resilience of the system in Bosnia and Herzegovina and Croatia in case of extension to the existing system in Travnik. |

| | |
|---|---|
| B2 - Social-economic welfare | Project will bring natural gas in the area where there is no natural gas. Gas should be more competitive to other fossil fuel sources |
| B3 - Market Integration | integration of the Bosnian and Herzegovinian gas transmission system with the Croatian and then regional –European gas transmission systems provide new gas supply direction and potential new sources of supply for Bosnia and Herzegovina on long term base, which is now depending on one route and one source of supply. Facilitating the gasification of considerable part of Bosnia and Herzegovina |
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Project will enable reduction of SO2, NOx and other particulate matter by allowing new gas power plants to be developed and development of gas consumption in the new areas, replacing other more pollutant fossil fuels.<br>Project will enable development of gas power plants in BiH which will support RES intermittency |
| B5 - Competition | Over the Croatian gas system it should enable this region access Central-European gas. With the development of TAP/IAP it would allow access to Caspian natural gas sources; and with development of LNG in Croatia access to LNG sources: Qatar, Egypt, Algeria, Nigeria, potentially Cyprus and Israel.BH5 |
| B6 - Lifting isolation of at least one EC country | Partially, gasification of Una-Sana Canton located on the north-west part of Bosnia and Herzegovina makes possible to all consumers in this region to have access to the new source of energy. |
| B7 - Reducing bottlenecks | no |
| NPV (low / medium / high) | TBD |
| Environmental aspects and climate change mitigation/adaptation | Reducing CO2 and SO2 emissions in B&H |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 2008 |
| Feasibility study (incl. CBA) | NS | | 2021 |
| Preliminary Design | NS | | 2021 |
| Environmental and Social Impact Assessment | NS | | 2021 |
| Valid spatial planning documents | WiP | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | 2022 |
| Tender documentation | NS | | 2025 |
| Construction and other permits | NS | | 2023 |
| | NS | | 2026 |
| Further project preparation considerations | Per plan of the project promoter: 2021 Feasibility study and CBA, Preliminary design, ESIA, Right of way (geodetic works)<br>2022 Location permit, Main/detailed design, Archaeological examination<br>2023 Construction permit, Right of way (implementation)<br>2025 Contracting of pipes, equipment and works<br>2026 Logging, Construction | | |
| Further ESIA considerations | ESIA needs to be undertaken | | |
| Risks and critical issues | Imposed measures from the Ministerial Council of the Energy Community to the Bosnia-Herzegovina on December 2015 are currently stopped possibilities for BiH infrastructure gas projects to be eligible to EU Funds. | | |

| | |
|---|---|
| Cross-border aspects | BH-Gas has very good cooperation with Croatian TSO Plinacro on planned cross-border interconnections on matching technical capacities. Main obstacle could be lack of primary and secondary gas legislation on BiH side (network codes, congestion management, capacity allocation, etc.). |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | Yes | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 33,2 (49,2) |
| Investment financing considerations | Existing natural gas market is undeveloped and not able to cover assessed project cost related to preliminary activities, so BH-Gas over last years has applied to the available funds (WBIF). Total investment: 49,2 mil € (33,2 Bosnia and Herzegovina, 16 Croatia) | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Ionian Adriatic Pipeline (IAP)*

| TAB 1 GENERAL INFORMATION | **Identification** |
|---|---|
| Project title | Ionian Adriatic Pipeline (IAP) |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Project part of SEE ring |
| From | Fier |
| To | Split |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | Line ministries of Albania, Montenegro and Plinacro, Albgaz, BH Gas, Socar |
| Proponent | Plinacro, MoE Montenegro, MEI Albania |
| Project ID/number | WB6.EN.G.008 |
| ECS PECI 2016 candidate list | gas_16 |
| TYNDP ID | TRA-N-068 |
| ECS PECI 2013 | gas_16 |
| WBIF project code | PRJ-MULTI-ENE-003 |

| TAB 2 - PROJECT DESCRIPTION | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of Montenegro and Albania gas masterplan and energy strategies and Croatian TSO TYNDP. Also included in National Single Project Pipeline (Albania). |
| | |

| | |
|---|---|
| Strategic relevance | IAP is the most important regional project in the South Eastern Europe, which has received a support of the Energy Community and the European Commission. The Ionian-Adriatic Pipeline Project (IAP) is to interconnect both the existing and planned gas transmission system of the Republic of Croatia with the Trans Adriatic Pipeline (TAP) or a similar project (Interconnector Turkey – Greece – Italy (ITGI) . The project aims to establish a new supply route for natural gas from the Middle East and Caspian region, northwards along the Adriatic coast. The IAP project however is planned as bi-directional pipeline, so the possible supply direction could also be north – south, from the strategically planned LNG terminal in Croatia, or other sources. The construction of this transmission pipeline would enable the gasification of Albania and Montenegro, southern Croatia and Bosnia and Herzegovina, providing a diversified and reliable natural gas supply. This transmission supply project, of 511 km total length, would create the preconditions for the development of the natural gas markets of Albania, Montenegro, Bosnia & Herzegovina and Croatia in the estimated annual level of 5 bcm. (1bcm for Albania + 0.5 bcm for Montenegro + 1 bcm for Bosnia and Herzegovina + 2.5 bcm for Croatia). This transmission connection, for the benefit of the European market, would also provide a significant economic development incentive to the transit countries. This project is considered by DG ENERGY and the Energy Community as a priority project of regional significance. This can also be demonstrated by its compliance with the criteria established by the European Union for Trans-European Networks for Energy. |
| General description | Project is a major southern link of the SEE gas ring concept, connecting TAP with Croatian gas transmission system over Albania and Montenegro. Total IAP length is 511 km: Albania 170 km, Montenegro 96 km, Croatia 245 km. Pipeline pressure still to be determined: 75 or 85 bar |
| Project phasing | |
| Corridor description | Project should be a part of SEE gas ring |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 170 ALB, 96 MNE (511) |
| Pipeline capacity mcm/day | 20 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Pipeline pressure (Bar) | 75 |
| Pipeline diameter (mm) | 800 |
| Number of compressors (pipeline) | 1 |
| | |

| | |
|---|---|
| Compressor power (MW) | 1.4 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Opening completely new border transmission capacity between Croatia, Bosnia and Herzegovina, Montenegro and Albania. Enabling the gasification of northern Albania, Montenegro and southern Croatia. |
| B1 - Security of supply | Reverse flow capacity - providing diversified gas supply to the region - providing the access to Croatian and Albanian storage capacities - providing significant transit capacity and income to Albania, Montenegro and Croatia.- creating the preconditions for closing the Adriatic gas ring and the connection with the Italian, Slovenian and Hungarian gas systems – supporting the regional concept of the South European Gas Ring. Providing the access to storage facilities in Croatia and the other surrounding countries; The project will have an impact on the increase of the long term resilience of all the affected systems. |
| B2 - Social-economic welfare | Improving the structure of natural gas consumption by increasing consumption by non-interruptible industrial consumers, what will enable balancing the interruptible seasonal consumption and providing an opportunity of setting out more favourable terms and conditions for purchase and transport of natural gas. - facilitating the gasification of Montenegro, Albania, considerable part of Bosnia and Herzegovina and south Croatia - Facilitating economic development. |
| B3 - Market Integration | Opening completely new gas markets in Albania, Montenegro and a significant part of Bosnia and Herzegovina. |
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | introducing an environmentally acceptable energy source in the region (replacement for firewood, coal, fuel oil and complementary generation to renewable energy, and the potential for increased cogeneration and CHP) - providing diversified gas supply to the region - providing the access to Croatian and Albanian storage capacities - providing significant transit capacity and income to Albania, Montenegro and Croatia.- creating the preconditions for closing the Adriatic gas ring and the connection with the Italian, Slovenian and Hungarian gas systems – supporting the regional concept of the South European Gas Ring. |
| B5 - Competition | The project aims to establish a new supply route for natural gas from the Middle East and Caspian region, northwards along the Adriatic coast via Trans Adriatic Pipeline (MoU signed in 2011) or a similar project - LNG project in Croatia. The IAP project however is planned as bi-directional pipeline, so the possible supply direction could also be north – south, from the strategically planned LNG terminal in Croatia, or other sources. LNG re-gasification vessel aims at construction of the facility for the reception of LNG ships with facilities for gasification and its connection with the gas transmission system in Croatia. The combination of LNG alternatives such as LNGRV / FSRU (floating storage and regasification LNG unit) and FSU (floating storage unit) provides development of the „migration concept“ and enables Croatia to increase the diversification of natural gas supply sources. Design of the terminal was defined by the potential key users in the countries in the region, that is, the demand of their markets has defined the design of the terminal: minimum capacity: LNGRV – 0.5 – 1 bcm/y. maximum capacity: onshore terminal – 4-6 bcm/y Gas sources: Qatar, Egypt, Algeria, Nigeria, Cyprus and Israel |
| B6 - Lifting isolation of at least one EC country | Yes. linking the southern part of Croatia to the existing transmission system gasification of southern part of Croatia - linking Bosnian and Herzegovinian gas transmission system to the Croatian existing transmission system - gasification of considerable part of Bosnia and Herzegovina - gasification of Montenegro - gasification of Albania |
| B7 - Reducing bottlenecks | yes |

| | |
|---|---|
| NPV (low / medium / high) | FS calculated the transmission tariff with assumed IRR. |
| Environmental aspects and climate change mitigation/adaptation | - Reducing CO2 and SO2 emissions in region<br>ESIA on feasibility level for Montenegro (March 214):<br>- Four alternative routing variants considered and selection of preferred one proposed<br>- Proposed route passes through identified Emerald site Platamuni and proposed transboundary (MNE-Alb) Regional Park Bojana - Buna Delta<br>- Mitigation and management strategy proposed on general level<br>- A need for further surveys is identified (speleological survey, biodiversity surveys, archaeological research, etc.)<br>- Detailed ESIA package (including ESAP, SEP, etc.) during next design stage is required |

**TAB 6 - MATURITY**

| | Status of activities/works | From | To |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 2014 |
| Feasibility study (incl. CBA) | C | | 2014 |
| Preliminary Design | WiP | 2018 | 2020 |
| Environmental and Social Impact Assessment | WiP | 2018 | 2020 |
| Valid spatial planning documents | C | | 2018 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| | NS | | |

| | |
|---|---|
| Further project preparation considerations | MoE Montenegro and MEI Albania applied for WBIF grant for ESIA and main design of IAP |
| Further ESIA considerations | ESIA study completed in Croatia, ESIA on feasibility level performed in ALB and MNE. Further ESIA work needs be undertaken in ALB and MNE. |
| Risks and critical issues | Standard project development risks: market, technical, environmental |
| Cross-border aspects | Close cooperation of all relevant national authorities and TSO-s is essential for further project development and implementation. |

**TAB 7 - FINANCING**

| | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | Yes | 5,000,000 |
| | | |

| | | |
|---|---|---|
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | ALB 169, MNE 119 (618) |
| Investment financing considerations | TBD subject to successful project development. Financing structure still being considered in Albania. Total investment ALB+MNE 288 mil €, ALB+MNE+HRV 618 mil € | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Gas Interconnector Serbia Croatia*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Gas Interconnector Serbia Croatia |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Pipeline part of SEE gas ring |
| From | Gospođinci |
| To | Slobodnica |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | JP Srbijagas, Plinacro |
| Proponent | JP Srbijagas, Plinacro |
| Project ID/number | WB6.EN.G.010 |
| ECS PECI 2016 candidate list | gas_10 |
| TYNDP ID | TRA-N-070 |
| ECS PECI 2013 | gas_10 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of Croatian TSO TYNDP and Serbian Energy Strategy (Action plan) and TSO Network Development Plan |
| Strategic relevance | Slobodnica-Sotin-Bačko Novo Selo is the gas pipeline which will connect the Croatian and Serbian gas transmission systems and provide gas transmission in both directions, with a capacity up to 6 bcm/y. This pipeline would make possible the transit from the LNG solution in Croatia to Serbia, as well as the potential to operate the gas transmission in the opposite direction from new supplies. The implementation of this project provides: • the connection of the Croatian gas transmission system to the new supply projects • additionally, the interconnection Sotin-Bačko Novo Selo can be a part of a potential gas pipeline which could be constructed within PEOP oil pipeline, from Constanza in Romania to Trieste in Italy, which would pass through the Croatian territory in the length of 450 km • increasing transit role of Croatia • connecting the potential new UGS Beničanci with the eastern Balkans market • possibility of new gas source for the markets of Serbia, Romania and Bulgaria from the future LNG solution on the island of Krk • the so-called “Gas Ring” recognised by the Energy Community |

| | |
|---|---|
| General description | Project is a new interconnection of Serbian and Crotian gas system. Originally it should have been connection between south stream and Croatian gas system. Now it is envisaged as a new gas supply route for Serbia. Total interconnection length is 197 (?) km: 102 (?) km in Croatia, 95 km in SER. Considered pipeline diameter and capacity in Croatia are 20 mcm/day and DN800, with pressure 75 bar. |
| Project phasing | |
| Corridor description | Project should be a part of SEE gas ring |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 95 (197) |
| Pipeline capacity mcm/day | 4.1 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Pipeline pressure (Bar) | 75 |
| Pipeline diameter (mm) | 600 SER, 800 HR |
| Number of compressors (pipeline) | 0 |
| Compressor power (MW) | 0 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| | |

| | |
|---|---|
| Assessed benefits/impact | Opening completely new border transmission capacity between Croatia and Serbia |
| B1 - Security of supply | YES - Diversification of supply routes and sources for RS. Enabling access to Croatian (0.6 bcm/y)storage capacities of Okoli storage – existing - the access to Croatian (up to 2,5 bcm/y)storage capacities of Beničanci storage – planned - the access to Serbian storage capacities of Banatski Dvori – existing The access to planned LNG project on the island of Krk in Croatia; up to 6 bcm/y, commissioning in 2015 |
| B2 - Social-economic welfare | Possible decrease of the gas price |
| B3 - Market Integration | Yes, - integration of the Serbian gas transmission system with the Croatian gas transmission system |
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Introducing the ecologically sound energy source in the region (replacement for firewood, coal, fuel oil and back-up for renewable energy – primarily wind) |
| B5 - Competition | Yes. Bringing new gas sources or suppliers to Serbia (access to Krk LNG and CEGH Gas Exchange) |
| B6 - Lifting isolation of at least one EC country | Yes - This should be second supply route of gas and will lift isolation of Serbia |
| B7 - Reducing bottlenecks | yes |
| NPV (low / medium / high) | TBD |
| Environmental aspects and climate change mitigation/adaptation | Reducing CO2 and SO2 emissions in Serbia |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | | 2022 |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| | NS | | |
| Further project preparation considerations | Feasibility and CBA study | | |
| Further ESIA considerations | ESIA needs to be undertaken | | |
| Risks and critical issues | Standard project development risks: market, technical, environmental | | |
| Cross-border aspects | Close cooperation of all relevant national authorities and TSO-s is essential for further project development and implementation | | |

| TAB 7 - FINANCING | Further financing requirements | Value of works/ activities [€] |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 60 (148) |
| Investment financing considerations | TBD subject to successful project development. Total investment: Croatian section 88 mil.eur, Serbian section 60 mil.eur. | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Gas Interconnector Serbia Bulgaria*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Gas Interconnector Serbia Bulgaria |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Pipeline part of SEE gas ring |
| From | Sofia/Dupnica |
| To | Niš |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | JP Srbijagas, Ministry of Energy, Bulgaria |
| Proponent | JP Srbijagas |
| Project ID/number | WB6.EN.G.011 |
| ECS PECI 2016 candidate list | gas_09 |
| TYNDP ID | TRA-F-137 |
| ECS PECI 2013 | gas_09 |
| WBIF project code | PRJ-SRB-ENE-002 |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of Serbian Energy Strategy (Action plan) and<br>TSO Network Development Plan and Bulgarian TSO TYNDP (2015-2017) |
| Strategic relevance | Security of supply; Diversification of routes and sources of supply – Implementation of the Regional natural gas market |
| General description | Project is a new interconnection of Serbian and Bulgarian gas system. Out of all planed projects in Serbia, Bulgaria-Serbia interconnection is in the most advanced development phase and should be second source of supply for Serbia. Total interconnection length is 170 km; 109 km in SER and 62 km in BG. Pipeline diameter 700 mm. |
| Project phasing | |

| | |
|---|---|
| Corridor description | Project should be a part of SEE gas ring |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 109 (171) |
| Pipeline capacity mcm/day | 5 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Pipeline pressure (Bar) | 55 |
| Pipeline diameter (mm) | 700 |
| Number of compressors (pipeline) | 0 |
| Compressor power (MW) | 0 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The pipeline should enable new source of gas supply for Serbia which is currently supplied from gas only from one source from Hungary |
| B1 - Security of supply | Project provides new route of supply to Serbia, in same time integrating Serbian existing and planned gas storage capacities into the Regional market. Project provides second route of supply to FYROM. In the reference of the existing gas transmission infrastructure in the Region, this project significantly contributes to covering peak demand in 1-in-20 and 1-in-50 conditions in all impacted Contracting Parties |
| B2 - Social-economic welfare | no new impact |

| | |
|---|---|
| B3 - Market Integration | Project provides new route of supply to Serbia, in same time integrating Serbian existing and planned gas storage capacities into the Regional market. |
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Project will enable reduction of SO2, NOx and other particulate matter by allowing new gas power plants to be developed and development of gas consumption in the new areas, replacing other more pollutant fossil fuels.<br>Project will enable development of gas power plants in Serbia which will support RES intermittency |
| B5 - Competition | Yes. Bringing new gas sources or suppliers to Serbia (access Geece LNG) |
| B6 - Lifting isolation of at least one EC country | Yes - This should be second supply route of gas and will lift isolation of Serbia |
| B7 - Reducing bottlenecks | yes |
| NPV (low / medium / high) | medium |
| Environmental aspects and climate change mitigation/adaptation | - Reducing CO2 and SO2 emissions in Serbia<br>- EIA prepared at level of Feasibility Study (November 2011)<br>- No alternative routing variants considered as part of EIA process, i.e. route was selected in previous project stage and included in the respective spatial plan<br>- Social impact assessment not performed<br>- Mitigation strategy and management plans are proposed<br>- ESIA package to be developed in next design stage. |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 2012 |
| Feasibility study (incl. CBA) | C | | 2019 |
| Preliminary Design | C | | 2019 |
| Environmental and Social Impact Assessment | WiP | | 2019 |
| Valid spatial planning documents | C | | 2016 |
| Land property resolved | WiP | | 2020 |
| Main design / detailed design | WiP | | 2019 |
| Tender documentation | NS | | 2020 |
| Construction and other permits | NS | | 2019 |
| | NS | | 2022 |
| Further project preparation considerations | Main design finalisation, tendering and construction. Project development activities underway in BG with the aim to enable the commissioning by 2022. | | |
| Further ESIA considerations | ESIA needs to be extended with social impact assessment. | | |
| Risks and critical issues | Standard project development risks: market, technical, environmental | | |
| Cross-border aspects | Close cooperation of all relevant national authorities and TSO-s is essential for further project development and implementation | | |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |

| | | |
|---|---|---|
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 85,5 (132,5) |
| Investment financing considerations | TBD subject to successful project development. Financing agreement 4 Dec. IPA/2017/040-500 signed. Total investment: SER 85,5 mil.EUR, BG 47 mil.EUR. | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Interconnector of Republic of Macedonia with Kosovo, Albania and Serbia (MKD - SER part)*

| **TAB 1 GENERAL INFORMATION** | **Identification** |
|---|---|
| Project title | Interconnector of Republic of Macedonia with Kosovo, Albania and Serbia (MKD - SER part) |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Pipeline part of SEE gas ring |
| From | Kumanovo |
| To | Niš |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | MER Skopje, GA-MA Skopje, JP Srbijagas |
| Proponent | MER Skopje, GA-MA Skopje, JP Srbijagas |
| Project ID/number | WB6.EN.G.012 |
| ECS PECI 2016 candidate list | gas_11 |
| TYNDP ID | TRA-N-965 |
| ECS PECI 2013 | gas_05 & gas_11 |
| WBIF project code | |

| **TAB 2 - PROJECT DESCRIPTION** | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Pipeline part of the Macedonian gasification strategy and Serbian Energy Strategy (Action plan) and TSO Network Development Plan |
| Strategic relevance | Security of supply; Diversification of routes and sources of supply – Implementation of the Regional natural gas market |
| General description | Pipeline should connect Serbian and Macedonian gas transmission system near Niš in Serbia and near Kumanovo in Macedonia |
| Project phasing | |
| Corridor description | Project should be a part of SEE gas ring |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 42 SER (160) |
| Pipeline capacity mcm/day | 1.3 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Pipeline pressure (Bar) | 55 |
| Pipeline diameter (mm) | 320 |
| Number of compressors (pipeline) | 0 |
| Compressor power (MW) | 0 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The pipeline should enable new source of gas supply for both Serbia and Macedonia |
| B1 - Security of supply | Second supply route to Serbia that might enable both Serbia and Macedonia to meet N-1 criterion. |
| B2 - Social-economic welfare | no new impact |
| B3 - Market Integration | Project provides new route of supply to Serbia and Macedonia, in same time integrating Serbian existing and planned gas storage capacities into the Regional market. |
| | |

| | |
|---|---|
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Project will enable reduction of SO2, NOx and other particulate matter by allowing new gas power plants to be developed and development of gas consumption in the new areas, replacing other more pollutant fossil fuels.<br>Project will enable development of gas power plants in Serbia and Macedonia which will support RES intermittency |
| B5 - Competition | no new impact |
| B6 - Lifting isolation of at least one EC country | Yes - This should be second supply route of gas and will lift isolation of Serbia and Macedonia |
| B7 - Reducing bottlenecks | yes |
| NPV (low / medium / high) | TBD |
| Environmental aspects and climate change mitigation/adaptation | Reducing CO2 and SO2 emissions in Serbia and Macedonia |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | | 2022 |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| | NS | | |
| Further project preparation considerations | Feasibility and CBA studies | | |
| Further ESIA considerations | ESIA needs to be undertaken | | |
| Risks and critical issues | Standard project development risks: market, technical, environmental | | |
| Cross-border aspects | Close cooperation of all relevant national authorities and TSO-s is essential for further project development and implementation | | |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |

| | | |
|---|---|---|
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | SER 8,5 (72) |
| Investment financing considerations | TBD subject to successful project development | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Interconnector Serbia-Romania*

| TAB 1 GENERAL INFORMATION | **Identification** |
|---|---|
| Project title | Interconnector Serbia-Romania |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Pipeline of local interest |
| From | SER Mokrin |
| To | RO Masloc |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | JP Srbijagas |
| Proponent | JP Srbijagas |
| Project ID/number | WB6.EN.G.014 |
| ECS PECI 2016 candidate list | gas_08 |
| TYNDP ID | TRA-N-1268 |
| ECS PECI 2013 | gas_08 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | **Description** |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Part of Serbian Energy Strategy (Action plan) and<br>TSO Network Development Plan |
| Strategic relevance | Security of supply; Diversification of routes and sources of supply – Implementation of the Regional natural gas market |
| General description | Pipeline should connect Serbian gas system to Romanian gas system. Different internet sources mention route Mokrin - Arad with total pipeline length of 80 km (6 km SER, 74 km ROM), with total investment of 43 mil. €. |
| Project phasing | |

| | |
|---|---|
| Corridor description | Pipeline of local interest |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 13 (76) |
| Pipeline capacity mcm/day | 5 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Pipeline pressure (Bar) | 63 / 50 |
| Pipeline diameter (mm) | 600 / 500 |
| Number of compressors (pipeline) | 0 |
| Compressor power (MW) | 0 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The pipeline should enable new source of gas supply for Serbia which is currently supplied from gas only from one source from Hungary |
| B1 - Security of supply | Second supply route to Serbia that might enable Serbia to meet N-1 criterion. |
| B2 - Social-economic welfare | no new impact |
| B3 - Market Integration | Project provides new route of supply to Serbia, in same time integrating Serbian existing and planned gas storage capacities into the Regional market. |

| | |
|---|---|
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Project will enable reduction of SO2, NOx and other particulate matter by allowing new gas power plants to be developed and development of gas consumption in the new areas, replacing other more pollutant fossil fuels.<br>Project will enable development of gas power plants in Serbia which will support RES intermittency |
| B5 - Competition | no new impact |
| B6 - Lifting isolation of at least one EC country | Yes - This should be second supply route of gas and will lift isolation of Serbia |
| B7 - Reducing bottlenecks | yes |
| NPV (low / medium / high) | TBD |
| Environmental aspects and climate change mitigation/adaptation | Reducing CO2 and SO2 emissions in Serbia |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | WiP | | 2020 |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | WiP | | 2019 |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| | NS | | |
| Further project preparation considerations | Feasibility and CBA studies. No information on activities in RO. | | |
| Further ESIA considerations | ESIA needs to be undertaken | | |
| Risks and critical issues | Standard project development risks: market, technical, environmental | | |
| Cross-border aspects | Close cooperation of all relevant national authorities and TSO-s is essential for further project development and implementation | | |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |

| | | |
|---|---|---|
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 9,5 (46) |
| Investment financing considerations | TBD subject to successful project development | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Trans Adriatic Pipeline (TAP)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Trans Adriatic Pipeline (TAP) |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Pipeline of regional interest (Southern Gas Corridor (SGC)) |
| From | GR |
| To | IT |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | TAP AG |
| Proponent | TAP AG |
| Project ID/number | WB6.EN.G.018 |
| ECS PECI 2016 candidate list | |
| TYNDP ID | TRA-F-051 |
| ECS PECI 2013 | |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Pipeline of regional interest (Southern Gas Corridor (SGC)) |
| Strategic relevance | TAP's main objective is to open the Southern Gas Corridor, key goal of the European Energy Policy, and strengthen the security of supply in the region. TAP has been in fact selected by the Shah Deniz 2 consortium as the route of choice for any export of natural gas to Italy. Natural gas from Shah Deniz 2 will be the first gas available from the Caspian area prior to 2020 and the first available to open the Southern Gas Corridor. |
| | |

| | |
|---|---|
| General description | TAP's route will involve a Contracting Party (Albania) and two European member states (Greece and Italy).TAP's current base case is to run from the entry point in Komotini at the Greek end-point of the existing Interconnector Turkey-Greece (ITG). TAP will then pass through Greece, Albania and land in Italy in San Foca (part of the municipality of Melendugno), near Lecce, connecting to the Snam Rete Gas natural gas grid. TAP will create a 100% increase in transmission capacity between Greece, Albania and Italy which is so far non-existent. In addition TAP, together with WBR and IAP will provide gas in the whole of South Eastern Europe (SEE) region, impacting on cross-border transmission capacity between other Contracting Parties, such as North Macedonia, Serbia, UNMI Kosovo, Montenegro, Bosnia Herzegovina, and Croatia.<br>Total length 878 km (Greece 550, ALB 215, Adriatic Sea 105, Italy 8).<br>Onshore = 773 km, Offshore = 105 km, Albanian section is 215 km. |
| Project phasing | |
| Corridor description | Pipeline of regional interest (Southern Gas Corridor (SGC)) |

| **TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA** | **Attribute values** |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 215 ALB (878) |
| Pipeline capacity mcm/day | 30 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| **TAB 4 - OTHER MAIN TECHNICAL PARAMETERS** | **Attribute values** |
|---|---|
| Pipeline pressure (Bar) | 95 (145 offshore) |
| Pipeline diameter (mm) | 1200 (offshore 900) |
| Number of compressors (pipeline) | 3 (same place) |
| Compressor power (MW) | 45 (15 each) |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Project is of greater impact bringing Caspian gas in Europe and the region |
| B1 - Security of supply | Contributing to the diversification of the supply routes and sources in the region. By connecting Italy, Albania and Greece TAP will improve the flexibility of the system, thanks to the possibility of reverse flow and to the existence of other gas infrastructures such as gas storage (in Italy) and LNG terminals (in Italy and Greece). Most of all, TAP's physical reverse flow capabilities will contribute to market integration and interoperability. Currently, TAP physical reverse flow capabilities are estimated to be up to 80% of its initial design capacity, depending on the downstream system (Snam Rete Gas gas infrastructure). Options for the construction of an underground storage in Albania may further increase flexibility in the gas transportation infrastructure of South Eastern Europe and security of supply in the region. TAP, by directly connecting for the first time Greece, Albania and Italy, will allow Albania to benefit from the existing storage capacity of the system and also from LNG terminals (i.e. LNG terminals of Revythoussa in Greece, Panigaglia and Cavarzere in Italy). |
| B2 - Social-economic welfare | Project will bring natural gas to Albania and Caspian gas in the region |
| B3 - Market Integration | TAP will strongly contribute to market integration in South Eastern Europe, by creating a first link between Italy, Albania and Greece, which is currently non-existent.<br>In particular, TAP will contribute to the development of the Albanian gas market, which is currently non-existent, and it will eliminate its isolation by connecting to a developed gas market (Greece and Italy).<br>In addition TAP will contribute to the development of the gas markets in South Eastern Europe. Given the several agreements already reached with TSOs in the Balkans and larger SEE area, TAP will be capable of connecting with countries in this area and to allow for new sources of gas to reach these markets and to further increase market liquidity.<br>Moreover, the increased interconnectivity created by TAP between South Eastern European countries and the rest of the European gas market will further boost regional cohesion and interoperability between transmission system operators in the region. TAP will therefore provide a crucial contribution to price convergence in the South Eastern Europe area. |
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Therefore, gasification of Albania will significantly contribute to diversification of both primary energy and power generation mixes. At the same time it will decrease the usage of liquid fuels thus reducing CO2 and SO2 emissions. |
| B5 - Competition | Yes. Bringing new suppliers to the market in the region |
| B6 - Lifting isolation of at least one EC country | Albania is a minor oil and gas producer with no natural gas import capacity. Upstream gas activity began in 1960 mainly in the south of the Country and 400 km of pipeline network were built, to link producing sites in the south with major domestic consumers (thermal power plants, fertilizer producers, steel plants, etc.). Nevertheless, the domestic production has fallen from approximately 250 mcm in 1990 to a minimum of around 11 mcm in 2007 (Oxford Institute for Energy Studies, 2009). These volumes cover are not sufficient to meet the Country's needs. As a consequence, Albania has no access to foreign natural gas supplies and it lacks the necessary interconnection infrastructure. TAP will bring gas to the Country, therefore contributing to: • the development of a domestic gas market ; • connect Albania to the wider European market (Italy and Greece); • connect Albania to the SEE area, thanks to the WBR and the IAP. |
| B7 - Reducing bottlenecks | yes |
| NPV (low / medium / high) | TBD |
| Environmental aspects and climate change mitigation/adaptation | Reducing CO2 and SO2 emissions |

| TAB 6 - MATURITY | Status of activities/works | From | To |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | |
| Feasibility study (incl. CBA) | C | | |
| Preliminary Design | C | | |
| Environmental and Social Impact Assessment | C | | |
| Valid spatial planning documents | C | | |
| Land property resolved | C | | |
| Main design / detailed design | C | | |
| Tender documentation | C | | |
| Construction and other permits | C | | |
| | WiP | | 2020 |
| Further project preparation considerations | Construction in progress | | |
| Further ESIA considerations | No further requirements | | |
| Risks and critical issues | Standard project implementation risks | | |
| Cross-border aspects | No further requirements | | |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | No | 0 |
| Valid spatial planning documents | No | 0 |
| Land property | No | 0 |
| Main design / detailed design | No | 0 |
| Tender documentation | No | 0 |
| Construction and other permits | No | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | ALB 1500 (4500) |
| Investment financing considerations | TAP AG secured financing. | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Albania-Kosovo Gas Pipeline (ALKOGAP)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Albania-Kosovo Gas Pipeline (ALKOGAP) |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | |
| From | ALB Milot (on IAP) |
| To | KOS Priština |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | Ministry of Energy & Industry of Albania, MED Kosovo |
| Proponent | Ministry of Energy & Industry of Albania, MED Kosovo |
| Project ID/number | WB6.EN.G.021 |
| ECS PECI 2016 candidate list | gas_13 |
| TYNDP ID | TRA-F-1028 |
| ECS PECI 2013 | gas_13 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Pipeline part of the Albanian gas masterplan and Energy strategy (2018-2030) and Implementation program (2018-2020) of Kosovo. |
| Strategic relevance | Establish the consumption potential of the natural gas at the industry and household sectors in Kosovo, The analysis and recommendations of the potential for connectivity in the regional natural gas network (TAP-IAP), Enhance the portfolio diversification of the energy sources, Security of supply; Diversification of routes and sources of supply. |
| General description | Pipeline should connect IAP in Albania near Milot with Priština. PFS suggests diameter 600mm and potential compressor station with compressor power of 15,4 MW. Also, PFS in summary shows pipeline length will be 113 km in Albania and 99 km in Kosovo (while total length of each section added shows 108,3 km in ALB and 103,9 km in KOS). |

| | |
|---|---|
| Project phasing | |
| Corridor description | Pipeline of local interest and protentional regional interest (if connected to Serbia at Niš) |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 113 ALB, 99 KOS (212) |
| Pipeline capacity mcm/day | 4 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Pipeline pressure (Bar) | 82 |
| Pipeline diameter (mm) | 600 |
| Number of compressors (pipeline) | 1 |
| Compressor power (MW) | 15.4 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Project will have local (supplying gas to north east of Albania) and country impact securing gas supply to Kosovo |
| B1 - Security of supply | Project will bring Caspian gas over TAP/IAP to Kosovo |

| | |
|---|---|
| B2 - Social-economic welfare | Project will bring natural gas in north east part of Albania and the country where there is no natural gas Kosovo. Gas should be more competitive to other fossil fuel sources. |
| B3 - Market Integration | New supply source |
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Project will enable reduction of SO2, NOx and other particulate matter by allowing new gas power plants to be developed and development of gas consumption in the new areas, replacing other more pollutant fossil fuels.<br>Project will enable development of gas power plants in Kosovo which will support RES intermittency |
| B5 - Competition | Project will bring natural gas in north east part of Albania and the country where there is no natural gas Kosovo. Gas should be more competitive to other fossil fuel sources. |
| B6 - Lifting isolation of at least one EC country | Yes - Project will bring natural gas in the country where there is no natural gas Kosovo and therefore lift isolation |
| B7 - Reducing bottlenecks | no |
| NPV (low / medium / high) | TBD |
| Environmental aspects and climate change mitigation/adaptation | Reducing CO2 and SO2 emissions in Albania and Kosovo |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 2018 |
| Feasibility study (incl. CBA) | NS | | |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | WiP | | |
| Land property resolved | NS | | |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| | NS | | 2022 |
| Further project preparation considerations | Feasibility and CBA studies | | |
| Further ESIA considerations | ESIA needs to be undertaken. Initial Environmental and Social Evaluation report has been prepared. | | |
| Risks and critical issues | Standard project development risks: market, technical, environmental | | |
| Cross-border aspects | Close cooperation of all relevant national authorities and TSO-s is essential for further project development and implementation. No any cross border issues to be addressed, already agreed between two Government in Kosovo and Albania. | | |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | Yes | 0 |

| | | |
|---|---|---|
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 1,550,000 |
| Environmental and Social Impact Assessment | Yes | 200,000 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | ALB 150, KOS 61 (211) |
| Investment financing considerations | TBD subject to successful project development. Financing structure still being considered in Albania. (Old investment estimation of 120 mil € based on DN500, new of 211 mil € on DN600). With potential compressor station, investment will be 45 mil € higher. | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Interconnector of Republic of Macedonia with Bulgaria and Greece (GR - MKD part)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Interconnector of North Macedonia with Bulgaria and Greece (GR - MKD part) |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Pipeline part of SEE gas ring |
| From | GR |
| To | MKD - Štip |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | MER JSC Skopje |
| Proponent | MER JSC Skopje |
| Project ID/number | WB6.EN.G.027 |
| ECS PECI 2016 candidate list | gas_04b |
| TYNDP ID | TRA-N-980 (MK); TRA-N-967 (GR) |
| ECS PECI 2013 | gas_04 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Pipeline part of the Macedonian gasification strategy |
| Strategic relevance | Allowing access to energy fuel on the territory around Radovis-Bogdanci-Strumica-Gevgelija and possibility for construction of interconnection with the existing system in the Republic of Greece and interconnection with TAP.<br>Natural gas diversification i.e. natural gas supply of other sources of the Republic of Macedonia-direct access to TAP and Caspian gas and Greece LNG terminal. |
| General description | Pipeline should connect Macedonian gas transmission system near Štip and connect to Greece transmission system between Karperi and Thessaloniki. Pipeline capacity from beneficiaries: Q=326.000 m3/h. |

| | |
|---|---|
| Project phasing | |
| Corridor description | Project should be a part of SEE gas ring |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 68 MKD (124) |
| Pipeline capacity mcm/day | 5 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Pipeline pressure (Bar) | 25-70 |
| Pipeline diameter (mm) | 700 |
| Number of comressors (pipeline) | 0 |
| Compressor power (MW) | 0 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | The pipeline should enable new source of gas supply for Macedonia which is currently supplied from gas only from one source of limited capacity. Should enable Macedonia supply from Greece LNG or TAP. |
| B1 - Security of supply | Second supply route to Macedonia that might enable Macedonia to meet N-1 criterion. It will also enable supply of gas from Caspian gas from TAP, or from Greece LNG terminal |

| | |
|---|---|
| B2 - Social-economic welfare | Project will bring natural gas in the area where there is no natural gas - Strumica and Gevgelija area. Gas should be more competitive to other fossil fuel sources. It should also ass a second supply source increase reliability of gas fired power production in Skopje and potential new in Negotino |
| B3 - Market Integration | Yes - integration of the Macedonian gas transmission system with the Greece gas system, Greece LNG terminal and TAP and then region. |
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | It will contribute to diversification of both primary energy and power generation mixes. At the same time it will decrease the usage of liquid fuels thus reducing CO2 and SO2 emissions. CCGT planed on the pipeline route in Macedonia |
| B5 - Competition | Yes. Bringing new suppliers to the Macedonia |
| B6 - Lifting isolation of at least one EC country | Yes - This should be second supply route of gas and will lift isolation of Macedonia and will enable gasification of the south east part of Macedonia |
| B7 - Reducing bottlenecks | yes |
| NPV (low / medium / high) | TBD |
| Environmental aspects and climate change mitigation/adaptation | Reducing CO2 and SO2 emissions in Macedonia |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 2010 |
| Feasibility study (incl. CBA) | C | | 2019 |
| Preliminary Design | NS | | |
| Environmental and Social Impact Assessment | WiP | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | |
| Main design / detailed design | WiP | | 2019 |
| Tender documentation | NS | | 2020 |
| Construction and other permits | NS | | |
| | NS | | 2020 |
| Further project preparation considerations | Right of way (geodetic works) 2020. Depending on the development from Gr side. | | |
| Further ESIA considerations | ESIA needs to be undertaken | | |
| Risks and critical issues | Standard project development risks: market, technical, environmental | | |
| Cross-border aspects | MoU signed between MER JSC Skopje and DESFA (gas transmission system operator in Greece) in October 2016 for the preparation of a common FS. | | |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |

| | | |
|---|---|---|
| Feasibility study (incl. CBA) + Preliminary Design | Yes | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | 54 (86) |
| Investment financing considerations | TBD subject to successful project development. Application to WBIF for investment grant. | |

| **TAB 8 - OTHER ASPECTS** | **Inputs** |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |

# Western Balkans Investment Framework (WBIF)

**Connectivity Network Gap Analysis**
**Project Fiche**
**ENE-Gas**

## *Interconnector of Republic of Macedonia with Kosovo, Albania and Serbia (MKD - KOS part)*

| TAB 1 GENERAL INFORMATION | Identification |
|---|---|
| Project title | Interconnector of North Macedonia with Kosovo, Albania and Serbia (MKD - KOS part) |
| Sector: | Energy |
| Subsector | Gas |
| Corridor/Route | Pipeline of local interest |
| From | MKD - Skopje |
| To | KOS - Priština |
| Gap rationale | |
| Country | |
| Lead Project Beneficiary | MER JSC Skopje; JSC GAMA Skopje |
| Proponent | MER JSC Skopje; JSC GAMA Skopje |
| Project ID/number | WB6.EN.G.028 |
| ECS PECI 2016 candidate list | gas_05 |
| TYNDP ID | TRA-N-966 |
| ECS PECI 2013 | gas_05 |
| WBIF project code | |

| TAB 2 - PROJECT DESCRIPTION | Description |
|---|---|
| Coherence and contribution to valid EU and national policies, strategies and objectives | Pipeline part of the Macedonian gasification strategy |
| Strategic relevance | Establish the consumption potential of the natural gas at the industry and household sectors in Kosovo, The analysis and recommendations of the potential for connectivity in the regional natural gas network (TAP-IAP), Enhance the portfolio diversification of the energy sources, Security of supply; Diversification of routes and sources of supply |
| General description | Pipeline should follow the old Skopje-Pristina gas pipeline route, bringing the gas to Kosovo. Pipeline diameter 500 mm |
| Project phasing | |

| | |
|---|---|
| Corridor description | Pipeline of local interest |

| TAB 3 - MAIN PARAMETERS / CORE NETWORK CRITERIA | Attribute values |
|---|---|
| Type of gas infrastructure (TEN-G) | Transmission, incl. Compressor station |
| Pipeline length (km) | 16 MKD, 69 KOS (85) |
| Pipeline capacity mcm/day | 4 |
| Terminal annual capacity (bcm/year) | n.a. |
| Terminal sendout capacity (mcm/day) | n.a. |
| UGS working gas volume (106Nm3) | n.a. |
| UGS sendout capacity (mcm/day) | n.a. |

| TAB 4 - OTHER MAIN TECHNICAL PARAMETERS | Attribute values |
|---|---|
| Pipeline pressure (Bar) | 50 |
| Pipeline diameter (mm) | 500 |
| Number of comressors (pipeline) | 0 |
| Compressor power (MW) | 0 |
| LNG terminal max. ship size (m3 LNG) | n.a. |
| LNG terminal - number of storages | n.a. |
| LNG terminal - total storage volume (m3) | n.a. |
| UGS storage type | 3 |

| TAB 5 - IMPACTS AND BENEFITS | Description |
|---|---|
| Assessed benefits/impact | Project will have country impact securing gas supply to Kosovo |
| B1 - Security of supply | Project will bring gas to Kosovo, and over Macedonia potential supply from Russia (Bulgaria), and caspian sources TAP and Greece LNG |
| B2 - Social-economic welfare | Project will bring natural gas in the country where there is no natural gas Kosovo. Gas should be more competitive to other fossil fuel sources. |
| B3 - Market Integration | New supply source |

| | |
|---|---|
| B4 - Sustainability/Emissions/Intermittent Generation/Renewable Gas | Project will enable reduction of SO2, NOx and other particulate matter by allowing new gas power plants to be developed and development of gas consumption in the new areas, replacing other more pollutant fossil fuels.<br><br>Project will enable development of gas power plants in Kosovo which will support RES intermittency |
| B5 - Competition | Project will bring natural gas in the country where there is no natural gas Kosovo. Gas should be more competitive to other fossil fuel sources. |
| B6 - Lifting isolation of at least one EC country | Yes - Project will bring natural gas in the country where there is no natural gas Kosovo and therefore lift isolation |
| B7 - Reducing bottlenecks | no |
| NPV (low / medium / high) | TBD |
| Environmental aspects and climate change mitigation/adaptation | Reducing CO2 and SO2 emissions in Kosovo |

| **TAB 6 - MATURITY** | **Status of activities/works** | **From** | **To** |
|---|---|---|---|
| Pre-feasibility study + Conceptual Design | C | | 2009 |
| Feasibility study (incl. CBA) | NS | 2020 | 2021 |
| Preliminary Design | C | | 2010 |
| Environmental and Social Impact Assessment | NS | | |
| Valid spatial planning documents | NS | | |
| Land property resolved | NS | | 2022 |
| Main design / detailed design | NS | | |
| Tender documentation | NS | | |
| Construction and other permits | NS | | |
| | NS | | 2020 |
| Further project preparation considerations | Feasibility and CBA studies | | |
| Further ESIA considerations | ESIA needs to be undertaken | | |
| Risks and critical issues | Standard project development risks: market, technical, environmental | | |
| Cross-border aspects | Close cooperation of all relevant national authorities and TSO-s is essential for further project development and implementation | | |

| **TAB 7 - FINANCING** | **Further financing requirements** | **Value of works/ activities [€]** |
|---|---|---|
| Pre-feasibility study + Conceptual Design | No | 0 |
| Feasibility study (incl. CBA) + Preliminary Design | No | 0 |
| Environmental and Social Impact Assessment | Yes | 0 |

| | | |
|---|---|---|
| Valid spatial planning documents | Yes | 0 |
| Land property | Yes | 0 |
| Main design / detailed design | Yes | 0 |
| Tender documentation | Yes | 0 |
| Construction and other permits | Yes | 0 |
| Construction & supervision of works contracts | Yes | 0 |
| Total investment | | MKD 11,5, KOS 39,5 (51) |
| Investment financing considerations | TBD subject to successful project development | |

| TAB 8 - OTHER ASPECTS | Inputs |
|---|---|
| Last Updated | |
| Last Updated By | Marko Krejči |