

NON TECHNICAL SUMMARY

BANJA LUKA TO DOBOJ MOTORWAY: SECTION 2: PRNJAVOR TO DOBOJ

June 2011

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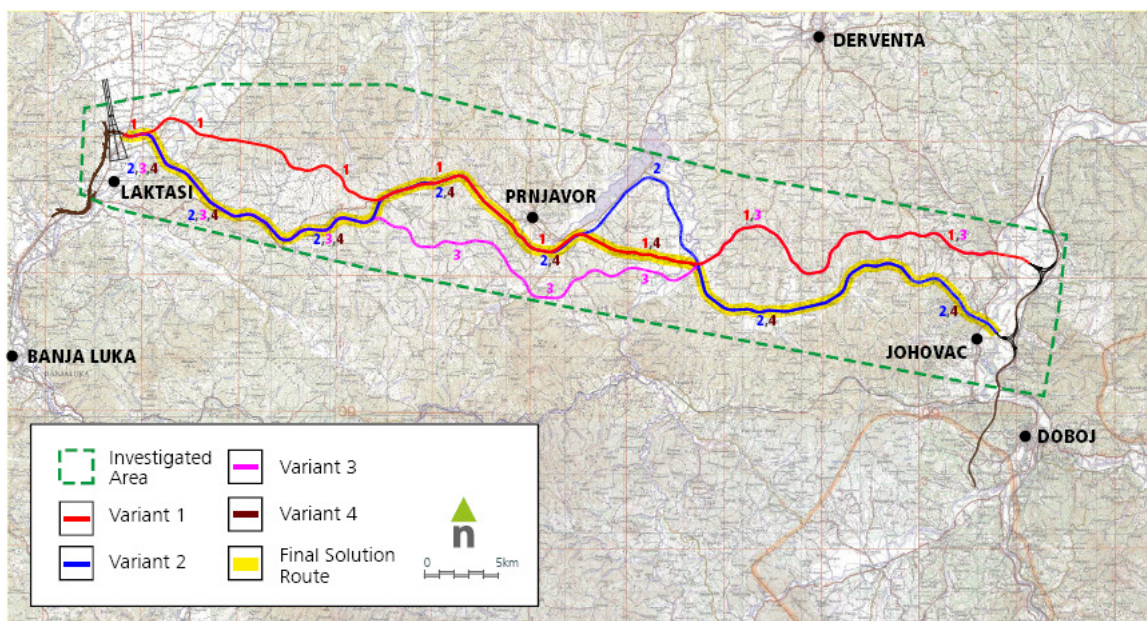


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1 INTRODUCTION

The proposed 71.91 km long Banja Luka to Doboj motorway will be the key regional link in Republika Srpska in Bosnia and Herzegovina. It will form the connection between the Gradiška to Banja Luka motorway (E-661) and the Corridor Vc motorway, running east to west between the Mahovljani junction near Banja Luka and the Johovac junction with the Corridor Vc motorway interchange near Doboj. The proposed Banja Luka to Doboj motorway has been divided into two sections either side of the interchange at Prnjavor which connects the motorway to the existing trunk road (M16-1) and local roads:

- Section 1: Banja Luka (Mahovljani Junction¹) to Prnjavor: 35.3km
- Section 2: Prnjavor to Doboj (Johovac Junction²): 36.61km

This Non-Technical Summary describes Section 2 and summarises the findings of the environmental and social investigations and activities during the Project's preparation. Full project preparation documents including an Environmental Impact Study (EIS)³ for the Banja Luka to Doboj motorway are included on the Republika of Srpska Motorways website (www.autoputevirs.com)

The European Bank of Reconstruction and Development (EBRD) is considering providing a sovereign loan to the public company Republika Srpska Motorway (RSM) to finance the construction of Section 2 of the Banja Luka to Doboj Motorway (otherwise known as 'the Project'). The Project has been screened as a Category A project under EBRD's Environmental & Social Policy 2008 (<http://www.ebrd.com/pages/research/publications/policies/environmental.shtml>), and has been assessed against the EBRD Performance Requirements (PRs) contained within the policy. From these investigations and building on the principles set out in the Environmental Impact Assessments (www.autoputevirs.com) a Non-Technical Summary (NTS; i.e. this document), Stakeholder Engagement Plan and Environmental & Social Action Plan (ESAP) have been prepared in-line with the PRs to address both the construction and operational phases of the project.

Given land acquisition has already occurred it has been determined that a Resettlement Action Plan (RAP) or Livelihood Restoration Framework (LRF) does not need to be prepared for the Project at this stage. However, there is a possibility that the final detailed development of the road footprint could result in minor additional land acquisition. Measures which will need to be followed in the event of minor additional land acquisition in-line with EBRD's Performance Requirement 5 (PR5⁴) will be listed in the ESAP. If additional land acquisition is of a larger scale or additional impacts on the use of land occur due to the implementation of certain measures a RAP or LRF will have to be developed.

2 PROJECT DESCRIPTION

2.1 BANJA LUKA TO DOBOJ MOTORWAY

The Banja Luka to Doboj motorway is located entirely within the Republika Srpska entity in the northern part of Bosnia and Herzegovina (see Figure 1) running between the Banja Luka to Gradiška (E-661) and the connection with the Corridor Vc near Doboj. The north-south E661 road corridor is one of the most important in Republika Srpska connecting Banja Luka with Corridor X to

¹ The Mahovljani junction is to be constructed under a separate contract.

² The Johovac junction will be constructed as part of the Corridor Vc.

³ Final Solution- Environmental Impact Study of highway Banja Luka – Doboj project from junction Mahovljani to the connection with the Vc corridor: January 2011

⁴ PR5: Land Acquisition, Involuntary Resettlement and Economic Displacement

the north in Croatia and the Adriatic Sea in the south. The Corridor Vc passes through Croatia and Hungary connects Bosnia and Herzegovina with Central and Northern Europe. The proposed Banja Luka to Doboj motorway will therefore connect these two important road corridors in Bosnia and Herzegovina. The motorway corridor passes through 4 municipalities: Laktaši, Prnjavor, Derventa and Doboj.

Figure 1: Location of Proposed Banja Luka to Doboj Motorway



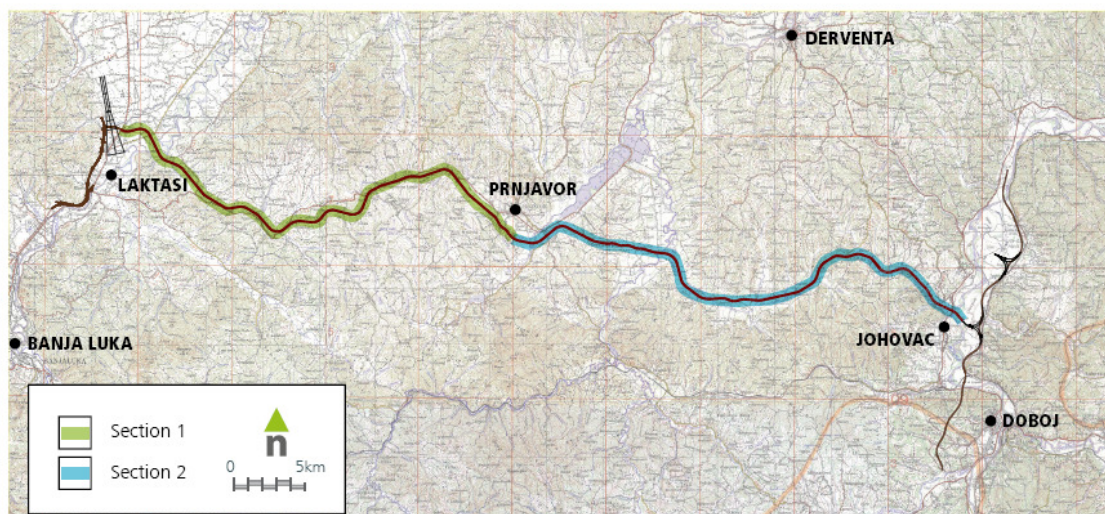
2.2 SECTION 2: PRNJAVOR TO DOBOJ MOTORWAY

The Project will comprise a new four lane (dual-2 lane) 36.61 km motorway running east-west between Prnjavor and Doboj (see Figure 2), forming the eastern section of the proposed 71.91 km long motorway connecting Banja Luka to the new Corridor Vc motorway near Doboj. The carriageways will typically be approximately 10.7 m consisting of 2 running lanes (each lane being 3.75 m wide), an emergency lane and edge markings. Along certain sections of the route additional 3.3 m wide lanes for slow vehicles will be provided. The carriageways will be separated by a central reserve, and have verges along the outside edges of the carriageways. The Project will include the provision of facilities to support the maintenance and management of the motorway; these facilities will include maintenance centres, traffic flow sensors, telecommunications equipment, signage and patrol vehicles. Provision will be made within the Project for motorway user facilities such as resting places, gas stations and parking areas. It is the intention that the motorway will be tolled and the tolling system is under development.

In addition to the design for the road being developed to Republika Srpska standards, the design includes the design recommendations for TEM network design (Trans European North-South

Motorway: TEM Standards and Recommended Practice, Third Edition February 2002⁵, as well as the agreement on European traffic corridors (UNESCO Road Transport Infrastructure: European Agreement on Main International Traffic Arteries (AGR), April 2002)⁶.

Figure 2: Banja Luka to Doboј Motorway: Section 1: Banja Luka to Prnjavor and Section 2 Prnjavor to Doboј Motorway



The corridor for the Project is located in two river basins; the Ukrina and Bosna and crosses a number of other minor watercourses. Runs through the municipalities of Prnjavor, Derвента and Doboј, passing Okolica, Prnjavor, Vučijak, Gornji Štrpci, Brestovo, Mitrovići, Cvrtkovci, Donji Cerani, Pojezna, Osinja, Crnča, Mala Sočanica, Mišinci, Foča, Prnjavor veliki, Prnjavor mali, Johovac, Kladari i Grapska donja; and in some places intersects settlements including at Bašići.

The topography along the route is relatively flat, comprising gently rolling hills, and will utilise a series of embankments and cuttings through the more hilly areas. Embankments will be used to cross the larger watercourses, with bridges typically used when the height of the embankments is greater than 5-6 m. In total the Project will have 24 bridges, with a 539.70 m long bridge over the River Bosna. Due to the need for a deep cut at Slatinci the Project will include a 180 m long cut and cover tunnel.

Borrow Pits will be required to provide materials for the construction these have been identified by the designers, including one located south-east of Prnjavor at Kremna. Further investigation will be undertaken with regard to other potential borrow pits to provide materials for construction, including at Hardovac-Sevarlije, Sajin Kamen and Karabegovac near Doboј. Waste dumps will be required during the construction of the motorway. It is the intention to utilise existing licensed sites and licensed waste carriers, however if necessary appropriate approvals will be sought from the Competent Authority to develop additional sites. Concrete and asphalt plants will be required to support the works and only facilities with the necessary approvals from the competent authority will be utilised. Where possible existing licensed sites and suppliers within the area will be utilised for the Project.

⁵ <http://live.unece.org/trans/main/tem/temstand.html>

⁶ <http://www.unece.org/leginstr/trans.htm>

3 BACKGROUND

3.1 RATIONALE FOR PROJECT

The objective of the Project is to provide this linkage and improve the traffic capacity of the network in the east-west corridor of Republika Srpska, thus also reducing the traffic volumes on the existing regional road network. The Project is essential for improving linkages between Bosnia and Herzegovina and the network of Pan-European corridors including Corridor Vc and Corridor X in Croatian via the Banja Luka to Gradiska motorway. Further specific objectives of the Project include:

- reduced travel time for passengers and freight;
- reduced transport costs;
- improvements in road safety ^{7 8} (including savings in road accident costs);
- reduction of negative environmental effects by diverting traffic from existing road network onto the new road;
- increased competition of local economies through improved access to other markets; and,
- increased investments in new projects and local economies.

3.2 PROJECT DEVELOPMENT AND PLANNING HISTORY

The need for a 'new motorway' in the northern part of Republika Srpska was identified in a number of studies, including a Transport Master Plan in 2001 for Bosnia and Herzegovina undertaken on behalf of the Japanese International Cooperation Agency⁹ and the Regional Balkans Infrastructure Study in 2003¹⁰. These studies demonstrate the important role a motorway from Banja Luka to Doboj could have in the reconstruction and future development of the country.

In 2005 the General Design¹¹ for the project was prepared with the purpose of defining and selecting the route corridor for the Banja Luka to Doboj Motorway, and it was developed on the basis of the previous research available including the BiHTMAP Transport Master Plan. The General Design comprised 5 Books, including the Route Alignment Design and the Stage I Environmental Impact Assessment (*Previous Evaluation of Environmental Impact see Section 4 & 5*). Whilst the Banja Luka to Doboj infrastructure corridor was not contained within the strategic planning documents in place at that time, the General Design was developed on the basis of the principles of the Spatial Plan of Republika Srpska (1995), the draft Spatial Plan of Republika Srpska (2004) and the Spatial Plan of Prnjavor.

The current Spatial Plan of Republika Srpska which runs to 2015¹² contains the traffic plans for the Banja Luka to Doboj motorway corridor along with other new strategic road improvements (see *Figure 3*). This Spatial Plan along with other transportation documents, such as the BiHTMAP Transport Master Plan (2001), consider the overall cumulative effects of the overall proposed road and transportation proposals in Bosnia and Herzegovina, including the Banja Luka to Doboj motorway corridor. Further the Spatial & Transport Study within the General Design for the Project (2005) and the Feasibility Study in 2009¹³ consider the cumulative effects of the motorway corridor

⁷ Current statistics on consequences of road accidents are available from the Republika Srpska Institute of Statistics (<http://www.rzs.rs.ba/PublikSaobracajENG.htm>).

⁸ Based on 'Feasibility Study of Banja Luka-Doboj Motorway; IPSA Institutu (2009)': In the relevant road network in 2008 there were approximately:

- 53 accidents with fatal consequences
- 159 accidents with severe injuries
- 342 accidents with minor injuries
- 1738 accidents with damage only

⁹ BiHTMAP The Study on the Transport Master Plan in Bosnia and Herzegovina, Pacific Consultants International 2001

¹⁰ REBIS- Regional Balkans Infrastructure Study, REBIS Transport Joint Venture 2003

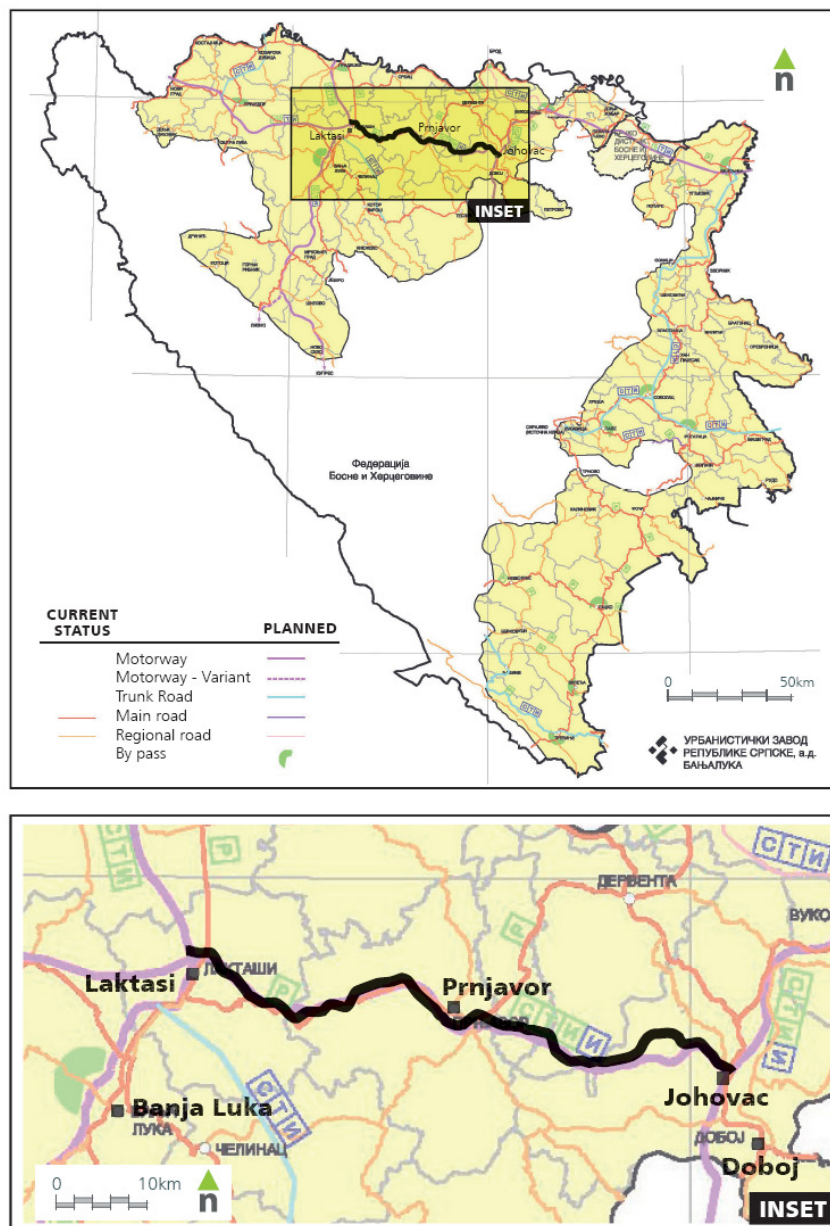
¹¹ General Design, Traffic Institute CIP, Belgrade 2005

¹² The Spatial Plan for Republika Srpska 1996-2015 Year; The Institute for Urbanism of Republika Srpska

¹³ Feasibility Study of Banja Luka-Doboj Motorway; IPSA Institutu (2009)

in relation to its part of a wider road network. The Feasibility Study of Banja Luka to Doboj motorway (2009) concluded that it was feasible from a socio-economic point of view for the motorway to be completed in two stages.

Figure 3: Traffic Plan showing Banja Luka to Doboj Motorway Corridor: (Partially extracted from Traffic Plan from Spatial Plan for Republika Srpska (1996-2015))



Source: ESDD team and partially based upon extract of Traffic Plan contained in the Spatial Plan for Republika Srpska 1996-2015 Year; The Institute for Urbanism of Republika Srpska

Based on the Spatial Plan of RS four Land-subdivision Plans¹⁴ for the municipalities of Laktasi, Prnjavor, Derventa and Doboj were prepared. These plans contain extracts of the Republika Srpska Spatial Plan showing the motorway corridor. These Land Sub-division plans were the basis for the

¹⁴ Land-Subdivision Plans were the plans required by the old Law of Physical Planning and Construction, under the new law Regulation Plans are prepared.

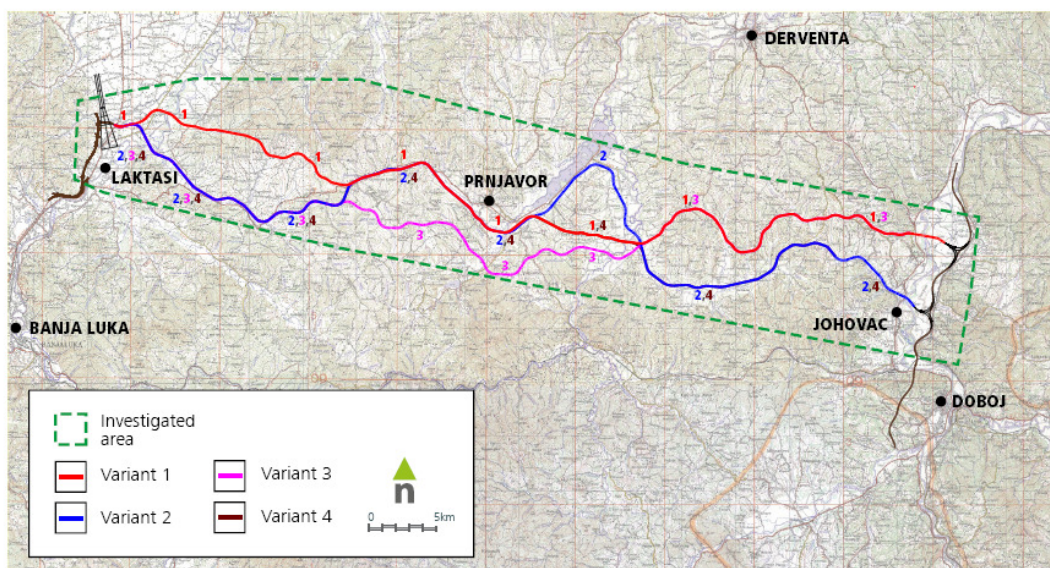
Urban Permit for the Project (issued on the 4th May 2010); a precondition for the Preliminary Design. The Preliminary Design (completed in 2010) for the Banja Luka to Doboj motorway was undertaken in order to optimise the design for the motorway.

3.3 ROUTE SELECTION AND CONSIDERATION OF ALTERNATIVES

The route selection and evaluation of alternatives, was done on the basis of the full motorway corridor between Banja Luka to Doboj. The assessment corridor within which the routes were developed was 10 km wide with a length of approximately 65 km, (see 'Investigated Area' shown on *Figure 4*). The analysis identified four route variants (*Figure 4*) which were each subject to a multi-criteria analysis in the General Design (2005)¹⁵, these were:

- Variant 1 (V1) : Northern Solution
- Variant 2 (V2) : Southern Solution
- Variant 3 (V3): Intersolution
- Variant 4 (V4): Combination of V1 & V2

Figure 4: Considered Route Variants: Banja Luka to Doboj motorway:



Source: ESDD Team based on background figures from: Book1: Vol.4: Evaluation & Selection of the Optimum Corridor: General Design, Traffic Institute CIP, Belgrade 2005

The multi-criteria analysis was based on the following objectives:

- Minimum construction impacts
- Minimum maintenance impacts
- Maximum profit for road users
- Maximum safety, security and comfort (which included as one of the criteria the Number of Accidents)
- Maximum positive impact on the (economic & social) development of the area
- Minimum regional environmental impacts

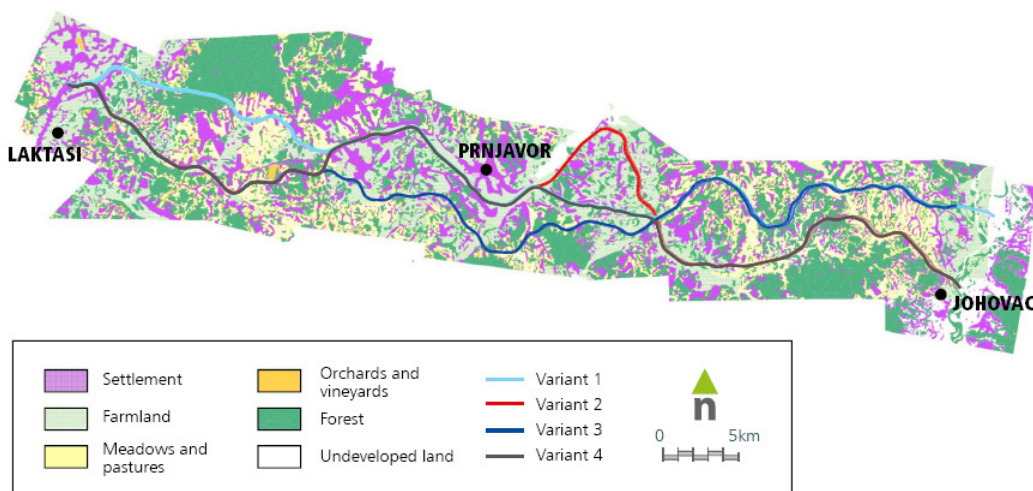
Weighting was applied to the objectives to reflect the route characteristics and location, and taking account of views of potential users of the new route. The views of potential users were gathered using a questionnaire to rank the objectives. This questionnaire was sent to:

¹⁵ General Design, Traffic Institute CIP, Belgrade 2005

- Public enterprise "Putevi Republike Srpske" Banja Luka: Republika Srpska Roads (RSR)¹⁶
- Municipality of Laktaši
- Secretariat for Urbanism Derventa
- Prnjavor municipality
- Doboј municipality

As part of the study land-use plans were developed (see *Figure 5*) and considered during the evaluation of the route alternatives.

Figure 5: Land-use Plans with Route Variants



Source: ESDD Team based on figure within Book1: Vol.4: Evaluation & Selection of the Optimum Corridor: General Design, Traffic Institute CIP, Belgrade 2005

The assessment of the route with the least environmental impact considered eight criteria as follows:

- Noise;
- Air Pollution;
- Water;
- Soil Contamination;
- Flora & Fauna;
- Preservation of Spatial Entities (including settlements);
- Land Occupancy; and,
- Severance.

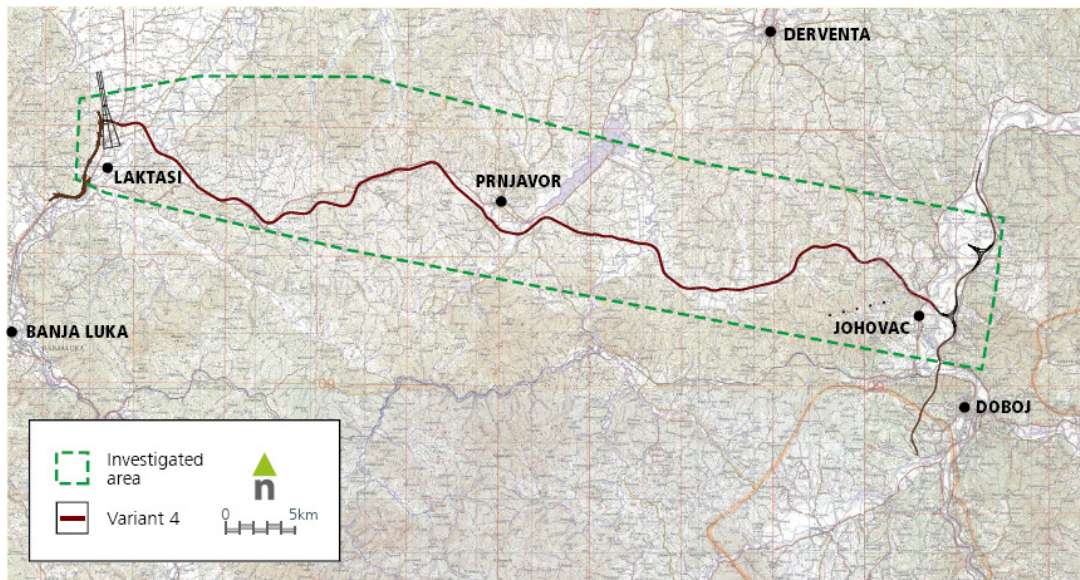
Based on this evaluation Route Variant 4 was identified as the favoured option with regard to environmental and social (spatial-urban) impacts.

From the overall multi-criteria analysis of the Route Variants, Variant 4 was identified and chosen as the optimum corridor to take forward (see *Figure 6*). While Route Variants 1 to 4 were considered in Stage 1 of the Environmental Impacts Assessment¹⁷, only Route Variant 4 was adopted and taken forward into the next stage of project preparation (Preliminary Design and Stage II: Environmental Impact Study).

¹⁶ RSR (Republic of Srpska Roads) was the company in charge for motorways in Republika Srpska before the RSM was established.

¹⁷ Book5: EIA: General Design, Traffic Institute CIP, Belgrade 2005

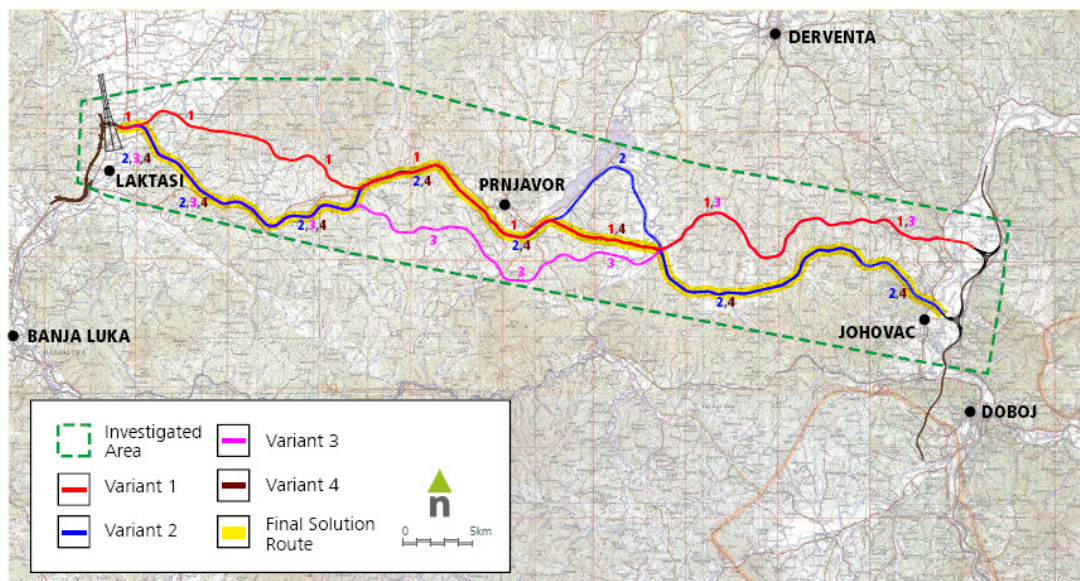
Figure 6: Adopted Variant: Variant 4



Source: ESDD team: based on figure contained within Book1: Vol.4: Evaluation & Selection of the Optimum Corridor: General Design, Traffic Institute CIP, Belgrade 2005

During the Preliminary Design, completed in 2010, the adopted route (Variant 4) was further refined into the Final Solution, (see Figure 7).

Figure 7: Final Solution



Source: ESDD team: based on figure contained within Book1: Vol.4: Evaluation & Selection of the Optimum Corridor: General Design, Traffic Institute CIP, Belgrade 2005

4 SUMMARY OF LEGAL CONTEXT

The Banja Luka to Doboj motorway proposal has progressed through a number of approval stages required within Republika Srpska. This section presents the environmental and social National Legal Framework relevant to the Project.

4.1 SUMMARY OF PERMITTING PROCESS

In Republika Srpska a road development requires a planning permit (also known as an 'Urban Permit'), and a Construction Permit (also known as a 'Building Permit'). The Urban Permit is issued on the basis of the Regulation Plan(s)¹⁸ for the municipalities. All projects which are determined to require an EIA must also have an Environmental Permit¹⁹. Construction Permits can only be issued if an approved EIS is lodged and an Environmental Permit is already issued.

4.2 ENVIRONMENTAL LEGAL FRAMEWORK

The current environmental legal framework within Republika Srpska contains overarching laws covering areas such as Environmental Protection, Nature Conservation, Air Protection, Waste and Water. These overarching laws have implementing decrees and regulations. The Law on Environmental Protection (O.G. RS 28/07, 41/08, 29/10) is aligned with the following European and international regulations and conventions:

- Aarhus Convention: Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters: UNECE: (Aarhus, Denmark 1998);
- Espoo Convention: Environmental Impact Assessment in a Transboundary Context: UNECE: (Espoo, Finland 1991);
- EIA Directive 85/337/EEC (amended by Directive 97/11/EC);
- IPPC Directive 96/61/EC (Integrated Pollution Prevention & Control (IPPC)); and,
- Seveso II Directive: 96/82/EC control of major-accidents.

4.2.1 EIA & Environmental Permit Process

The *Law of Environmental Protection of RS (Official .Gazette. (O.G.) RS No. 28/07, 41/08, 29/10)* sets out the procedure for Environmental Impact Assessments (EIAs) and related environmental approvals. In accordance with this Law, an EIA is undertaken in two stages:

- Stage I: Previous Evaluation of Environmental Impact (*sometimes referred to as the Preliminary EIA*)
- Stage II: Assessment of Environmental Impact (EIA) (*- stage at which the Environmental Impact Statement (EIS) is prepared*)

Between Stages I and II there is a screening decision and scoping process under the '*Decree on Projects for which Environmental Impact Assessment is carried out and EIA Screening and Scoping Criteria (O.G. RS 07/06)*'. The required content of this EIA is set out in the '*Instruction on Contents of Environmental Impact Assessment Study (O.G. RS 118/05)*'. The EIA and Environmental Permit process, including the **public disclosure and consultation** requirements in Republika Srpska are summarised below in *Table 1*:

Table 1: Republika Srpska EIA and Environmental Permit Process

	EIA Procedure	Notes
Stage I: Previous Evaluation of Environmental Impact		
1	Preliminary EIA	The preliminary EIA is prepared to inform the early stages of the design of a project (for example corridor and alternative route evaluation and selection). It is also used to inform the screening and scoping process under the Decree O.G. RS 07/06.
2	Screening & Scoping Decision	Under Decree O.G. RS 07/06 the Competent Ministry screens the Project to determine the obligation to undertake an impact assessment and the scope of that study. In the process of making the decision the opinion is sought of the following entities along with their opinion on the Preliminary EIA:

¹⁸ Previous known as 'Land Sub-division Plans'

¹⁹ Also termed as an 'Ecological Permit'

	EIA Procedure	Notes
		<ul style="list-style-type: none"> Ministry of Agriculture, Forest & Water Supply Ministry of Health and Social Care Institute for the Preservation of Cultural, Historical and Natural Heritage The Decision has to be disclosed on the Competent Ministry's or Government's website.
Stage II: Assessment of the Environmental Impact (EIA)		
3	Draft Environmental Impact Study (EIS)	Prepared by Developer and submitted to Competent Ministry.
4	Request for Opinions on the EIS	Competent Ministry must submit EIS to entities listed under Article 60 Law on Environmental Protection.
5	Public Announcement	Competent Ministry must inform public via a notice in the daily newspaper.
6	Public Hearings in All Related Municipalities	Public Hearings must be no later than 60 days from the application date. They may be attended by all interested parties, competent authorities, organisations, NGOs and others. After the Public Hearing the documents have to be available for review for another 30 days and subject to written comments from interested parties. The Developer/Project Manager must submit their preliminary expert opinions on the comments within 15 days. The Competent Ministry must then within 15 days provide their opinion and recommended amendments to the EIS.
7	Supplement to the EIS	The draft EIS then amended by the Developer.
8	Technical Review of EIS (Audit Report)	Competent Ministry arrange for technical review of amended EIA and prepare audit report.
9	Final Version of the EIS	Final version of the EIS is submitted to the Competent Ministry for approval.
10	Decision on the Approval of the EIS	Competent Ministry has to issue a decision on approval of the EIS within 60 days of submission of the final version. <i>(Note: it is not a legal requirement for the Decision on the Approval to be publicly disclosed.)</i>
Environmental Permit		
11	Request for Environmental Permit (i.e. Environmental Approval)	Under Article 80 Law on Environmental Protection an application must be made by the Developer for an Environmental Permit on basis of an approval EIS.
12	Public Announcement	The request for the Environmental Permit has to be announced in a daily newspaper in Republika Srpska and documents available for review for 30 days.
13	Environmental Permit	Competent Ministry must provide decision on Environmental Permit within 60 days.
14	Public Announcement	Public announcement on Environmental Permit.

4.2.2 Environmental Competent Authorities

The authority competent for environmental protection in the Republika Srpska is the Ministry of Physical Planning, Construction and Ecology (Competent Ministry).

Currently there is no Environmental Protection Agency with Republika Srpska; however there is an Environmental Protection Fund to ensure Government funds are available for environmental related project and activities. In Bosnia and Herzegovina there is an on-going process to establish the National Ministry for Environmental Protection and once agreed the State Environmental Protection Agency will be established.

4.2.3 Nature Conservation

Within the Competent Ministry currently there is a Department for Nature Protection, which is responsible for flora and fauna (nature conservation) and the declaration of protected nature conservation sites. In Republika Srpska currently there is the overarching Law on Nature Protection (113/08) which includes provision for implementing regulations on the establishment of NATURA

2000 sites²⁰ 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 the establishment of the Emerald Network²¹ between 2005 to 2008. and selected 29 proposed sites.

4.3 LAND ACQUISITION LEGAL FRAMEWORK

The Constitution of the Republika Srpska states that limitation or acquisition of ownership rights is possible only on the basis of the law and for fair compensation. The Republika Srpska Law on Property Relations (O.G. RS 38/03), states that all natural persons and legal entities can have property rights on movable and immovable property. Limitation or acquisition of ownership rights is possible only on the basis of the law and constitution.

The Republika Srpska Expropriation Law (O.G. of the SFRY 60/80 and 36/90, O.G. RS 112/06, 37/07, 110/08) focuses on properties and assets which may be expropriated and restrictions which may be placed on property rights (instigation of an easement, lease, temporary occupation of land) in the public interest and with fair compensation which cannot be lower than the market value. The main stages in the procedure are:

- The Republika Srpska Government decides on establishing public interest and owners and affected third parties are notified (through a public announcement) that the expropriation process has been initiated.
- Ownership or other formal legal rights on land and structures are recorded in the Cadastre and Land registries. All issues regarding property rights have to be resolved before the expropriation payment is made; in case of disputes, the affected parties turn to the court to decide who will receive compensation.
- Upon the establishment of public interest, an expropriation proposal is submitted to the relevant municipal property administration together with a set of accompanying documents.
- Owners of affected properties are individually notified about the submission of the expropriation proposal and invited to negotiate an amicable sale-purchase agreement. Valuations of properties are performed by court certified valuers beforehand 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 reach an agreement on compensation any time before the decision on expropriation is passed.
- If the documentation is in order a decision on expropriation is passed. A hearing must to be held by the municipal property administration to discuss and determine the level of compensation for each affected owner. In case an agreement on the level of compensation is not reached, the case is referred to the courts to decide. The expropriation beneficiary proceeds with the payment of compensation or provision of replacement properties.

The legal framework for land acquisition in Republika Srpska meets the main requirements contained in EBRD's PR 5. The main provisions within the legal framework relevant to this Project include:

- Negotiated settlements are explicitly encouraged by the law.
- All persons who have formal legal rights on land and structures, as registered by the Cadastre and/or Land registries, are entitled to compensation. In addition, owners of informal structures that could have been legalised at the time when they were constructed are entitled to cash compensation corresponding to the construction value of the structure.
- If it is determined that the expropriation of a part of the owner's property would result in the owner having no economic interest in using or not being able to use the remainder of the property, that remaining part of the property will also be expropriated, at their request.

²⁰ 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).

²¹ 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.

- The Expropriation law foresees cash or in kind compensation for land (including agricultural land, orchards and vineyards, crops, forest land and timber) and business structures or physical assets, for those who have formal legal rights. Those who have formal legal rights are also entitled to compensation for lost profit from the day they lose access to the expropriated property to the day they receive replacement property or cash compensation.
- The Land Acquisition Study has to be publicly disclosed for a period of at least 15 days, during which affected people are entitled to submit their comments and/or grievances.
- 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 etc.).

4.4 PUBLIC DISCLOSURE & CONSULTATION

In addition to the public disclosure and consultation requirements of the EIA process there are other relevant legal disclosure and consultation requirements. Ones relevant to the Project relate to the Spatial Plan and Municipal Land-subdivision Plans, further details can be found in the Stakeholder Engagement Plan.

5 EIA, STAKEHOLDER ENGAGEMENT & LAND ACQUISITION PROCESS

5.1 BANJA LUKA TO DOBOJ MOTORWAY EIA & PERMITS

The required EIA and Environmental Permit process summarised above in Republika Srpska has been followed for the overarching Banja Luka to Doboj motorway proposal which includes the Project (i.e. Section 2: Prnjavor to Doboj). The EIA approval process was completed in March 2011 and the Environmental Permitting process is currently underway; this is summarised in *Table 2* below:

Table 2: Environmental Permitting Process

EIA Procedure & Permits		Banja Luka to Doboj Motorway: Key Documents & Dates/Progress:
Stage I: Previous Evaluation of Environmental Impact		
1	Preliminary EIA	General Design: Book 5: Environmental Impact Assessment: Banja Luka to Doboj Motorway: CIP Institute, Belgrade 2005
2	Screening & Scoping Decision	Decision No. 15-96-307/10 of Ministry of Physical Planning, Construction and Ecology dated 2 March 2009: Determining liability to make that assessment of environmental impact for 'Construction of Banja :Luka to Doboj motorway' (contained with Annex 2 Final Solution: EIS January 2011) (Notes: <ul style="list-style-type: none"> • Opinions were sought and received from: Ministry of Agricultural, Forest and Water Supply, Ministry of Health and Social Care and Institute for the Preservation of Cultural, Historical and Natural Heritage. • This Decision was disclosed on RS Government website for 30 days.)
Urban Permit		
Urban Permit		Decision No. 15-364-691/09 of Ministry of Physical Planning, Construction & Ecology dated 4 May 2010: <i>refers to opinions of authorised bodies, institutions and companies.</i>
Stage II: Assessment of the Environmental Impact (EIA)		
3	Draft Environmental Impact Study (EIS)	Draft Environmental Impact Study for the project 'Construction of Banja Luka – Doboj motorway from the Mahovljani interchange to the connection with the motorway Corridor Vc.': 'Technical Environmental Institute', Banja Luka: submitted to Ministry of Physical Planning, Construction and Ecology in May 2010.
4	Request for Opinions on the EIS	11 June 2010 Ministry of Physical Planning, Construction and Ecology submitted draft EIS to statutory entities defined under RS Law of Environmental Protection and environment department of municipalities of Laktaši, Prnjavor, Derventa and Doboj ²² .

²² Referenced in Opinion of Ministry of Physical Planning, Construction & Ecology No. 15-96-135/10 dated: 29-10-2010 (contained within Annex 1 Final Solution EIS January 2011)

	EIA Procedure & Permits	Banja Luka to Doboj Motorway: Key Documents & Dates/Progress:
5	Public Announcement	14 July 2010 Public announcement on submission of EIS, time and venue of Public Hearings and location of where documents could be reviewed in daily newspaper 'Nezavisne novine' ²³
6	Public Hearings in All Related Municipalities	Public hearings were held in Municipalities ²⁴ : <ul style="list-style-type: none"> • Doboj 12 August 2010 • Derventa 12 August 2010 • Laktaši 16 August 2010 • Prnjavor 17 August 2010
7	Supplement to the EIS	Completed in December 2010
8	Technical Review of EIS (Audit Report)	Audit Report on Environmental Impact Study of the Banja Luka – Doboj Motorway Project, from Interchange Mahovljani to the connection with Motorway on Corridor Vc, made by Institute for construction ; IG Banja Luka, dated December 2010,
9	Final Version of the EIS	Environmental Impact Study of Highway Banja Luka – Doboj Project from the Mahovljani interchange to the connection with the Highway on Corridor Vc.: Final Solution: 'Technical Environmental Institute', Banja Luka: January 2011 (Submitted to Competent Ministry February 2011)
10	Decision on the Approval of the EIS	Decision No. 15-96-135/10 of the Ministry of Physical Planning, Construction and Ecology: 21 March 2011 (Note: this decision was not publicly disclosed as this is not required under national legislation.)
Environmental Permit		
11	Request for Environmental Permit (i.e. Environmental Approval)	Underway May 2011
12	Public Announcement	
13	Environmental Permit	
14	Public Announcement	

5.2 STAKEHOLDER ENGAGEMENT

Consultations in the planning process were carried out according to Republika Srpska legislation requirements. However, a Stakeholder Engagement Plan (SEP) will be developed in accordance with EBRD's Performance Requirement 10 (PR10) to ensure that all stakeholders have been identified, to disclose sufficient information about issues and impacts arising from the project, and to consult with stakeholders in a meaningful and culturally appropriate manner throughout project implementation. The SEP can be found on the Project website (www.autoputevirs.com).

5.2.1 Public Disclosure & Consultations of Draft EIS

A summary of the public disclosure and consultation on the draft EIS including an assessment of the comments received is contained within Annex 1 of the Final EIS report²⁵. Minutes of the public hearings are also attached to this Annex. A summary table of the Public Hearings is provided in Table 3 below:

Table 3: Summary of Public Meetings

Location	Public Hearing Date	Notes on received comments:	Summary of answers and accepted comments:
Laktaši	16.08.2010	,Number of participants: 23	All comments / questions were answered and the

²³ Referenced in Opinion of Ministry of Physical Planning, Construction & Ecology No. 15-96-135/10 dated: 29-10-2010 (contained within Annex 1 Final Solution EIS January 2011)

²⁴ Referenced in Opinion of Ministry of Physical Planning, Construction & Ecology No. 15-96-135/10 dated: 29-10-2010 (contained within Annex 1 Final Solution EIS January 2011)

²⁵ Environmental Impact Study of Highway Banja Luka – Doboj Project from the Mahovljani interchange to the connection with the Highway on Corridor Vc.: Final Solution: 'Technical Environmental Institute', Banja Luka: January 2011

		<p>During the public disclosure there were no written objections, except from the municipality of Laktaši.</p> <p>During public consultations most of the questions concerned issues related to dust and noise, the realignment of the existing main road, management of waste water, animal crossings, monitoring of the quality of air, water and noise.</p>	<p>following proposed measures accepted:</p> <ul style="list-style-type: none"> to align the general project design and the measures foreseen by the EIA regarding locations of purifiers and describe where the collector system will end. to consult Associations of Hunters to determine whether the two planned animal crossings are sufficient to measure air pollution at a location which is away from existing roads to obtain relevant baseline measurements to measure the quality of water in the locations where the road will pass to obtain relevant baseline measurements to include more detailed measures for protection of water
Prnjavor	17.08.2010	<p>Number of participants: 13</p> <p>During the public disclosure there were no written objections from the citizens of Prnjavor, only few clarifications from the municipality were asked regarding management of the river Lišnja and flood prevention.</p>	<p>All questions were answered and issues clarified including:</p> <ul style="list-style-type: none"> During the design of the project for regulating water flows, the main principle followed was to protect the motorway and at the same time reduce the possibility of impacting the natural balance of water flows. A significant number of bridges will be built with that purpose.
Derventa	12.08.2010	<p>Number of participants: 19</p> <p>There were no written objections during the public disclosure. During the public consultations only official representatives asked some questions mostly regarding noise and water management. A representative of the municipality Derventa suggested that the number of households involved in agriculture and the impacts on these households is described in the amended EIS including what the minimal distance is for orchards, setting up bee hives, etc.</p> <p>The representative of the Republic Administration for Surveying and Property Issues in Derventa mentioned that from the 13th km, the motorway is planned to pass through an area which is uninhabited because there are no returnees.</p> <p>The lack of citizens present at the meeting was explained by the fact that the motorway is planned to pass through uninhabited areas.</p>	<p>All comments / questions were answered and additional information provided, including:</p> <ul style="list-style-type: none"> RSM responded to a question regarding exposure to noise, saying that there are no houses within 50m of the proposed road footprint, that there will be noise barriers and that noise will be monitored. RSM also informed that there are 6 to 7 bridges planned in the territory of the municipality Derventa and that the basic principle was not to endanger the natural balance. In case it has to be done, the water flow will be redirected.
Doboj	12.08.2010	<p>Number of participants: 17</p> <p>There were no written objections during the public disclosure.</p> <p>During the public consultations the remark from the representative of the municipality of Doboj was that the social aspects have not been covered</p>	<p>All comments / questions were answered and additional information provided, including:</p> <ul style="list-style-type: none"> RSM responded to the comment about economic displacement saying that 76 parallel or replacement roads are planned to be constructed, wherever official roads exist. The response given regarding impacts related to the illumination of the motorway was that illuminated junctions will not be in inhabited areas.

		<p>sufficiently, mainly on the issue of planned underpasses and overpasses for agricultural machines, to prevent economic displacement. NGO TooPeer was interested in the illumination of motorway junctions, especially in inhabited areas.</p> <p>No information on the number of present citizens.</p>	
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5.2.2 Other Consultation & Stakeholder Engagement

During the preparation of the Project documentation and related strategic studies engagement activities with certain groups of stakeholders have been undertaken, a summary of certain key activities relevant to the Project are provided in the Stakeholder Engagement Plan (www.autoputevirs.com).including in relation to the following:

- Spatial Plan for Republika Srpska until 2015
- Land Sub-division Plans for 4 municipalities
- General Design (Traffic Institute CIP, Belgrade 2005)
- Land Acquisition Study
- Public Invitations relating to start of expropriation process.

5.3 LAND ACQUISITION

Approximately 600 Ha of land for the Banja Luka to Doboj motorway has been acquired based on Republika Srpska legislation.

Prior to the development of the Land-Sub-division Plans for the 4 municipalities a Land Acquisition Study was prepared based on the first expropriation line. This study was disclosed to the public in the 4 municipalities. Received comments on the study were provided in the preparation of the Land Sub-division Plans and the requirements for the Banja Luka to Doboj motorway.

The first step of the expropriation process was a public invitation in the newspaper and on local television in all 4 municipalities.

Negotiated settlements with individual owners were reached wherever possible. In cases when the owner could not be found, a representative was assigned, with power of attorney, usually a relative. This has been confirmed through interviews with affected households, during the verification visit.

Approximately 95% of the land has already been fully acquired, including 25 residential structures in the section Prnjavor to Doboj. The majority of people did not oppose expropriation and provided consent to the beneficiary of expropriation (municipality) to enter into possession of their properties. In cases when the affected owner was not satisfied with the level of compensation, they appealed to the courts to determine compensation.

A total of 45 cases remain to be fully resolved either through administrative or court procedures. The state has entered into possession of properties in 30 of those cases and has not yet entered into possession of properties in only 15 cases. An overview of outstanding land expropriation cases for the section Prnjavor to Doboj is summarised below:

Table 4: Outstanding Land Expropriation Cases

Municipality	Administrative procedure (Republic Administration for Surveying and Property Issues)		Court procedure	
	State entered into possession	State has not entered into possession	State entered into possession	State has not entered into possession

Prnjavor	6	15	14	0
Doboj	0	0	10	0
Derventa	Fully completed			

6 EXISTING ENVIRONMENTAL & SOCIAL SITUATION

The Banja Luka motorway of which the Project forms part of (i.e. Section 2 from Prnjavor to Doboj) runs between the Banja Luka to Gradiška (E-661) motorway, and the connection with the Corridor Vc near Doboj. The north-south E661 road corridor is one of the most important in Republika Srpska connecting Banja Luka with Corridor X to the north in Croatia and the Adriatic Sea in the south. The Corridor Vc passes through Croatia and Hungary connecting Bosnia and Herzegovina with Central and Northern Europe.

The current road network between Banja Luka to Doboj comprises of a number of local and trunk roads including the M16-1 trunk road (Banja Luka to Derventa), the R474 local road (Prnjavor to Radusa) and the M17-2 trunk road (Derventa to Doboj).

The Prnjavor to Doboj section of the Banja Luka to Doboj proposed corridor passes through the territory of three municipalities (Section 1 of the motorway corridor also passes through Laktaši):

- Prnjavor
- Derventa
- Doboj

The route corridor has no significant noise sources in the area with the main sources being from the existing traffic. Air pollution is an issue in some places along the existing road network but none are present along the planned corridor. The lack of sufficient capacity in the existing east west transport network is considered to result in high costs of vehicle operation, traffic time and freight, and also a high number of traffic accidents.

There is no recent official census and that, together with the fact that the population of certain municipalities is divided between the two entities – Republika Srpska and the Federation of Bosnia and Herzegovina (for example Doboj), result in unreliable population data. Estimates in the recent years suggest that Republika Srpska has approximately 1.5 million inhabitants. The area of Republika Srpska is generally characterized by low birth rate (negative trends were recorded in 2002 and 2003). Based on their size, role and functions, Banja Luka is considered a macro-regional centre, Doboj is considered a regional centre, while Laktaši and Prnjavor are municipal centres.

The population density areas of the route between Prnjavor to Doboj is low (much lower than in the area affected in the municipality of Laktaši), and rural in character, with agricultural buildings comprising residential structures and accompanying barns etc. (see *Figure 8*). In addition to agriculture land, the land-use comprises forests, some inhabited rural areas, a few urban areas (including around Prnjavor), meadows and pastures, vineyards and orchards. The areas of forest include areas of sessile oak and hornbeam forest, and hornbeam and common walnut forest.

Figure 8: View of Route west of River Bosna



Source: Aerial photograph provided by RSM; (Note: Route corridor defined by vehicle tracks)

The wider highway corridor is located within floodplains of the Rivers Vrbas, Ukrina and Bosna. Between Prnjavor to Doboj the Project will cross two major rivers, Ukrina and Bosna, along with another number of tributaries which run through the area. In addition to the surface water features there are groundwater resources within the locality including aquifers which in some areas, such as Prnjavor are used for water supply.

The area generally has a moderate continental climate. The terrain is relatively flat with gently rolling hillside between the floodplains except in the wider mountainous areas of Tutnjevaca (east of Laktaši) and Vučijak (east of Prnjavor). The corridor passes through the hunting grounds of Prnjavor, Motajica (Derвента) and Doboj which contain game including: deer, wild boar, pheasant and quail. Wolves are known to inhabit the wider area including the grey wolf.

Details of the existing environmental and social baseline are described in the Stage I and Stage II EIA documentation^{26 27}.

²⁶ Environmental Impact Study of Highway Banja Luka – Doboj Project from the Mahovljani interchange to the connection with the Highway on Corridor Vc.: Final Solution: 'Technical Environmental Institute', Banja Luka: January 2011

²⁷ General Design: Book 5: Environmental Impact Assessment: Banja Luka to Doboj Motorway: CIP Institute, Belgrade 2005

7 ENVIRONMENTAL & SOCIAL BENEFITS & ADVERSE IMPACTS & MITIGATION MEASURES

7.1 INTRODUCTION

Overall the assessments of the Project identified potentially significant impacts associated with the introduction of the road corridor between Banja Luka to Doboj though they go on to conclude that these impacts can be reduced to an acceptable limit with implementation of the prescribed mitigation measures and requirements.

The Environmental Impacts Assessments are based on :

- understanding of typical impacts arising from the construction and operation of new motorways;
- assessment methodologies specific to each environmental topic area; and
- conservative assumptions (i.e. the 'Precautionary' principle) in order to identify the Projects impacts and benefits, and develop mitigation and enhancement measures.

According to EBRD's Environmental & Social Policy 2008 the Project has been classified as a Category A project and therefore requires the development of an Environmental & Social Action Plan (ESAP) and Stakeholder Engagement Plan (SEP). Mitigation measures in the ESAP and SEP from the Project Preparation documents, such as the EIAs, have been supplemented in some instances with best practice environmental and social management measures to meet EBRD Policy. A summary of the key environmental and social impacts, benefits and mitigation measure is provided below based on the available Project Preparation documentation relating to the permitting, design, land acquisition and EIA process, the ESAP and SEP.

An Environmental and Social Management System will be established for the construction and operation of the Project. As part of the required Site Management Plan and Security Plan a Construction Environmental and Social Management Plan (CESMP) will be prepared for the Project for the construction period by the Contractor which will contain details regarding environmental protection and social management for the Project. A comprehensive mitigation plan will be developed and implemented by the Contractor as part of their Construction Environmental & Social Management Plan (CESMP).

Detailing of the environmental protection and social management measures is being undertaken during the on-going design and permitting process associated with the project, additional studies may be undertaken to support this process. Further additional studies deemed necessary to meet the requirements of the EIS approval, including the Expert Opinions of regulatory authorities, will be undertaken. For example, the Institute for Protection, Cultural Heritage of RS require a further study to be undertaken in relation to the effects on cultural and natural resources and further define protection measures.

The Project is for implementation of Section 2 between Prnjavor to Doboj of the Banja Luka to Doboj motorway. This implementation plan for construction of the Banja Luka to Doboj motorway in 2 main sections was not assessed in detail in the EIS. RSM in discussion with the Competent Ministry have determined this implementation plan is not a significant change to the EIS (under Article 57 of the Law on Environmental Protection). Further as part of the documentation requesting the environmental permit a review of the potential impacts identifying any required additional mitigation in the intervening period for implementation of the scheme in the 2 sections will be included. The obligation to undertake this review will be included within the ESAP and additional mitigation measures identified from this review will be included within subsequent updates to the ESAP.

7.2 SUMMARY OF ENVIRONMENTAL & SOCIAL IMPACTS, BENEFITS & MITIGATION

Topic	Impacts/Benefits	Mitigation Measures
Environment:		
Cultural, Archaeological and Natural Heritage	<ul style="list-style-type: none"> No cultural and historical monuments in road corridor or area of influence Possibility of chance archaeological finds during construction Benefits from development of tourism Potential pollution and/or degradation of sites of natural value (e.g. forest areas, orchards, agricultural land etc.) 	<ul style="list-style-type: none"> Detailed surveys of areas in order to inform a further study in relation to the effects on cultural and natural resources, and definition of protection measures (RS Institute for Protection of Cultural, Historical and Natural Heritage). Measures to prevent pollution or degradation of natural resources (e.g. forest areas, orchards, agricultural crops etc.). Archaeological & natural resources chance find procedures.
Landscape	<ul style="list-style-type: none"> Visual effects from excavations, embankments, borrow pits, waste dumps, buildings etc. Landscape effects from introduction of highways, changes in vegetation, site clearance etc. Effects on areas of landscape quality: arable land, orchards, forests etc. 	<ul style="list-style-type: none"> Landscaping Plan: including landscape design, proposed planting and horticultural solutions, specifications for materials etc. Limit site clearance. Sensitive design of bridges. Sensitive design of tunnel portals and use of local materials for finishing. Design of buildings, including building materials, to respect surrounding natural area. Sensitive use of earthworks solutions. Use of local stone for cladding tunnel portals and retaining walls. Protective forest belts. Maintenance of landscaping and planting during construction and operation.
Meteorology & Climate	No significant adverse effects on weather or the climate of the region and related natural systems are anticipated as a result of the project.	
Flora & Fauna	<ul style="list-style-type: none"> No proposed Emerald sites within route corridor or analysed area. Fragmentation of habitats and movements of fauna. Site clearance. Changes in water regime resulting in potential impacts on aquatic species and drying up of habitats. Impact of dust and emissions on flora. Destruction of habitats which support certain species (flora and fauna), may include hibernation sites, breeding sites and migration routes of animals. Disturbance to habitats due to construction including pollution. Traffic collisions with animals. Increased noise levels in habitats and hunting grounds. Impacts on fauna from air, soil, water and groundwater pollution resulting from operation of the road. 	<ul style="list-style-type: none"> Detailed surveys of areas in order to inform a further study in relation to the effects on cultural and natural resources, and definition of protection measures (RS Institute for Protection of Cultural, Historical and Natural Heritage). Detailed biodiversity (flora and fauna) mitigation plan will be developed on the basis of the detailed surveys and additional study, including but not limited to: <ul style="list-style-type: none"> Timing of site clearance/works to limit disturbance Fencing off sensitive habitats and restriction of workers accessing sensitive areas/areas of natural value (e.g. forests) Specific measures to protect fauna species identified Measures to prevent fragmentation of habitats and migration/movements of species Appropriate planting treatments Procedures to safely remove and prevent spreading of noxious and invasive plants

Topic	Impacts/Benefits	Mitigation Measures
	<ul style="list-style-type: none"> At time of the Environmental Impacts Assessments based on available data no habitats of rare or endangered species were identified and there no significant negative effects on such species were anticipated. (Additional surveys pre-construction will be undertaken and used to review potential for habitats to support rare and endangered species). 	<ul style="list-style-type: none"> Translocation of species (if required) Measures to protect rare or endangered species if identified during additional surveys Limit site clearance of vegetation, and the movement of transport/plant/machinery to within the approved site area. Plant & machinery to be in good working order and have lowest possible level of emission of exhaust fumes, noise and vibration. Plan suitable haulage routes away from sensitive receptors if possible and to limit damage to vegetation. Preventative measures during working over water and construction of bridges including: <ul style="list-style-type: none"> During working over water (e.g. construction of bridges over rivers) implement measures to minimise impact on flora and adapt construction and design solution for bridges to minimise them going into the rivers (e.g. minimise the number of piers). Measures to prevent unnecessary damage to bankside, in-stream flora and fauna and wetlands. Construction of a permanent fence to prevent animals accessing highway. Passages for animals to allow crossing of route. Pipe outlets of every 5-10km of highway. All underpasses of local and non-defined roads to be adapted to allow passage of wildlife. Additional measures will be incorporated if required.
Water Quality	<p><i>During construction:</i></p> <ul style="list-style-type: none"> Temporary and permanent contamination of surface and groundwater. Negative effects on water flows and quality from construction and associated facilities (e.g. worker accommodation). Risk of pollution from accidental spillages from transportation of fuels and other hazardous substances. Impacts from spreading and/or backfill of waterbeds of streams/rivers. Wastewater and waste discharge into watercourses and banks. Excavations cutting into aquifers and interrupting groundwater flows. Changes in hydrological regimes in wetlands and ponds. Siltation and increased turbidity of water including effects on aquatic species. 	<p><i>During construction:</i></p> <ul style="list-style-type: none"> Water supply and sanitation measures and systems for workers. Mitigation measures for working near or over water: including restricting maintenance of plant, use and store only clean materials in vicinity, Provide impermeable areas for maintenance and storage of plant and hazardous substances in appropriate locations. Compliance with wastewater discharge limit value from relevant regulations. Measures to prevent disturbing ground water flows and aquifer recharge. Storage and erosion protection on excavated materials. Measures to prevent materials being deposited on riverbeds or banks. Water management guidelines for site compounds, asphalt plants, borrow pits and other site facilities. Protection measures for banks of watercourses: minimise activities, avoid waste disposal near banks, limit removal of trees on banks; measures to prevent turbidity in river etc. Flood prevention & management.

Topic	Impacts/Benefits	Mitigation Measures
	<p><i>During operation:</i></p> <ul style="list-style-type: none"> Water pollution (for example due to: contaminated road run-off, dust, leaking fuels/oil/lubricants, from exhaust gases etc.). Implementation of new regulations on vehicle emissions including use of catalytic converters and use of unleaded fuel will significantly reduce potential pollution impacts on water, soil and air quality. 	<p><i>During operation:</i></p> <ul style="list-style-type: none"> Capacity of motorway drainage run-off system designed to ensure safe evacuation off storm water and in case of accidents. Pollution control measures for motorway wastewater including closed drainage systems, interceptor & retention systems, monitoring of treated wastewater before discharge. Wastewater treatment facility and collector tanks. Compliance with wastewater discharge limit values from relevant regulations. Road signage marking areas with sensitive water resources. Obtain required water management permits.
Land Quality (Soil)	<ul style="list-style-type: none"> Soil contamination and land degradation from construction. Land degradation resulting from: erosion from removal of vegetation and cuttings, run-off water and construction of site facilities; removal of fertile soil; use of borrow material for fill, use of landfill and land contamination. Soil pollution resulting from: polluted run-off; deposition of exhaust gases; waste and shedding of loads. Potential pollution of soil along road is of concern particularly at close distances to the road and will be relative to traffic loading. The Environmental Impact Assessments identified that Heavy Metals pollution along the road could be a potential significant impact resulting in limitations on the use of agricultural land immediately in the vicinity of the route. However this was partly based on the assumption that leaded fuel would continue to be used, as the use of leaded fuel is now banned in Republika Srpska it is now believed the original assessment of contamination of heavy metals is not realistic. The Developer (RSM) have requested in the application for the environmental permit that a new assessment be undertaken and measures of protection be based on it. The assessment will also consider potential likelihood of contamination from use of salt and organic pollutants arising from the works. 	<p>In addition to measures above to protect water quality:</p> <p><i>During Construction:</i></p> <ul style="list-style-type: none"> Waste Management Plan and Materials Management Plan to be established for the project by Contractor. Measures to protect areas sensitive to erosion. Measures to avoid over-compaction of soil. Rehabilitation Plan to be established and sites areas including temporary areas of land-use should be rehabilitated in-line with plan. Specific management and protection measures for all borrow pits and waste dumps to prevent degradation of soil, and for tunnel spoil. For activities related to the site but not covered by the Project which require conversion of agricultural land a new assessment or revised assessment of impacts must be undertaken. Careful removal, handling and storage of surface soil for use as fill material within the site. Measures for dealing with fertile soil. <p><i>During Operation:</i></p> <ul style="list-style-type: none"> Planting and landscaping to prevent erosion in sensitive areas. Operation Plan for winter maintenance procedures. Measures to prohibit production of vegetables and medicinal herbs due to potential impact on surrounding agricultural land due to contamination from operation of the road. This measure is being reviewed by the Developer who proposes to undertake an updated assessment in this regard during the permitting in order to determine detailed mitigation. Replace use of other substances than salt in winter road maintenance if possible.
Noise & Vibration	<ul style="list-style-type: none"> Where traffic levels are reduced on existing roads due to the new road there 	<p><i>During Construction:</i></p>

Topic	Impacts/Benefits	Mitigation Measures
	<p>may be improvements in the current noise environment in these areas.</p> <ul style="list-style-type: none"> The road between Prnjavor to Doboj will pass through mainly rural areas, however the route will encroach upon a few settlements resulting in negative impacts on the noise environment, particularly at locations where existing routes and the new motorway intersect. During construction the impact of noise shall not exceed the permissible limits of daytime and night time noise levels. During operation excess noise levels are estimated during the daytime and night time in the vicinity of the route. Noise protection measures may be required at locations where the route passes close to residential settlements. Overall allowable frequent levels of vibration at residential properties are not predicted to be exceeded, there may be potentially isolated cases of short-term vibration levels above permitted levels. 	<ul style="list-style-type: none"> Construction work to be planned and undertaken in-line with relevant regulations and standards. Noise protection measures during construction including restricting working hours and using of machinery during night-time, and use of protective equipment by workers. Construction equipment must adhere to European requirements regarding noise emissions and vibration. <p><i>During Operation:</i></p> <ul style="list-style-type: none"> Noise protection measures including the construction of noise barriers. A noise mitigation plan has been developed as part of the Preliminary Design. Maintenance of noise barriers. Broadleaf planting along the highway at possible locations. Monitoring of noise along the route and provision of additional noise protection measures if noise levels above permissible levels.
Air Quality	<ul style="list-style-type: none"> Where traffic levels are reduced on existing roads due to the new road there may be improvements in the current air quality in these areas. Where the new road encroaches on settlements there may be localised negative effects on air quality, particularly in the vicinity of the new route. However due to modernisation of the vehicle fleet and the significant reduction in exhaust gases (including the phasing out on the use of leaded fuels in RS), regardless of the increase of traffic along this new route a reduction in air pollution levels can be expected over time. 	<p><i>During Construction:</i></p> <ul style="list-style-type: none"> Construction equipment must adhere to European requirements regarding emissions. All plant will be in good working order and regularly maintained. Dust management measures including <ul style="list-style-type: none"> damping down of earthworks in dry conditions damping down of materials for transport maintenance and damping down of access roads Special conditions will be applied to limit effects on air quality during demolition. <p><i>During Operation:</i></p> <ul style="list-style-type: none"> If monitoring indicates that limit values for air are exceeded the following measures shall be implemented: air pollution barriers (either artificial and/or broadleaf planting).
Construction Materials (Including Asphalt & Concrete Batching)	<ul style="list-style-type: none"> The Project will require significant quantities of materials including concrete, fuels, stone material etc. Asphalt product can result in a number of adverse impacts including dust, emissions, noise, odour and waste. Concrete batching plants can result in a number of adverse impacts if not managed correctly including dust, contaminated aggressive wastewater emissions, noise and waste. 	<ul style="list-style-type: none"> Use of materials is a generic issue for all road construction projects and can be effectively managed to a degree by the introduction of good management practices which will be covered within the CEMP. Specific further measures will be proposed within the ESAP. Detailed plans will be developed for the use of borrow pits and transport between the site and them. Any additional approvals for borrow pits outside of current Project assessments and new borrow pits will be subject to approval of required permits. Existing licensed asphalt and concrete production plants and suppliers will be used if possible and any new facilities will be subject to approval of required permits. Environmental controls and performance will be considered when selecting asphalt suppliers and appropriate environmental management plans

Topic	Impacts/Benefits	Mitigation Measures
		will be required to be established in-line with overarching site CEMP.
Waste	<ul style="list-style-type: none"> The Project will generate significant quantities of construction waste. 	<ul style="list-style-type: none"> All construction waste will be collected and deposited in appropriate locations before removal from site. Waste Management Plan will be developed and implemented in accordance with Law on Waste Management. At construction sites closed containers will be provided for collection of solid waste. Petroleum waste products will be stored and collected in dedicated secure areas with disposal by licensed waster operators. Authorised waste operators will be used. Measures to prevent uncontrolled dumping of waste.
Hazardous Materials	<ul style="list-style-type: none"> Hazardous materials will be used during the construction and operation of the motorway, including fuel, asphalt additives, paint etc. 	<ul style="list-style-type: none"> Management of hazardous materials is a generic issue for all road construction projects and can be effectively managed to a degree by the introduction of good management practices which will be covered within the CEMP. Specific further measures will be proposed within the ESAP. During construction and operation a Hazardous Materials Management Plan will need to be developed and implemented, this should cover any use of hazardous materials for winter maintenance, and form part of the overall Materials Management Plan for the site. Emergency response measures to deal with spillages/releases of hazardous substances.
Emergency Response	<ul style="list-style-type: none"> Environmental accidents associated with both motorway construction and operation might include accidents resulting in the loss of fuels and other hazardous materials resulting in pollution of surrounding area, fire and risks to human health. 	<ul style="list-style-type: none"> Emergency plans to deal with various accident situations Management plan during construction containing protective and response measures to deal with releases of hazardous substances, including fuels. The plan will cover: <ul style="list-style-type: none"> Procedures for dealing with spillages/releases of hazardous substances. Training of personnel Reporting procedures to authorities and protocol for informing public to avoid risks to health & safety. Materials & equipment to deal with spillages: e.g. absorbent pads, pumps, spill kits etc. Assessment of potential locations for high risk for spillages/leakages to occur : e.g. fuel storage areas Procedures for safe removal and disposal of contaminated materials. Transport of toxic materials. Protective measures during operation of the motorway in case of spillage of oil and petroleum products from tankers, and in the instance of burning of oil and petroleum products.

Topic	Impacts/Benefits	Mitigation Measures																		
Decommissioning of Construction Sites	<ul style="list-style-type: none"> There is no predicted end life for the motorway and therefore decommissioning will be limited to closure and reinstatement of temporary site areas (e.g. construction camps etc.). 	<ul style="list-style-type: none"> The Contractor will be required to reinstate the land to its original conditions once construction works have been completed. All debris and materials arising from the decommissioning of the temporary sites will be disposed of in an environmentally friendly manner. 																		
Social:																				
Land-Use (including Socio-Economic)	<ul style="list-style-type: none"> Acquisition and destruction of residential structures (physical displacement). Loss of land or access to land (construction land, agriculture land, forests, meadows and pastures, vineyards and orchards) – economic displacement. Inability to restore livelihoods and standards of living, particularly for vulnerable groups (elderly, poor, landless people, small business owners, single mothers, etc.). Improved access to employment, markets and creation of business opportunities (e.g. petrol stations, hotels, restaurants, repair shops, agriculture and/or tourism related activities, etc.). Reduced economic activity on surrounding roads, as a result of reduced traffic. Expropriation of different type of land-use (for Banka Luka to Doboj): <table> <tr> <th>Land-use</th><th>Unit</th><th>Banja Luka to Doboj *</th></tr> <tr> <td>Arable land</td><td>Ha</td><td>160</td></tr> <tr> <td>Forests</td><td>Ha</td><td>79</td></tr> <tr> <td>Urban areas</td><td>Ha</td><td>59</td></tr> <tr> <td>Meadows & pastures</td><td>Ha</td><td>68</td></tr> <tr> <td>Orchards & vineyards</td><td>Ha</td><td>32</td></tr> </table> <p>* Excludes additional acquisition from partially affected properties.</p>	Land-use	Unit	Banja Luka to Doboj *	Arable land	Ha	160	Forests	Ha	79	Urban areas	Ha	59	Meadows & pastures	Ha	68	Orchards & vineyards	Ha	32	<ul style="list-style-type: none"> Develop a list of affected people (categorised by the type of impact they are experiencing), list of entitlements and types of assistance for each category, develop a plan for implementation, monitoring and improvements in living standard. Provide specific assistance for vulnerable groups. Provide fair compensation for land, access to land, houses and businesses. Restoration of all roads destroyed by construction, to prevent economic displacement and loss of livelihoods. Construction of underpasses and overpasses to prevent economic displacement (access to land). Regularly inform and consult all affected people / communities on impacts and mitigation measures. Process all land acquisition data and prepare and disclose a final report presenting i.e. exactly how much land was acquired for the section Prnjavor to Doboj, which type of land, how many households were resettled, how many negotiated settlements were reached, etc,
Land-use	Unit	Banja Luka to Doboj *																		
Arable land	Ha	160																		
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Orchards & vineyards	Ha	32																		
Population Health	<ul style="list-style-type: none"> Stress and depression caused by involuntary resettlement and inability to restore livelihoods and standards of living after land acquisition. Contamination of soil, surface and underground water and air can have an impact on the health of the population living in the vicinity of the project. Increased noise levels, during construction and operation can influence the quality of life of the population and can cause certain medical conditions. During construction, possible loss of access to water (small underground wells). Reduced noise and pollution on surrounding roads, as a result of reduced traffic and improved standard of living. 	<ul style="list-style-type: none"> Regularly inform and consult all affected people / communities on impacts and mitigation measures, as well as progress of the project, to reduce tensions and stress. All construction related activities must be organised in a way to preserve community health and safety (e.g. waste management, prevention of oil/fuel spills and water contamination, etc.). Organise construction during certain times of day, as prescribed by local legislation, to minimise impacts associated with noise. Install noise barriers along the motorway to mitigate noise in the operation phase. Ensure that people do not lose access to electricity and water. 																		

Topic	Impacts/Benefits	Mitigation Measures
Community	<ul style="list-style-type: none"> Improved communication and access to economic and cultural centres, reduced travel time and consumption of fuel, improved road safety. Reduced migration of the population to large urban centres, economic growth of towns/villages along the motorway, decentralization. Increase in values of properties along the motorway. Reduced potential for tourism, as a result of change in natural and cultural environment. Uncontrolled development along the motorway disrupting existing community environment . Physical separation of communities, leading to loss of social cohesion. 	<ul style="list-style-type: none"> Prevention of informal construction along the motorway in a timely manner. Construction of underpasses and overpasses to prevent separation of communities. Enhance employment / business opportunities.
Road Safety	<ul style="list-style-type: none"> Reduction in traffic accidents and their costs. It is expected that by the construction of new roads in the Republika Srpska, primarily Banja Luka – Doboj motorway, the number and severity of traffic accidents will be reduced, and total traffic safety on roads of the Republika Srpska increased. The new motorway will divert traffic away from less suitable local road network resulting in potential improvements in road safety. 	<ul style="list-style-type: none"> Road will be designed in accordance with Republika Srpska and EU standards (e.g. Trans European North-South Motorway²⁸) and where appropriate to the standards outlined in the IFC Guidelines on Toll Roads. Road Safety Audit will be carried out of the design (in-line with EU Directive 2008/96/EC).
Public Infrastructure	<ul style="list-style-type: none"> No significant effects on telecommunication facilities, water supply and sewers anticipated. Route crosses local roads and junctions are provided to local road network at specific locations. Route crosses access routes to land. Use of local road for access during construction. 	<ul style="list-style-type: none"> Maintenance and reconstruction of local roads use for highway construction. Provision of alternative routes to access agricultural plots, buildings and residential properties during construction and provision as necessary within design of road. Implement required measures to ensure continuity of electricity supply to local communities/ businesses etc. Implement measures where a collision with local water supply is anticipated to ensure uninterrupted supply during construction.
Influx of Workers	<ul style="list-style-type: none"> Short term influx of workers can result in: <ul style="list-style-type: none"> additional strain on existing services and infrastructure demands for goods and services community health issues community tension between residents and workers. 	<ul style="list-style-type: none"> Personal Protective Equipment for workers. Preventative health examinations. As contracts have yet to be defined details of workforce and accommodation of non-local workforce are not defined. However Contractors will be encouraged to utilise local skills and labour for the project along with the use of local suppliers. Further measures will include: <ul style="list-style-type: none"> Code of Conduct for workers setting out expectation for behaviour and integration in the local communities. Accommodation needs will be assessed and any required worker camps will be developed in-line with international good practice.²⁹

²⁸ : TEM Standards and Recommended Practice, Third Edition February 2002, as well as the agreement on European traffic corridors (UNESC Road Transport Infrastructure: European Agreement on Main International Traffic Arteries (AGR), April 2002)

Topic	Impacts/Benefits	Mitigation Measures
		<ul style="list-style-type: none"> Grievance procedure for workers and community
Local Disturbance/ Nuisance	<ul style="list-style-type: none"> Construction of new roads can result in local disturbance and nuisance issues which can include: <ul style="list-style-type: none"> Temporary road congestion due to slow moving plant Access restrictions and diversions Dust and noise issues Visual impacts 	<ul style="list-style-type: none"> Construction work will be managed to comply with all regulations of environmental protection and working environment Contractor must prevent damage to local access roads and any damage which occurs as a result of the works must be repaired. Mechanisms with the Stakeholder Engagement Plan to ensure communication routes with community are available and grievance procedure to address complaints.
Other:		
Cumulative Effects	<p>The EIA process requires consideration of cumulative impacts covering consideration of effect of Project with other known or reasonably anticipated projects in close proximity,</p> <p>There are a number of on-going and anticipated projects in the region, including works along Corridor Vc, the remaining section of the Banja Luka to Doboj motorway (Section 1: Banja Luka to Prnjavor) and the Mahovljani junction. The Spatial Plan of RS till 2015 along with other transportation documents which assess the Project, such as the BiTMAP Transport Master Plan (2001), consider the overall cumulative effects of the overall proposed road and transportation proposals in Bosnia and Herzegovina, including the Banja Luka to Doboj motorway corridor. Further the Spatial & Transport Study within the General Design for the Project (2005) and the Feasibility Study in 2009³⁰ consider the cumulative effects of the motorway corridor in relation to its part of a wider road network. The implementation of the Banja to Luka motorway will provide benefits in relation to the overall road network in Bosnia and Herzegovina, particularly the east west connection providing linkage between two Pan-European corridors, Corridor X and Vc. These supporting studies demonstrate the important role the Banja Luka to Doboj motorway could have in reconstruction and future development of the country.</p>	
Unexploded Ordnance	<p>Any ordnance uncovered during the works will be dealt with by the relevant RS authority. Procedures will be established during construction for chance finds of unexploded ordnance. In the discovery of chance finds of unexploded ordnance the Contractor will immediately inform the authorised officials (e.g. police or municipal civil protection department), visibly mark and secure area until authorised officials arrive.</p>	
Trans-boundary Impacts and Impacts on other B&H Entities.	<p>No negative environmental impacts on other states and entities (e.g. trans-boundary) are anticipated to arise from the construction of the Banja Luka to Doboj motorway, and specifically the section between Prnjavor to Doboj. RSM will cooperate with the BiH Ministry of Finance and Treasury in relation to the Project, in accordance with local regulatory requirements, which will also be reflected in the Stakeholder Engagement Plan.</p>	

²⁹ Including: 'Workers' accommodation processes and standards: A guidance note by IFC and EBRD': IFC EBRD August 2009: [http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/p_WorkersAccommodation/\\$FILE/workers_accomodation.pdf](http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/p_WorkersAccommodation/$FILE/workers_accomodation.pdf)

³⁰ Feasibility Study of Banja Luka-Doboj Motorway; IPSA Institu (2009)

8 MONITORING OF IMPACTS

Detailed within the EIS are the requirements for monitoring of the construction and operation of the Project. A Monitoring Plan will be developed which will set out the framework and details of the monitoring. Parameters which will be monitored during the works include:

During construction:

- Procurement of Materials
- Transport of Materials
- Monitoring on site during construction:
 - Noise & Vibration Levels
 - Air Quality
 - Wastewater & Water
 - Soil Quality
 - Flora & Fauna including the destruction of crops, tree & meadows etc.
 - Cultural-historical monuments

During operation:

- Wastewater & Water
- Air Quality
- Noise & Vibration Levels
- Soil Quality
- Flora & Fauna (including effects on hunting)
- Effects on Population

The ESAP will set out additional monitoring requirements, particularly in relation to social monitoring requirements.

The monitoring results will be used to ensure compliance with appropriate standards and will be the basis for to identify any additional environmental protective or corrective mitigation measures.

Monitoring is undertaken being an authorised company engaged by the Contractor and monitored by the Supervisor of the site. The State Ecological inspector is entitled at any time to review monitoring results. As the Competent Authority the Ministry of Physical Planning, Construction and Ecology perform an audit of the environmental permit every 5 years to renew the permit. If required at this point the permit requirements can be revised.

9 CONTRACTOR MANAGEMENT

The actual construction work will be undertaken by a road construction contractor to be appointed by Public Company Republika Srpska Motorways (RSM). Under EBRD procurement policies engaging contractors in public sector projects requires Conditions of Contract to be used which meet their Performance Requirement 2 on Labour and Working Conditions. Whilst the contracting method for the construction of the road is still to be determined it will be required to meet EBRDs procurement policies.

The conditions will also require the works to be carried out in accordance with Republika Srpska laws, including Labour Laws³¹ and Health & Safety Laws³². Further as Bosnia and Herzegovina have ratified the International Labour Organisations (ILO) conventions the Contractor will have to comply with the relative requirements contained within these conventions. Specific requirements in relation to labour and working conditions, including Occupational Health & Safety, are contained within the ESAP.

³¹ Labour Law O.G. RS No.55/07

³² Law on Occupational Safety O.G. RS No. 01/08 & 13/10

10 CONTACT DETAILS

The company intends to provide all relevant information to the public. The Republika Srpska Motorway Company will disclose its environmental and social policy and grievance mechanism to the public. Information on public disclosure (with list of documents disclosed and addresses) will be published in daily newspaper. All interested parties will be able to find all the listed information below on the company's website (www.autoputevirs.com) as of June 15, 2011. In addition, the company will make available hard copies of these documents at the following locations:

JP "AutoputeviRS"

Address: Veselina Maslese 22, 78 000, Banja Luka

Hard copies will be delivered and made available at the Municipal Buildings as well in Laktasi, Prnjavor, Deventina and Doboj.

The following information is publicly available:

- EIS Final Study: Banja Luka to Doboj Motorway: January 2011 (& Annexes)
- Preliminary EIA: Banja Luka to Doboj Motorway: Book 5 : General Design CIP 2005
- Route Alignment Report: Banja Luka to Doboj Motorway: Book 1 Vol. 4 General Design CIP 2005
- Decision on the Approval of the EIS: Banja Luka to Doboj Motorway: (Decision No. 15-96-135/10)
- Non-Technical Summary Prnjavor to Doboj Motorway (June 2011)
- Environmental & Social Action Plan (ESAP) (June 2011)
- Stakeholder Engagement Plan (SEP) (June 2011) including grievance mechanism

The information about works on the BLG motorway, including changes made to the MI, can be found on the Public Company "RS Motorways" website (www.autoputevirs.com), as well in Public Company RS Roads' website (<http://www.putevirs.com/aktuelnosti/autoput.shtml>).