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NON-TECHNICAL SUMMARY

CORRIDOR VC IN REPUBLIKA SRPSKA: PODNOVLJE TO RUDANKA (KOSTAJNICA)



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Abbreviations & Acronyms:

BiH	Bosnia and Herzegovina
CESMP	Construction Environmental and Social Management Plan
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
E&S	Environmental & Social
ESAP	Environmental and Social Action Plan
ESP	Environmental & Social Policy
EU	European Union
IFI	International Finance Institution
km	kilometre
LARF	Land Acquisition and Resettlement Framework
LARP	Land Acquisition and Resettlement Plan
NTS	Non-Technical Summary
OESMP	Operational Environmental and Social Management Plan
PR	Performance Requirement
RSA	Road Safety Audit
RS	Republika Srpska
RSM	Republika Srpska Motorways
SEP	Stakeholder Engagement Plan

1. INTRODUCTION

The public company Republika Srpska Motorways (RSM) intends to implement the construction of the section of Corridor Vc motorway between Podnovlje and Rudanka. RSM is established as a joint stock company wholly owned by the RS Government.

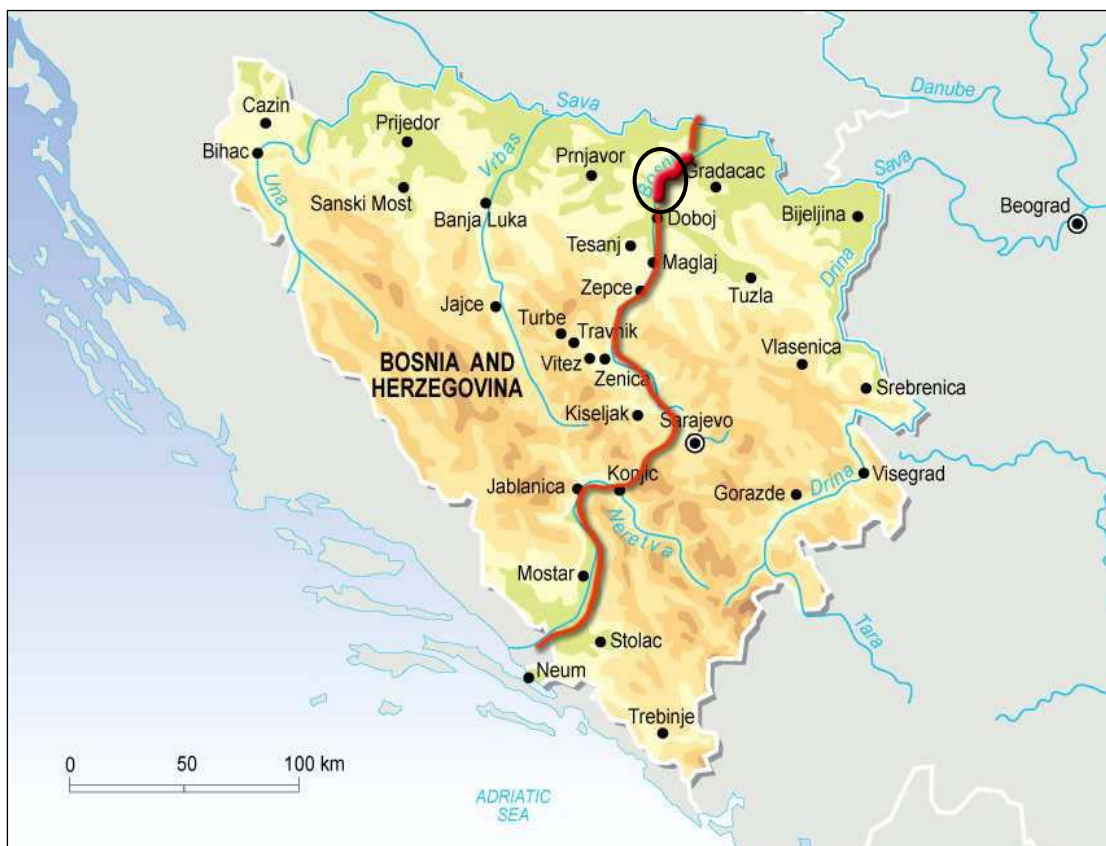
The European Bank for Reconstruction and Development (the 'EBRD') is considering providing finance of a sovereign-guaranteed loan of up to EUR 70.0 million to the Company for construction of approximately a 6km section of Corridor Vc in RS – Project 1, herein referred to as the "Project". The loan will be guaranteed by the state of BiH with back-to-back guarantee from Republika Srpska (RS). A separate International Finance Institution (IFI) or institutions is considering providing parallel financing of up to EUR 100 million by a sovereign loan for an additional 14km stretch of adjoining motorway, however this financing will occur at a later date and will be subject to its own, separate, due diligence and disclosure process.

This document is a Non-Technical Summary providing information on the design of the Project, the potential environmental and social impacts and management measures that will be undertaken by RSM for the Project, and how members of the public can contact RSM with any further questions they have about the Project.

The Project has been developed by RSM based on the Republika Srpska legislative requirements and those of the EBRD.

The Project is situated in the north-east part of BiH (see Figure 2.1), about 100 km east of the town of Banja Luka. It is a rural area with a number of linear villages formed along the two regional roads: The M-17 (single lane in each direction) passing along the left bank of the River Bosna and the R-465 (single lane in each direction) along the right bank, parallel to the railway road Doboj – Modriča.

Figure 2-1 Project Location¹



¹ Original source of figure: Environmental Impact Assessment of the Corridor Vc: Lot 2 Vukosavlje Johovac – Projekt a.d., January 2011

The EBRD has determined that the Project is a “Category A” Project according to its Environmental & Social Policy (ESP 2014). The EBRD are working with Republika Srpska Motorways to ensure that the Project’s environmental and social risks are appraised and managed in accordance with EBRD Policy. An Environmental Impact Assessment (EIA) was conducted on the Project, which received approval from the then regulator – the Ministry of Physical Planning, Construction and Ecology, of the Republic of Srpska - in March 2011. An Ecological Permit – valid for 5 years - was awarded by the Ministry of Physical Planning, Construction and Ecology in 2014, based on the EIA and containing a number of specific conditions related to the construction and operation of the Project. These conditions will be addressed in the Environmental and Social Management Plans for the Project.

The land acquisition process is currently underway, and a **Land Acquisition and Resettlement Framework (LARF)** has been developed for the Project, to be followed by more detailed Land Acquisition and **Resettlement Plan (LARP)** to guide and document the land acquisition process.

This **Non-Technical Summary (NTS)** describes the Project, and summarises the findings of the environmental and social investigations conducted and the risks identified. A **Stakeholder Engagement Plan (SEP)** has been developed for the Project describing the planned stakeholder consultation activities and engagement process. An **Environmental and Social Action Plan (ESAP)** has been prepared in relation to the proposed Project, in order to structure the future Project preparation activities to be in line with EBRD’s Environmental and Social Policy (ESP 2014). The key environmental & social (E&S) project preparation documents – the EIA, SEP, NTS, LARF and ESAP - will be uploaded to the RSM website (<http://www.autoputevirs.com>) and the EBRD website (<http://www.ebrd.com>).

2. PROJECT NEED & BACKGROUND

Project Need & Benefits

The Trans-European Corridor Vc is BiH’s main north-south transport route. It connects Budapest (Hungary) to the Adriatic port of Ploče (Croatia). Within BiH, Corridor Vc’s total length is approximately 335 km. The Project is located in the northern part of the country and is part of the planned 46.6 km-long section through the administrative entity of Republika Srpska. The Project is significant for connection of the western and eastern areas of Republika Srpska to the Corridor Vc and further to the Corridor X in Croatia. It will increase traffic capacity and reduce the traffic volumes on the existing regional road network.

Planning of a motorway through Bosnia and Herzegovina as part of the Trans-European road corridors network started in the late 1970s. The Corridor route was defined in 1981 and after public consultations was formally approved as part of the Spatial Plan of BiH in 1982. The first major steps were taken in 2004 when the Council of Ministers of BiH decided to start the corridor development which was followed by the Feasibility Study and the Preliminary Design in 2006. The Spatial Plans of Republika Srpska (2008-2015 and 2015-2025) have considered the Corridor Vc through RS as an essential road transport link with significant economic benefits for the entity.

The Project will deliver a number of key benefits, including: improved regional, national and international connectivity in the western Balkans; facilitating economic development in the region; removal of some through traffic from the local road network reducing congestion in built up areas and resulting in road and community safety improvements, especially given the high rate of traffic accidents compared to European Union (EU) countries under the current road system; and, short-term local employment opportunities during construction.

3. PROJECT DESCRIPTION

Description of Project

The EBRD Loan will be used to finance the construction of two motorway interchanges, Johovac (Tovira) and Rudanka (Kostajnica), and a 6.1 km long motorway section between the interchanges, plus a two lane connecting

road of around 1 km to link to the existing trunk road including a crossing of the River Bosna. This would be the first 6.1 km out of total 46.6 km of Corridor Vc that need to be constructed within RS territory.

The total length of the section is 6.1 km. The section starts in the area of Tovira village on the right bank of the Bosna River, where the interchange Johovac (Tovira) is proposed to connect the Project to the existing motorway Banja Luka – Dobož. The alignment continues to the south by following a railway along the river valley and intersects the railway by an underpass just south of the Kostajnica village. The interchange Rudanka (Kostajnica) is proposed in the area between the railway and the river. After the interchange, the alignment crosses the Bosna River and by a proposed two-lane connecting road (around 1km long) connects to the existing regional road.

Motorway structures proposed along the project alignment will include a **bridge across the Bosna River** (with a single lane in each direction) connecting the motorway with the main road M17, **4 smaller bridges** over watercourses in the Bosna River floodplain, **one bridge** over the railway alignment, **6 culverts** for other watercourses in the floodplain and **5 underpasses** for local roads and the railway. The road will have a design speed of 120 km/h and be up to **30m wide**. There will be a toll station to the east of the Rudanka (Kostajnica) interchange, north of the Project crossing of the Bosna River.

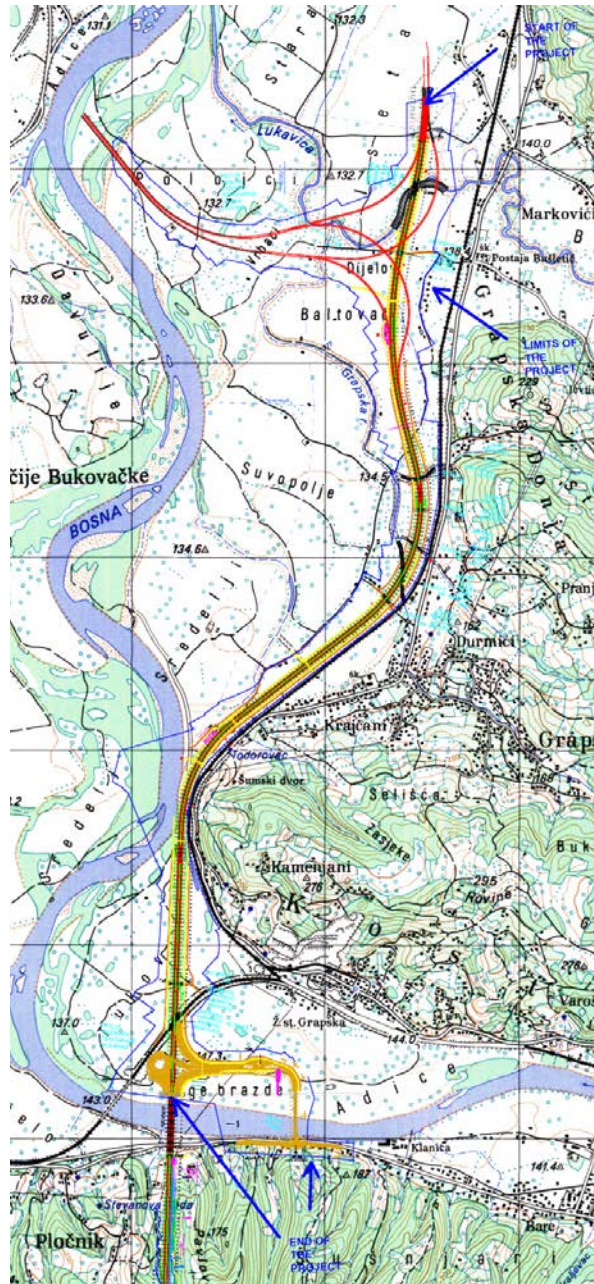
The layout of the Project is shown in **Figure 2-1** below (Red and yellow/orange indicate the Project infrastructure and the outer blue line represents the planned extent of any Project works / activities).

This infrastructure has all been designed in detail, and detailed drawings have been prepared as part of the Project documents.

Road Safety

One of the key aims of the Project is to deliver improvements in road safety. The creation of the new motorway will remove the heavy through traffic from passing through local villages and built up areas, which will help reduce community and road safety risks and congestion in these areas. The new road will be able to operate at higher speeds and direct access from side roads/tracks etc. by the community will not be allowed. Pedestrians will also not be allowed to cross the road directly, however all existing intersections have been reviewed as part of the design to determine the best means to maintain access. The design has considered the plan for local access with the provision of underpasses for local roads and access routes. In addition, in some sections bypasses have been used so the existing road will effectively become a local service road. Awareness raising activities with the local communities will be undertaken prior to the road opening, with the purpose of discouraging direct crossing of the road and direct accessing of the new road with agricultural/other vehicles. A Road Safety Audit will also be undertaken on the current design to consider the need for additional safety measures.

Figure 2-1 Layout of Project 1



Project Schedule & Construction Workforce

The Project schedule and current workforce estimates are indicated below – these are estimates at this time (June 2017) and may be subject to change depending on procurement and other ongoing activities, such as land acquisition:

- RSM currently intends to commence construction for the Project in early 2018 with construction completion in 2021.
- Up to 500 workers are predicted to be employed for construction on the Project at its peak.
- RSM have concluded there is not a high likelihood of temporary worker accommodation being required and anticipates that most workers will find accommodation in the local towns and villages along the route.

4. ROUTE SELECTION & CONSIDERATION OF ALTERNATIVES

Several alternatives to the proposed Project route were considered during its development. These are summarised below:

Definition of the Corridor and Early Alignment Considerations: The overall strategic alignment of the Corridor was determined by several planning documents, including the BiH Spatial Plan (1981 – 2000), which identified the corridor as needing to meet the N-S trans European highway E73, and listed the municipalities through which the motorway should pass. Possible alternative alignments were examined, within the corridor identified. For the stretch from Svilaj to Doboj south (within which the Project is located), eight alternative alignments were considered. The four criteria used for the evaluation of alternatives were: 1. spatial, 2. ecological (environmental), 3. traffic and 4. economic. No major changes were made to the alignment in this stretch, although some significant changes were made to other parts of the Corridor, e.g. to avoid the Hutovo blato Ramsar wetland site.

Alternatives Assessment Reported in 2006 EIA: The 2006 EIA for the Corridor described that evaluation of alternative routes for the corridor used four criteria: 1. technical, 2. construction cost, 3. spatial-environment characteristics, and 4. timing/construction conditions. The route (including location of major structures), appeared in the Spatial Plan for the Republika Srpska (1996 – 2015), including in the 2005 draft), and in the updated Plan (2015-2025). The alignment which was passed to RSM was therefore largely pre-determined, leaving only minor alternatives (e.g. micro-alignments, materials, construction techniques) within the scope of RSM to change. The alignment and other Project alternatives were not addressed in either the 2006 or the 2011 ESIA's. However, there is no indication that any of the selected alternatives have any more significant E&S risks than the others.

Variations in the Main Design Going Forward: RSM has confirmed that no alignment changes or changes in locations of bridges and other structures are envisaged at this stage, and that the only alternatives in the Project which are currently 'open' relate to areas where the contractor will propose specific construction methodologies and some changes in materials or specifications, as well as the detailing of minor elements such as noise barriers and fencing. Any proposed changes will be reviewed firstly by the Engineer and any changes subject to the approval of RSM.

5. SUMMARY OF ENVIRONMENTAL & SOCIAL LEGAL & POLICY FRAMEWORK

National Legal Framework for the Project

This Project is carried out within the jurisdiction of the Republika Srpska, one of two administrative entities within the national entity of Bosnia and Herzegovina. As a potential EU candidate country, BiH has been in the process of harmonisation with the EU legal framework, and the laws and regulations of RS are gradually being upgraded to meet EU norms. BiH has ratified the main International Labour Organisation Conventions, and has signed several international environmental and social treaties and conventions which are also applicable. The Project is governed by all these relevant laws and international obligations.

Legal Framework for Environmental and Social Protection

The Law on Environmental Protection (2015) is the framework environmental law for BiH. It governs the protection of air, water and land, public participation and access to environmental information, strategic environmental planning, strategic environmental impact assessment of plans and programmes, environmental impact assessment and environmental permits. It also regulates eco-labelling and environmental management, financing of environmental protection and economic instruments, environmental liabilities, and cooperation between the political entities in BiH.

Under this framework, within RS, laws exist which cover the protection of nature, protected areas, flora and fauna, water resources, air quality, historical and cultural sites as well as forest resources and agricultural land. Laws on social issues include those relating to land acquisition, public health, and a labour law which deals with workers'

rights, including occupational Health & Safety, labour relations, working conditions, employment, wages, rights of women workers.

Summary of EIA & Permitting Process

The Law of Environmental Protection of RS (Official Gazette (O.G.) RS No. 71/12, 79/15) sets out the procedure for Environmental Impact Assessments and related environmental approvals. For a roads project such as this one, the Law requires a preliminary assessment, a screening decision, and a scoping process. An EIA is then commissioned, and the required content of the EIA report is set out in the 'Instruction on Content of Environmental Impacts Assessment Study (O.G. RS 108/05)'. The EIA and Environmental Permit process, includes requirements on public disclosure and consultation, and if successful, results in an Environmental Permit.

Legal Framework for Nature Protection

The Law on Nature Protection (2014) includes provision for implementing regulations on the establishment of NATURA 2000 sites² and other regulations on Protected Areas. However these implementing regulations are still under development and level of harmonisation of Republika Srpska with the Bird and Habitats Directive is still relatively low. The percentage of nationally protected areas in Republika Srpska is understood to be in the region very low by percentage of area. Bosnia and Herzegovina completed a Pilot Project on establishment of the Emerald Network³ from 2005 to 2008 and officially nominated 29 candidate sites. The country took steps to identify an initial list of potential NATURA 2000 ecological areas that account for approximately 20% of its territory but further work is needed on establishment of Ecological Network and finalisation of potential NATURA 2000 candidate sites.

Planning, traffic planning and road planning

The Law on Public Roads (O.G. of RS, No. 40/2013, 106/2015) regulates the types of public roads in Republika Srpska, their management, planning, financing, reconstruction, maintenance and protection. It also provides regulatory requirements for concessions and public-private partnerships for road projects.

Land Acquisition Legal Framework

The RS Law on Proprietary Rights (O.G. RS 124/08, 58/09, 95/11), states that all natural persons and legal entities can have property rights on movable and immovable property. The RS Expropriation Law (O.G. of RS, No. 112/06, 37/07, 110/08) regulates the expropriation of properties and assets, which may only be expropriated in the public interest and with fair compensation being paid. Under this Law, the Government firstly must establish a public interest case, and notify owners and affected third parties through a public announcement. Valuations of properties are performed by Court certified valuers and serve as a basis for negotiations. The affected owners and third parties can accept the compensation offer provided to them and thereby expropriation is deemed completed. They can also reach an agreement on compensation any time before the decision on expropriation is passed.

Ownership and other formal legal rights on land and structures are recorded in the Cadastre and Land registries, and all issues regarding property rights have to be resolved before the expropriation payment is made. In case of disputes, the courts will rule and decide on any compensation payable. The law foresees rights of affected citizens (those with formal legal rights) to appeal at many stages of the expropriation procedure, beginning with administrative and judicial appeals (i.e. against decision on expropriation, regarding compensation).

The RS Law on Expropriation falls short of the requirements of EBRD in several areas. EBRD require a socio economic survey to be completed on the parties affected. Additionally, EBRD requires those users of the land who have no recognisable legal right or claim to the land they occupy to receive compensation. Similarly, those carrying

² NATURA 2000 sites: European protected network of sites throughout EU Member States under the Bird Directive (79/409/EEC) and the Habitats Directive (92/43/EEC).

³ The Emerald network is a network of Areas of Special Conservation Interest (ASCIs), which is to be established in the territory of the contracting parties and observer States to the Bern Convention, including, among others, central and east European countries and the EU Member States. For EU Member States, Emerald network sites are those of the Natura 2000 network.

out informal business activities should also be entitled to compensation. EBRD would require the provision of livelihood restoration measures, where business activities are affected, and also requires an independent grievance mechanism. EBRD requires that public consultations are held with all categories of project affected people prior to expropriation, and that the expropriation, resettlement and livelihoods restoration processes are monitored.

6. PROJECT EIA, STAKEHOLDER ENGAGEMENT & LAND ACQUISITION PROCESS

Environmental Impact Assessment (EIA) Process

The national requirements for environmental assessment have been met through the conducting of an environmental impact assessment for the Project, followed by submission of the EIA in 2011. This was approved by the then regulator – the Ministry of Physical Planning, Construction and Ecology, of the Republic of Srpska - and the environmental approval awarded in March 2011. The EIA procedure followed the requirements of The Law of Environmental Protection of RS (Official Gazette (O.G.) RS No. 71/12, 79/15). The EIAs were produced on the Main Design, which RSM confirms has not materially changed since then.

The EIA (2011) lists the actions that must be implemented to address the E&S risks and impacts identified. These are in outline form only in some cases and the Contractor will be required to prepare a comprehensive Construction Environmental and Social Management Plan (CESMP) to take into account the EIA requirements, and any other requirements identified by EBRD. This will be reviewed and approved by the Supervising Engineer for the construction works.

Stakeholder Engagement

In accordance with the legislative requirements of the Republika Srpska, stakeholder engagement activities were organised during the development of the Project. Stakeholder engagement in Republika Srpska is mainly connected to the preparation of relevant planning documents, the expropriation process and the EIA / Environmental Permit process. Public consultations and engagement are led by the Competent Ministry and supported by local municipal authorities involved in a project.

The EIA was disclosed at a public hearing held in Doboj, in February 2010 (for Lot 3, containing the Project). Key comments included: concerns over the proximity of the new road to existing built up areas, effects on agricultural lands, and the need to protect water sources and water supply pipelines. As is customary, the Ministry of Physical Planning, Construction and Ecology instructed the EIA consultants to address the comments in the revised versions of the EIA. After the revised EIA was resubmitted, the Competent Ministry gave the positive decisions, approving the Project EIA in October 2011.

The engagement for the EIA followed a national process in line with EBRD standards. A Stakeholder Engagement Plan has been prepared to identify key stakeholders and define relevant procedures and future plans for engagement prior to and during construction. The SEP includes additional consultations with local communities with respect to land acquisition, construction management and road safety. Disclosure of the national 2011 EIAs, NTS, SEP, ESAPs and LARF is required. These will be uploaded to the RSM website (<http://www.autoputevirs.com>) and the EBRD website (<http://www.ebrd.com>). The River Bosna Biodiversity Screening Study will also be disclosed on these sites. The SEP includes appropriate methods of communication, some of which are targeted to assist the more vulnerable stakeholders participating in the process.

Engagement with local communities along the route specifically on the updated project schedule and infrastructure to retain access is also considered important. Consultations will clearly present where underpasses, junctions and local service roads are proposed so as to confirm the understanding and support of local communities on the access to be provided in the Project. Local access arrangements, including maintenance of

pedestrian routes, were subject to public review as part of the planning documentation Public Hearings where details about infrastructure, including local access arrangements, were presented.

River Bosna Biodiversity Screening Study

At the request of EBRD, a Biodiversity Screening Study was conducted on the Project area, to provide a better understanding of the potential Project related risks and impacts on biodiversity, and to ensure that the project will comply with EBRD's Performance Requirements, and with EU legislation on protecting biodiversity, such as the EU Habitats Directive. This involved biodiversity experts from RS, supported by an international team, making an additional survey of the Project area, with a view to identifying the presence of habitats or species which could be considered as significant from an EU perspective, and discussing the possible impacts with stakeholders. This study was conducted in May 2017, and it informed the discussion of risks and impacts outlined below. In summary, some areas of important habitat were identified, and the presence of some protected species was found in the area. However, with some minor adaptations to the Project plans, especially during construction, the risks to these protected biodiversity resources can be managed satisfactorily in compliance with the the EU requirements.

Land Acquisition & Resettlement Planning Process

Land will need to be acquired for the new road. Predominantly agricultural cultivated land will be affected. With careful route planning, impacts on buildings have been minimised. However, a few houses will be directly affected, some of which are abandoned. The majority of land is in private ownership.

The Constitution of Republika Srpska states that limitation or acquisition of ownership rights is possible only on the basis of the law and for fair compensation. The key legal instrument governing expropriation in RS is the *Law on Expropriation of RS* which regulates the conditions and procedure for expropriation of property for construction of facilities in public interest, compensation eligibility and amounts, grievances and disputes handling and other issues pertaining to the expropriation process.

Public interest has been declared for the Project and the land acquisition process is underway.

The State Attorney's office has overall responsibility for the land acquisition and resettlement planning, however RSM are required to submit the details of the land needed for the Project and to provide the funding for compensation payments. The local municipality also supports the process, largely through facilitation of engagement with local communities.

A Land Acquisition and Resettlement Framework has been developed for the Project and this will be updated to form the more detailed Land Acquisition and Resettlement Plan which will indicate which households and businesses that will be affected by physical and economic displacement (e.g. for the loss of agricultural land) and what compensation and assistance they will be entitled to receive. Currently, data collection activities, including the census of persons and land affected, valuation of land and assets and consultation activities, are ongoing to inform compensation arrangements and enable the preparation of the Land Acquisition and Resettlement Plan.

A grievance redress mechanism has been established for the land acquisition and resettlement process so that affected persons can raise issues and grievances. Details of this will be provided during the consultations in each of the local communities and the contact details contained in this NTS can be used to access the grievance redress mechanism.

7. SUMMARY OF BASELINE ENVIRONMENTAL & SOCIAL CONDITIONS

Environmental Baseline

General Setting: The proposed Motorway corridor sits in a wide alluvial floodplain formed by the lower stretch of the Bosna River which is bounded by a hilly upland covered by deciduous, broadleaved forestlands and pasturelands. The floodplain is flat, and the land through which the Motorway passes is mostly cultivated fields, with some strips of riparian vegetation along the river banks. The soils in the valley are typical for a lowland river basin. The predominant soil is a carbonate fluvial soil developed on recent gravel, sand or clay sediments. A number of linear villages have formed along the two main roads in the area: the M-17, which passes along the left

bank of the Bosna, and the R-465, which runs along the right bank. The landscape of the valley is partly affected by several gravel extraction facilities operating along the River banks.

Climate and Environmental Conditions: The area has a moderate continental climate characterised by very cold winters and hot summers. The average annual rainfall is about 900 mm, and is highest in late spring and early summer. Air quality in the area is generally good as there are no industrial facilities in the Project area. The roads and the use of wood and coal for heating, do give rise to some emissions. Similarly, noise and vibration levels are low. The area is prone to erosion from floods.

Geology and Water Resources: The Bosnia River floodplain is predominantly covered by Quaternary deposits consisting of river material up to 10 m in depth, which has been eroded and re-deposited over time. The surface layer consists mostly of silt, silty clay, and sand. Underneath is a thick Tertiary bedrock. The area is underlain by a shallow alluvial aquifer which is used for local water supply of the villages Rudanka, Grapska Gornja and Osječani. Several drilled and dug wells in villages are located within a radius of between 500m and 1,000 m of the proposed Motorway.

River Bosna: In the Project area, the proposed Motorway runs parallel to the River Bosna. The Bosna flows northwards to join the Sava River in Croatia. The average flow in the Project area is between 118m³/s and 161 m³/s. It is fed by several other small rivers in the area – including the Lukavica, Grapska, Lovnica, Dijelovaca River – as well as a number of smaller intermittent streams, some of which will be crossed by the Project. The Bosna and its tributaries are prone to flooding, with a major flood experienced in 2014, which significantly exceeded the flood levels experienced in recent memory.

The River is the main recipient of untreated industrial and municipal wastewater from the towns in its catchment, and its ecological status is categorised as the 3rd class (moderate status),⁴ with significant microbiological pollution measured recently at Rudanka station.

Flora and Fauna and Biodiversity: The Project area has been under anthropogenic influence for many years, and the predominant habitats are modified – the cultivated fields sown with crops. Secondary dry shrub vegetation has developed on grasslands as a result of land use changes, and some wetland habitats are present along the watercourse which contain willow, poplar, reed and swamp vegetation. The hilly upland is covered by broad-leaved oak and hornbeam forests. The muddy river banks may include some important natural habitat types, although this wasn't confirmed, and these will only be affected in isolated areas where the bridge works will be implemented. Several species which are of conservation concern were also found in the area, notably in the small streams leading to the Bosna River (e.g. beavers and otters). Steps will be taken to preserve these streams and these habitats and allow continued passage of animals through them. Some conservation significant birds were spotted in the area, although none were found to be nesting or roosting along the proposed road corridor, and are unlikely to be significantly affected by the Project. The Motorway was found to cut across a possible animal crossing point where the river lies close to natural wooded areas, so a large underpass will be installed to allow this crossing point to continue being used. Given the available data on the Bosna River ecological status, the fish fauna in the River is predominantly made up of species more tolerant of organic pollution. No formal fisheries are based in the area and any fishing is largely recreational.

Social Baseline

The social context of the area varies between the urbanised towns, to small villages and hamlets whose inhabitants work in farming.

Local Communities: According to the 2013 Census⁵, the total population in settlements through which the route will pass is 3,931. The settlements are predominantly linear, concentrated along the two regional roads (M-17 and R-465) and local roads. The project footprint runs through or near to the villages of Kostajnica, Grapska Gornja, Grapska Donja, and Bušletić. There is also a possibility that there could be effects related to construction in the nearby village of Rudanka, just beyond the southerly extent of the Project, though no expropriation is required in this village.

⁴ Decree on classification of waters and categorization of surface waters (O.G. of RS, No. 42/2001)

⁵ Census of population and households in 2013 – Institute for Statistics of Republika Srpska, 2014

All settlements in the Project area belong to the City of Doboj. Based on the Census of 2013 the population of the city was 68,514. The previous Census from 1991 recorded the population of 96,814. The area was affected by migration during the war in BiH (1992-1995). Doboj is a regional center with important road and railway connections. About 70% of the city territory is rural area abundant in cultivated lands and forest lands. The city is split into 75 community level settlements with their own elected local community councils.

Demographics: The ethnic majorities in the city of Doboj are Serbian (74.4%) and Bosnian (21.04%). The largest minority is Croatian (2.26%). Roma population is about 0.21% and the remaining 2.09% are other minorities. The population in the affected communities is evenly split between men (49%) and women (51%). The middle-aged population (35-55) is the most numerous (26.10%). Within the city of Doboj, the average life expectancy is 76.1 years for female and 70.5 for male. The key causes of mortality in 2015 were the following: cardiovascular diseases (48%), cancer (21%), gland diseases (5%), respiratory diseases (4%), and gastrointestinal diseases (3%)⁶.

Land Use: The land use in the Project area is predominantly agricultural, with open cultivated fields being one of the main features of the area through which the Project passes. Crops include corn, oat, barley, rye. Narrow dirt roads cross the cultivated fields, allowing access for farming. Farmland adjacent to the River is dominated by semi-natural vegetation, areas of shrub and sparse deciduous woodland. Smallholding land use is mainly present at the outer edges of the villages, along the boundaries of the Project area. The size of small holding plots is reported to be in the range 400 to 2,000m².

Local Livelihoods: According to the Strategy of the City of Doboj Development (2011-2020), the Project area is characterised by small-scale farming and vegetable gardens up to 0.5ha. Farming techniques are undeveloped resulting in low to moderate crop yields, with crops often used only for own purposes and cattle feeding. Livestock is limited with small average number of cattle per farm. Beekeeping is moderately developed and organised in cooperatives.

The annual average monthly net salary in 2016 in the city of Doboj was 838 BAM (429 EUR) which is at the same level as the national (Republika Srpska) average of 836 BAM (428 EUR)⁷. However, it should be noted that the annual survey on average salaries performed by the Institute of Statistics of RS does not cover individual farmers. Given the small scale farming and modest crop yields in the Project area it is reasonable to assume that average monthly income in the affected communities is lower than the average income for the city of Doboj.

Community Infrastructure: Government service, community facilities, such as schools and healthcare services are primarily available in Doboj. Water supply in villages is provided from local groundwater wells (drilled and dug). No sewer system is present in the area so the wastewater in villages is discharged either to private septic tanks or directly to local streams. The area is covered with electrical power infrastructure and telecommunications network. The primary form of transport is car.

Cultural Heritage: The Project EIA indicated there are no cultural heritage sites in the immediate Project area.

8. ENVIRONMENTAL & SOCIAL BENEFITS, IMPACTS & MITIGATION MEASURES

During the EIA, and the subsequent assessment process conducted by EBRD, the potential environmental and social benefits and adverse impacts were assessed. Assessment topics included: ambient air, water, noise and vibration, biodiversity & habitats; landscape; local communities, employment and livelihoods, access and severance, cultural heritage, community, health, safety and security (including road safety and emergency response) and labour and workforce issues.

The benefits of the Project are summarised below:

⁶ Analysis of population health in Republika Srpska in 2015 – Institute for Public Health of RS, 2016

⁷ Statistical Yearbook for 2016 – Institute for Statistics of Republika Srpska

- **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.
- **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 Bosnia & Herzegovina. 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.
- **Improved Level of Service 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.
- **Short-term Local Employment During Construction:** The Project will provide short-term opportunities for local employment during the construction period.

The potential adverse effects are summarised in the table below along with the proposed key mitigation measures and an assessment of the residual level of effects, assuming the mitigation measures are implemented:

Table 2 Summary of E&S Impacts and Mitigation Measures

Topic	Summary of Impacts	Summary of Key Mitigation/Management Measures	Residual Impact Significance
Environment			
Air Quality	<p>During Construction: Emissions of dust from working areas, access roads, stockpiles and during loading/unloading activities; emissions from batching plants; exhaust emissions from construction machinery; and emissions due to peaks in traffic movements, will result from the construction works.</p> <p>During operation: Emissions of particulates, exhaust gases and volatile organic compounds, including GHG emissions, will result from road traffic on the Motorway.</p>	<p>Good maintenance of plant to reduce unnecessary emissions, and to remove and replace any heavily polluting plant. Standard construction measures to reduce dust (wetting down dusty areas, covering vehicles, etc.).</p> <p>Air quality along the Motorway will be monitored.</p>	<p>During construction - Negative impacts of moderate significance reduced to low significance with effective contractor management.</p> <p>During operation - Negative impacts will be of low significance.</p>
Noise & Vibration	<p>During Construction: Noise will be generated by construction plant and activities, especially if blasting and rock breaking is required. (The Project EIA anticipates that some blasting may be required.)</p> <p>During Operation: Traffic noise levels will increase gradually over time with increased traffic flows, which will particularly affect communities close to the road.</p>	<p>Management controls typical for construction work include: restriction to daytime working hours and informing local communities on the construction schedule.</p> <p>Noise barriers will be erected where residential areas are identified as at risk from high noise levels, either in the EIA, or by the design or the contractor. Specific stretches needing noise barriers are listed in the EIA. Noise levels will be monitored during construction and road operation, at specific nearby settlements.</p>	<p>During construction - Negative impacts of low significance reduced further with effective contractor management.</p> <p>During operation - negative impacts of medium significance at specific locations will be reduced to low significance by noise barriers.</p>
Soil & Agricultural Land	<p>During Construction and Operation: Any spillages – e.g. of oil or fuel - during construction or operation of the road could cause contamination of the soil in the area, and affect the adjacent agricultural lands. There may also be a small effect from vehicle exhaust particulates which settle in the surrounding fields. Contaminated road runoff could also pollute the soil, if discharged untreated.</p> <p>As these risks will be mitigated, the risk of significant effects is low, and would likely be confined to the local area.</p>	<p>Various construction management control measures to reduce spillage will be addressed in Construction Environmental and Social Management Plan.</p> <p>Road run off will be sealed and treated in oil separators and sediment tanks before discharge.</p> <p>Emergency Response Plan.</p>	<p>Negative impacts of low significance reduced to not significant with contractor management controls.</p>
Water Resources	<p>During Construction: There is a risk to the River Bosna from increased sedimentation and pollution during construction works in the watercourses, particularly for bridge works. Any major spillages – e.g. of oil or fuel - during construction could also cause contamination of the river and groundwater in the area. The risk of significant effects is low, and any effects would likely be confined to the local area, except in the event of a major spill which carried downstream.</p> <p>During Operation: There is a risk of pollution to the River Bosna and the groundwater if contaminated road runoff were to enter the River, or in the result of a major oil or chemical spill close to one of the river crossings. The risk of significant effects is low, and any effects would likely be confined to the local</p>	<p>Various construction management control measures which place restrictions on the Contractor working in watercourses to reduce spillage, as outlined in the Watercourse Management Plan includes as part of the Construction Environmental and Social Management Plan.</p> <p>The design includes significant measures to protect water, including capture of all surface run off and diversion through settling ponds and grease traps before discharge, and prohibiting any discharge to the main river. There is also a comprehensive monitoring plan to pick up any contamination.</p>	<p>Negative impacts of medium significance reduced to low significance with contractor management controls.</p> <p>Negative impacts during operation are of low significance.</p>

Topic	Summary of Impacts	Summary of Key Mitigation/Management Measures	Residual Impact Significance
	area, except in the event of a major spill which carried downstream.	Emergency Response Plan.	
Biodiversity	<p>During Construction: Construction could impinge the flow and animal access along the small streams which drain into the River Bosna, which are used by some protected species such as otter and beaver, as well as a terrestrial crossing route used by mammals. Construction works could damage benthic habitats on the bed of the River Bosna and the natural muddy bankside vegetation along the river banks. The benthic habitat is not thought to be of significance, and the amount of natural riverside vegetation which will be damaged is very limited.</p> <p>During Operation: Wildlife movements between the forests and the river at Kostajnica could be cut off by the road, so a large culvert will be preserved under the road to allow animal crossing to be maintained. The habitats which have evolved in the tributaries leading to the River will be taken underneath the road in culverts so as to maintain their flow and allow animals to continue to use them to access the river. Flora near the road will see increased dust levels during operation, and nearby fauna will experience higher levels of noise, air pollution and light, which make reduce numbers in the area. Animal movements across the corridor will be severed, although no significant corridors have been identified, and some underpasses will be created. The significance of effects on flora and fauna during operation is low.</p>	<p>The Contractor must take steps to preserve the stream flows during construction.</p> <p>Contractor to include a method statement for working in watercourses as part of the Construction Environmental and Social Management Plan. Strict limits to amounts of natural vegetation to be cleared.</p> <p>A large, wide underpass will be provided at the known terrestrial animal crossing point. Culverts will be installed to carry stream flow under the road unimpinged, which will have ledges to allow otters and beavers to use them safely.</p> <p>A landscaping plan will ensure the affected areas are planted with indigenous vegetation. Measures to reduce effects on bird will include not planting trees on the road embankments.</p> <p>Monitoring of air quality and river water quality will be done during construction and operation.</p> <p>Emergency Response Plan.</p>	Negative impacts of medium significance reduced to low significance with effective contractor management, and implementation of the measures outlined.
Landscape	During Construction and Operation: The formation of the Motorway and bridges along the river valley will alter the landscape in this area, and the road embankments will be landscaped to minimise this. The elevated sections will create additional opportunities for road users to enjoy the views of the valley and surrounding land from a new perspective. The visual contact between the river and the nearby settlements will be disrupted by the road but will be compensated by landscaping of the river valley and rehabilitation of the areas with abandoned gravel extraction facilities.	Bridge design to take account of landscape context, and include landscape engineer as part of design team. Limit land clearance to areas where strictly necessary. Landscaping and planting for embankments, and rehabilitation of all construction areas, with input from horticultural experts, in accordance with the requirements stipulated in the EIA.	Negative impacts of medium significance further reduced to low significance after landscaping.
Utilities	During Construction: The scheme construction may interfere with existing utilities in the area, including electricity transmission and distribution lines and telecoms cables, as well as water supply pipelines and wastewater pipelines.	Consultations with utility stakeholders already held during the design process. Contractor to verify the presence and position of any suspected cables or pipes, with the local utility provider before construction.	Risks reduced to low significance .
Social			
Land Expropriation and Economic Displacement	<p>During Construction The Project will require land acquisition, predominantly of privately owned cultivated land. This will give rise to some economic displacement from the loss of cultivated lands, and the loss of a small number of houses.</p> <p>During Operation: There may be some effect on livelihoods for those who lose agricultural lands or dwellings close to the road.</p>	Application of the provisions of the Expropriation Law and EBRD's PR5, will ensure physical and economic resettlement are compensated for and local access is well maintained. The LARF for the Project will be further developed into the detailed Land Acquisition and Resettlement Plan based on ongoing surveys and engagement with affected people.	Negative risk of medium significance would reduce to not significant assuming implementation of all requirements of the Expropriation Law and EBRD PR5.

Topic	Summary of Impacts	Summary of Key Mitigation/Management Measures	Residual Impact Significance
Access & Severence	<p>During Construction: The construction of the Motorway will result in localised, temporary restrictions of access by communities to the fields.</p> <p>During Operation: Some stretches of the Motorway will cut across farmland, and access from houses to fields, and between different fields will be disrupted. The design has provided for several crossings under the Motorway to be created to ensure that sufficient access to fields is retained, and that journeys from one side of the Motorway to the other are not significantly longer than before.</p>	<p>A Traffic Management Plan, supported with effective consultations and engagement, to ensure that sufficient access to fields is retained at all times during construction.</p> <p>Underpasses, interchanges and local service roads arrangements have been provided for within the detailed design.</p>	<p>Negative risk of medium significance of a short-term nature would reduce to low significance with adequate management controls.</p> <p>Negative risk of low significance with the adopted design proposals.</p>
Road Traffic Accident Risk	<p>During Operation The potential for road traffic accidents will still exist on the Project road, despite the overall benefits the Project is likely to generate in this regard.</p>	<p>Road Safety Audit, and possible provision of fencing at specific locations.</p> <p>Road safety awareness raising initiatives to be undertaken in the local communities prior to the opening of the Motorway.</p>	<p>Negative impacts of medium significance of a short-term nature reduced to low significance.</p>
Community Health, Safety and Security (CHSS)	<p>During Construction The construction process may increase the risk of accidents to the public, largely through the movement of plant and machinery and the delivery of materials. There is also a risk of influx from workers from outside the area which may give rise to certain risks to the communities (although this is minor in this case). The public will be excluded from entering the works sites and the Contractor will need to implement measures for this.</p> <p>During Operation: The motorway passes through cultivated farmland and close to communities used to certain paths and access routes. There is a risk that people may initially try to cross the new road at some locations. A Road Safety Audit will be conducted, which will review whether fencing should be implemented to reduce these risks at these specific locations.</p>	<p>Contractor CESMP Plan. Good site management, security, health & safety measures, warning signs etc.</p> <p>Fencing and signage to discourage public from entering the works area. Appropriate siting of any Workforce Accommodation (if any) and good community engagement mechanisms along with a grievance process.</p> <p>Road Safety Audit, and possible provision of fencing at specific locations.</p> <p>Road safety awareness raising initiatives to be undertaken in the local communities prior to the opening of the Motorway.</p>	<p>Negative impacts of medium significance of a short-term nature reduced to low significance with contractor management controls.</p> <p>Negative risk of medium significance of a short-term nature would reduce to low significance with adequate management control</p>
Cultural Heritage	<p>During Construction: Risks to hitherto unknown cultural heritage sites from excavations along the road corridor.</p>	<p>Chance Finds Procedure.</p> <p>Coordination with local authorities and Institute for Cultural and Natural Heritage.</p>	<p>Risk is of low significance</p>
Labour & Workforce Issues	<p>During Construction: The works will give rise to occupational, health and safety risks to workers, including those related to working with plant and machinery, formation of asphalt, use of cement, working at height and working over water for the bridge sections.</p>	<p>Contractor's CESMP, including Health and Safety provisions, in accordance with the Employer's Requirements and the Law on Occupational Safety.</p> <p>Good workforce management, implementation & enforcement of code of conduct, provision of health surveillance & healthcare access for workers.</p> <p>Inclusion of EBRD requirements for labour and working conditions.</p>	<p>Negative impacts of medium significance of a short-term nature reduced to low significance with contractor management controls.</p>

9. ENVIRONMENTAL & SOCIAL MANAGEMENT & MONITORING

Environmental and Social Management

Measures to manage the environmental and social effects of the Project are included in the Ecological Permit issued by the Ministry of Physical and Spatial Planning following acceptance of the EIA, and in the Employer's Requirements, issued by RSM. These requirements will be included in the Tender Documents. Measures relating to public engagement are detailed in the Stakeholder Engagement Plan, and those remaining actions and commitments relating to the land acquisition will be detailed in a Land Acquisition and Resettlement Plan, which is being developed by RSM. The key elements of the required mitigation measures have been summarised in the table above, and the any steps which RSM must take are described in the Environmental and Social Action Plan.

The Contractor will then develop a Construction Environmental and Social Management Plan, to identify how the commitments will be addressed during Construction. This will draw together all the management requirements to minimise disturbance to environmental and social receptors during construction. An Operational Environmental and Social Management Plan (OESMP) will be produced, containing the mitigation and monitoring actions which need to be implemented during road operation. RSM will engage and Contractor to implement these on its behalf.

Environmental and Social Monitoring

The Ecological Permit contains a number of monitoring requirements. During both construction and operation, certain activities, indicators and environmental and social resources will be monitored. Monitoring during construction will include air, noise, water quality, soil quality, observations on the adjacent lands. Monitoring will also include temporary land take, and indicators of problems from influx of workforce into the area, and labour and working conditions including occupational health and safety. Operations phase monitoring will include levels of noise and air quality at representative road side receptors, water quality in the Bosna River, and the quality of road run off discharged from the oil separators. Observations on soil, flora and fauna will also be made.

Monitoring and management actions for the stakeholder engagement and the land & resettlement planning are proposed in the SEP and LARF (and subsequent LARP). There will also be an ongoing requirement for RSM and (during construction) the Contractor to monitor stakeholder, individuals and community grievances and take appropriate management action should trends be identified or key issues occur.

Monitoring reports will be produced by the Contractor during the construction work, which will be submitted to the Register of Polluters, and RSM. Operational monitoring reports will be submitted to the Register of Polluters and available for the State Inspector.

10. FURTHER INFORMATION & CONTACT DETAILS

Project preparation documents are available on the RSM website (<http://www.autoputevirs.com>) and the EBRD website (<http://www.ebrd.com>).

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