Financed under a specific grant agreement no 2018/402-850 from EU IPA II Multi-Beneficiary Programme for Albania, Bosnia and Herzegovina, North Macedonia, Kosovo*, Montenegro and Serbia

Western Balkans Investment Framework Infrastructure Project Facility Technical Assistance 8 (IPF 8)

TA2018148R0 IPA

Mediterranean Corridor, Bosnia and Herzegovina - Croatia CVc Road Interconnection, Subsection: Konjic (Ovcari) - Prenj Tunnel - Mostar North

Gap Analysis & ESIA Disclosure Pack

WB20-BiH-TRA-02 Component 1

Chapter 16 Social Impact Assessment

December 2025

COWI | IPF

Western Balkans Investment Framework (WBIF)

Infrastructure Project Facility Technical Assistance 8 (IPF 8)

Infrastructures: Energy, Environment, Social, Transport and Digital Economy

TA2018148 R0 IPA

Volume 1: Environmental and Social Impact Assessment Report

Chapter 16 Social Impact Assessment

December 2025

The Infrastructure Project Facility (IPF) is a technical assistance instrument of the Western Balkans Investment Framework (WBIF) which is a joint initiative of the European Union, International Financial Institutions, bilateral donors and the governments of the Western Balkans which supports socio-economic development and EU accession across the Western Balkans through the provision of finance and technical assistance for strategic infrastructure investments. This technical assistance operation is financed with EU funds.

PROJECT NO.	DOCUMENT NO.
WB20-BiH-TRA-02	

VERSION	DATE OF ISSUE	DESCRIPTION	PREPARED	CHECKED	APPROVED
1	25/09/2021	ESIA Report	Team of experts	Irem Silajdžić Konstantin Siderovski	Richard Thadani
2	21/11/2022	ESIA Report – Chapter 16 Social Impact Assessment	Team of experts	Irem Silajdžić	Richard Thadani
3	03/03/2023	ESIA Report – Chapter 16 Social Impact Assessment	Team of experts	Irem Silajdžić	Richard Thadani
4	10/10/2023	ESIA Report – Chapter 16 Social Impact Assessment	Team of experts	Irem Silajdžić	Richard Thadani
5	06/01/2025	ESIA Report – Chapter 16 Social Impact Assessment	Team of experts	Irem Silajdžić	Richard Thadani
6	01/08/2025	ESIA Report – Chapter 16 Social Impact Assessment	Team of experts	Irem Silajdžić	Richard Thadani
7	31/12/2025	ESIA Report – Chapter 16 Social Impact Assessment	Team of experts	Irem Silajdžić	Richard Thadani

CONTENTS

List of tables

List of figures

16 Social Impact Assessment

16.1 Introduction

This chapter presents the findings of the assessment of potential social impacts of the Project during the pre-construction, construction and operational phases. It identifies impacts on communities likely to be affected by the Project and the proposed mitigation measures to minimise or control likely adverse effects arising from the Project.

The social impact assessment has been carried out in line with EBRD and EIB requirements for Category A projects, which are designed to ensure that the social impacts of their investments are carefully considered and addressed, in line with their commitment to responsible and sustainable development.

The **local Project area of influence** for the social impact assessment is considered as:

- the principal study area (50m buffer zone through which the motorway alignment and the Konjic Bypass will pass, and where land will need to be acquired),
- the wider study area of the Project (which encompasses the closest local communities in a 500-600m spatial zone on both sides of the motorway route and the Konjic Bypass), which has been identified as the geographical area surrounding the motorway alignment and the bypass, analysed to understand the potential impacts that road construction and operation may have on the local communities living nearest to the Project. It is considered that the wider study area will be most exposed to direct Project impacts in terms of dust, noise, vibrations, transport of construction goods/materials, road safety, etc. *Note*: the area of influence for various impacts with regard to noise, vibrations, water etc. has been determined separately based on the observed situation on the terrain, knowledge about nature and intensity of impacts, performed surveys and/or modelling results, as presented in the specialist chapters and referenced throughout this chapter.

Based on the professional judgment by the Consultant and previous experience, it has been considered that this study area is sufficient to identify receptors that are likely to be significantly affected by the Project.

The approach to identification of impacts (i.e., the assessment methodology) is explained in detail in this Chapter 16 (section titled *Impact* Assessment Methodology*).*

The social assessment in the Project area of influence has been undertaken through:

- desk-based research,
- socio-economic surveys conducted during 2021 and 2022,
- interviews with representatives of local communities and
- interviews with relevant NGOs.

These activities have been presented in more detail in this Chapter 16 (section titled *Methodology of Baseline Data* Collection).

This chapter should be read in conjunction with the following chapters:

Chapter 1	Introduction
Chapter 2	About the Project
Chapter 3	Detailed Project Description
Chapter 4	Policy, legislative and institutional context
Chapter 5	Assessment methodology
Chapter 7	Geology and groundwater
Chapter 8	Surface waters
Chapter 17	Cumulative impacts
Chapter 18	Residual impacts
Chapter 19	ESMP
Volume 6	Stakeholder Engagement Plan (SEP)
Volume 7	Land Acquisition and Resettlement Framework (LARF)

16.2 Project Context

The subsection Konjic (Ovcari)-Prenj Tunnel-Mostar North, which is the subject of this assessment, is part of the Pan-European corridor V linking the North Europe to the Adriatic Sea, and its route called "Corridor Vc" passes through Bosnia and Herzegovina (BiH), ultimately making this country a part of the European international roads network. The Project will be constructed and operated by JPAC, wholly owned by the Government of the Federation of BiH (FBiH).

The subsection will pass through the cities of Mostar and Konjic. Both are located in FBiH in the Herzegovina-Neretva Canton (one of the ten cantons which make up FBiH).

Herzegovina-Neretva Canton borders with Central Bosnia Canton on the north, Sarajevo Canton on the northeast, Republika Srpska on the east, Croatia on the southwest, West Herzegovina Canton on the west and Canton 10 on the northwest.

The route goes through hilly, hilly-mountainous and mountainous zones. About 40% of the area belongs to the hilly-mountainous terrain over 500 m asl (e.g., Prenj, Cvrsnica, Cabulja mountains) and only about one-third of the terrain is

located at the altitudes from 200 to 500 m asl. The rest is slightly hilly and flat terrain.

The Project area is described in more detail in section 16.6 (Baseline Conditions in the Project Area) of this Chapter.

16.3 Overview of the Project Area

The **motorway section passes directly through the following settlements in Konjic and Mostar**:

- Ovcari
- Tresanica
- Gornje Polje
- Polje Bijela
- Bijela
- Mladeskovici
- Podgorani
- Humilisani
- Potoci

- Kutilivac

The **Konjic Bypass passes directly through the following settlements in Konjic**:

- Ovcari (same settlement as the start of motorway section)
- Vrbici
- Galjevo
- Repovica
- Donje Selo

- Drecelj

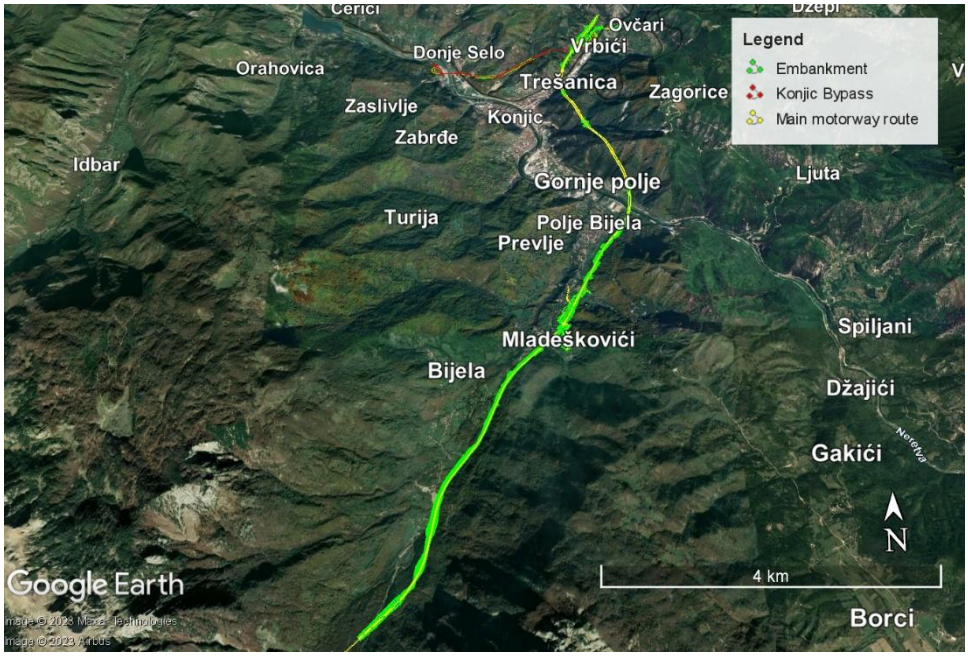
There are **four additional settlements (all in Konjic) identified within the wider study zone** – even though the Project does not pass directly through these settlements, they are located nearby (within a zone of 500-600 m from the footprint) and have a potential to be affected by the Project: Prevlje, Josanica, Glavicine and Dzepi.

In total, there are 15 settlements in the wider study area belonging to Konjic (referred to hereinafter as the "wider Konjic study area"), and 4 settlements in the wider study area belonging to Mostar (referred to hereinafter as the "wider Mostar study area").

The **motorway section** starts in the Ovcari settlement and passes through the settlements of Tresanica, Gornje Polje, Polje Bijela, Josanica and Mladeskovici. In the continuation, the route stretches along the valley of the Bijela River, passing the Bijela settlement and ascends towards the Prenj Tunnel.
After exiting the Prenj Tunnel, the route gradually descends towards Mostar and passes the settlements of Podgorani, Humilisani and Potoci. The section ends in the Kutilivac settlement prior to the Mostar North Interchange, which enables the connection between the motorway, the main road M17 and the city of Mostar.

The **beginning of the Konjic Bypass** is in the Ovcari settlement on the right side[1] of the main road M17 heading south from Sarajevo to Konjic, 550 m before the Ovcari Interchange. The road passes through the settlements of Vrbici, Galjevo, Repovica and Donje Selo. The viaduct starts in the Donje Selo settlement, crosses the Neretva River and ends in Drecelj. In the Drecelj settlement, the roundabout connects the settlement with the road M17 and the planned motorway.

The figures below show both the motorway section and Konjic Bypass and the settlements they pass through or nearby.



[1] North-South direction

Figure 16-1: Motorway section passing through the settlements of Ovcari, Vrbici, Tresanica, Gornje Polje, Polje Bijela Bijela and Mladeskovici

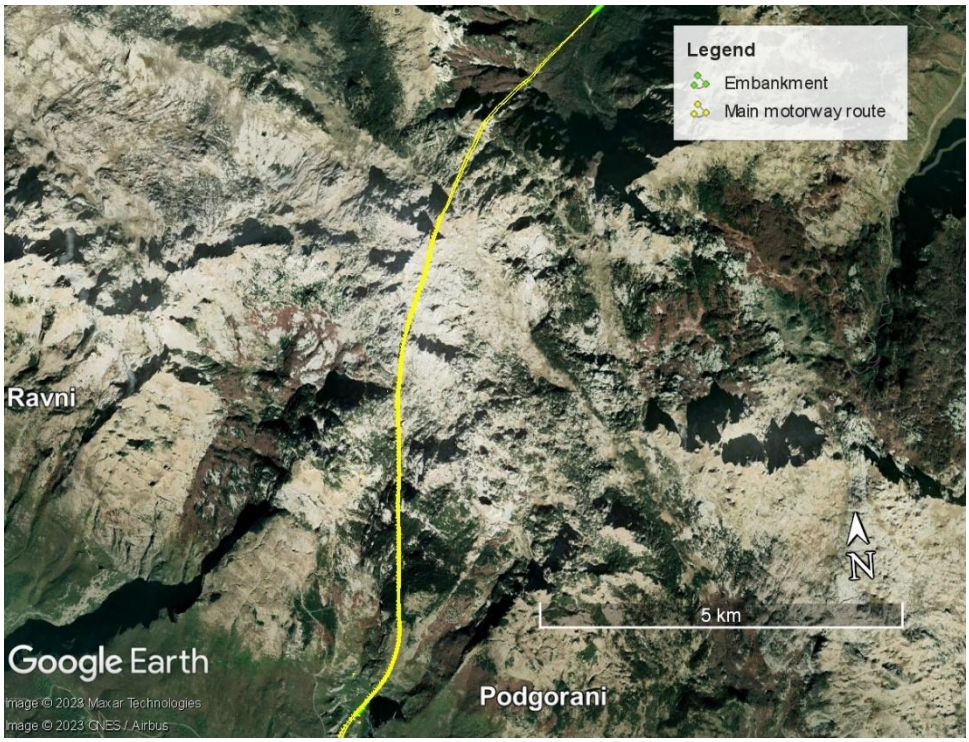


Figure 16-2: Motorway section passing through the Prenj Mountain

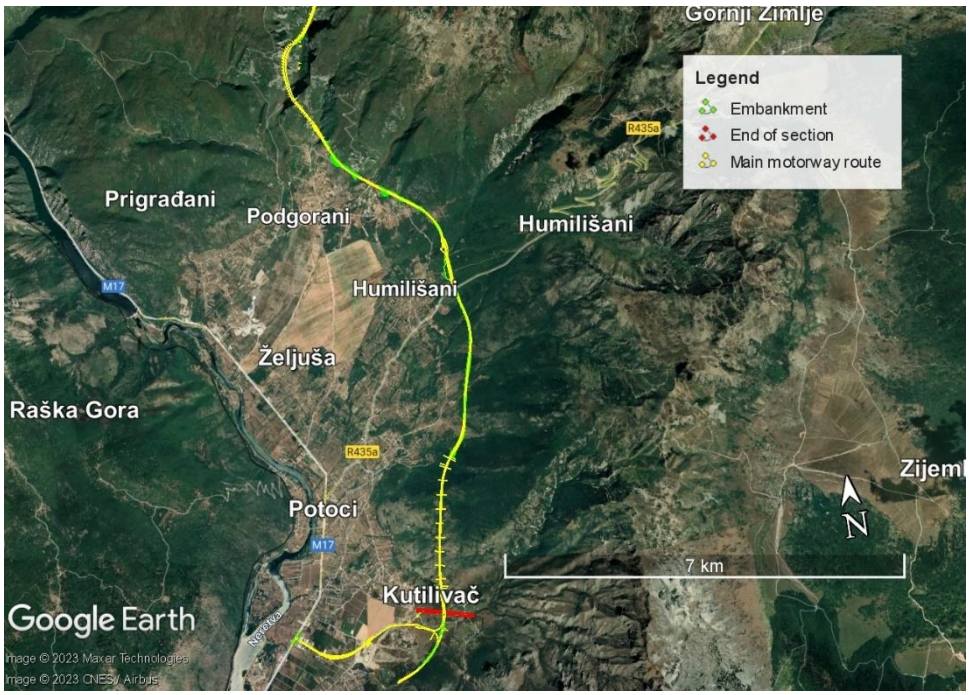


Figure 16-3: Motorway section passing through the settlements of Podgorani, Humilisani, Potoci and Kutilivac

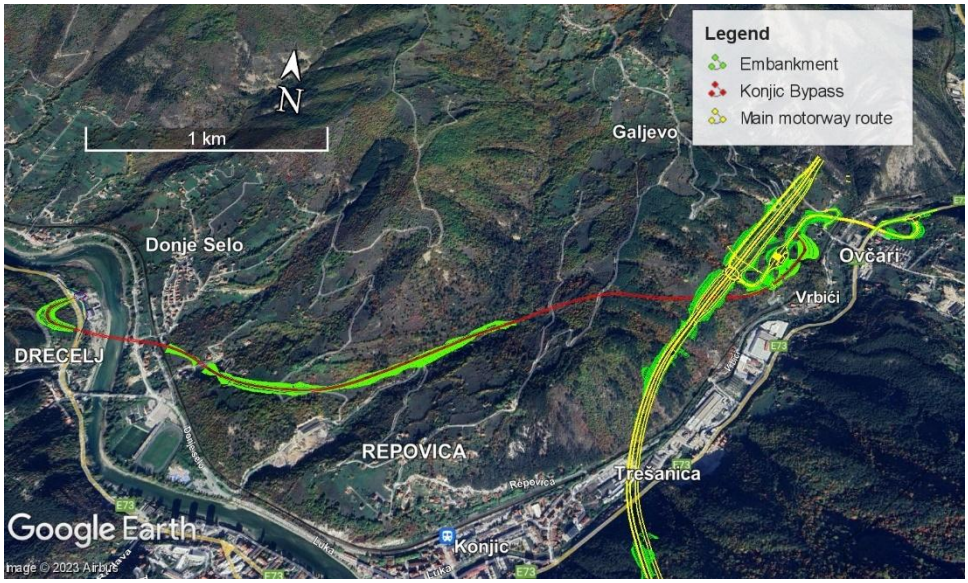


Figure 16-4: Konjic Bypass passing through the settlements of Ovcari, Vrbici, Repovica, Donje Selo and Drecelj

16.4 Methodology of Baseline Data Collection

The social baseline was prepared based on the data collected through:

1) Secondary Data: Desk-based research

The Consultant collected and reviewed data and reports published by the Agency for Statistics of BiH[2] and the Institute for Statistics of FBiH[3] on key statistical data (e.g., population, education, employment, income, etc.) for the Project area and affected settlements, at state level, Canton level, City level and settlement level. All data sources are references throughout the text in footnotes, with an indication of name and year of statistical publication. The most recent population census in Bosnia and Herzegovina was conducted in 2013 (hereinafter: the 2013 Census) but some statistical data are published on an annual basis. The information collected through this research was presented in the social baseline data disaggregated by age and gender to the extent possible.

[2] All publications of the Agency available at https://bhas.gov.ba/
[3] All publications of the Institute available http://fzs.ba/

In addition, the Consultant collected and reviewed all publicly available data, reports and strategies published by the City of Konjic and City of Mostar.

References reviewed include:

- Census of population, households and dwellings in BiH, 2013, Agency for Statistics of BiH (the 2013 Census)
- FBiH Statistical Yearbook, Statistics Institute of FBiH, Sarajevo, 2021
- Statistic Bulletin of Employment Service of Herzegovina-Neretva Canton, Mostar, 2020
- Development Strategy of Konjic Municipality 2018-2027
- Development Strategy of the Herzegovina-Neretva Canton (2021-2027)
- Temporary List of National Monuments of BiH, Commission to Preserve National Monuments, Sarajevo

2) Primary Data: Socio-economic surveys conducted

Socio-economic surveys were conducted by the Consultant in 2021 and 2022, with the aim of gaining a good understanding of livelihood patterns of the communities likely to be affected by the Project, resulting in a more detailed community profile developed on primary data.

Two surveys were conducted:

- Survey in the wider study area in 2021: The Consultant visited settlements in the 500-600 m zone from the motorway route. 83 households and 13 businesses were successfully surveyed.
- Survey in the wider study area (including the area of Konjic Bypass in 2022): The Consultant visited settlements in the 500-600 m zone from the motorway route and the Konjic Bypass. 47 households and 3 businesses were successfully surveyed.

(In total, 130 households and 16 businesses were surveyed)

The data and information collected through these surveys were used to develop the social baseline chapter.

Survey methodology

The survey was based on a household (HH) and business questionnaire.

Questionnaires for households were conducted with the head of the HH or, in case of his/her absence, other adult HH member.

Experienced enumerators/interviewers were engaged for the survey, trained in advance on the following topics: description of the survey - why it is being carried out, context of the survey within ESIA, how the information will be used, question-by-question review of the questionnaire to confirm that the questions are appropriate and understandable to the local population and that they are

clearly understood by interviewers, review of household selection methods, review of Household Visitation Log Sheet for recording the outcome of visits.

Enumerators were managed by a field coordinator who was responsible for quality control check and managed the daily logistics of site selection. The field coordinator provided the surveyors with daily route maps and determine an efficient strategy for covering the survey area.

The sample size was initially determined by dividing the total number of population in the surveyed communities (as described in section 16.6.1) by the average household size (which is 3.24 in the Herzegovina-Neretva Canton) to obtain the approximate number of households living in the area. The number of households was found to be 2,660. By applying a level of confidence of 95% and a 10% margin of error, the minimum sample size was determined as 93 households. However, surveyors were instructed to go above the minimum sample size in order to ensure the results are more representative of the affected households and allow for more detailed analysis of data. Consequently, 130 households were successfully surveyed.

The sampling units were randomly selected from the survey unit area, i.e., local communities, based on a sampling interval (space between each selected household) by dividing the total number of households in the settlement by the sample size; in cases where a house was found to be permanently vacant or the occupants refused to participate or an adult was not available for an interview after multiple attempts, then the next closest household was be visited. Before the start of the survey, each respondent was instructed about the obligation to sign a Statement of Consent for the Processing and Use of Personal Data[4], intended to be collected through questionnaires. Each respondent was also made aware of the contents of the Statement, his/her rights, the fact that the statement is signed on a voluntary basis and can be withdrawn at any time. The surveyors were instructed to suspend any further surveying attempts in cases when respondents refused to sign the Statement. The Statement was signed in two copies (one for the respondent and one for the surveyor).

The questionnaires for HH and businesses used during socio-economic survey are presented in **Appendix 1** and **Appendix 2** of this Chapter.

[4] Personal data collected through the questionnaires included: name and surname, age, sex, address of residence, telephone number, ethnicity, level of education, health condition. According to the *Law on Personal Data Protection* (Official Gazette of BiH No. 49/06, 76/11 and 89/11), special categories of personal data include all personal data that discloses, inter alia, ethnic origin and health status. In accordance with above mentioned, the Law prescribes the obligation that consent for the processing of such personal data must be given in writing and must be signed by the data subject.

3) Primary data: Key informant interviews

The Consultant organised consultation meetings with relevant Local Community Offices (LCOs) and NGO representatives in 2021 and 2022.

In total, 5 LCOs and 14 NGOs were interviewed with the aim of obtaining additional information about the Project area and understanding their perceptions of the Project. The LCOs were selected because these five LCOs are the official representative LCOs in the Project area. The NGOs were selected based on an assessment of their interest in the Project, either because of the local activities in the Project area or their previous participation in the previous public consultation process for this Project.

Table 16-1: Local Community Offices interviewed during the development of ESIA

No.	Local Community Office
1.	Dzepi
2.	Bijelo Polje
3.	Centar
4.	Tresanica (Local Community and branch office "Donje Selo")
5.	Bijela

Table 16-2: Non-governmental organisations interviewed during the development of ESIA

No.	Non-governmental organisation
1.	Aarhus Centre
2.	Neretva Zeleni
3.	NGO Dinarica
4.	NGO Farmer
5.	Fruit Growers Association Konjic
6.	NGO Travel Konjic
7.	Hunting Association Konjic
8.	Sports Fisherman Organisation Konjic
9.	Hunting Organisation Koznik
10.	Mountain Bike Organisation Konjic
11.	NGO Boj
12.	Tourism Association Mostar North
13.	Organisation of Fighters and Defenders of Konjic

No.	Non-governmental organisation
14.	Association of Serb Returnees Neretva – Konjic

16.4.1 Limitations and Assumptions

The most recent population census in Bosnia and Herzegovina was conducted in 2013. Since these data are likely to be outdated to some extent, the Consultant used additional statistical data published by other institutions in the country where possible. All data sources are referenced throughout the Report.

16.5 General Baseline Conditions at Federal/Cantonal level

16.5.1 Population and Demographics

National/Federal/Canton level

According to the 2013 Census, BiH has 3.531.159 inhabitants, of which 50,1 % declared as Bosniaks, 30,8% as Serbs, 15.4% as Croats and 3.7% as Others. Out of the total population in BiH, 2.219.220 (63%) live on the territory of FBiH. In FBiH, majority (70.4 %) of population declared as Bosniaks, 22.4% as Croats, 4.6% as Others and 2.5% as Serbs.

Out of the total number of inhabitants living on the territory of FBiH, 10% are living on the territory of Herzegovina-Neretva Canton (222.007 inhabitants). 53.3 % declared as Croats, 41.4% as Bosniaks, 2.9% as Serbs and 2.4% as Others.

In 2013, the total number of households in Herzegovina-Neretva Canton was 68,121, and the average number of members in one household was 3.24. The largest number of people live in households with two members (14,958 or 21.96%), four members (14,116 or 20.72%) and three members (13,109 or 19.24%).With 222,278 inhabitants (2013) and 50.45 inhabitants/km^2, Herzegovina-Neretva Canton is sixth in population density and eighth in population size among cantons of FBiH. The area of the Canton is 4,372 km^2, which is 16.85% of the area of FBiH and 8.59% of the territory of BiH.

City level

The City of Konjic covers an area of 1,169 km^2. According to the 2013 Census, it has 25,148 inhabitants, which is about 40% less than in 1991, as a result of the war. Population density is 25 inhabitants/km^2, which indicates that this area is sparsely populated, compared to other parts of the country.

The majority of the population (89.41%) are Bosniaks, 6.17% are Croats and 1.41% are Serbs.

The natural movement of the population in Konjic is negative. The number of live births and the number of deaths in the period 2013-2020 is shown in Table 16-3 below.

Table 16-3: *Natural movement of population – Konjic, 2013-2020*[5]

Year	Live births	Deaths	Natural movement	%
2013	182	281	-99	54%
2014	181	261	-80	44%
2015	201	277	-76	38%
2016	166	291	-125	75%
2017	189	299	-110	58%
2018	159	282	-123	77%
2019	168	268	-100	59%
2020	162	338	-176	108%

According to the 2013 Census, the majority (69.37%) of the population belongs to the category of mature population (age 15-65). According to 2013 Census, female population represents about half (50.85%) of the total population. According to the more recent data from 2016[6], the gender distribution in the Municipality of Konjic shows that women make up 50.7% of the population (12,081 women), while men account for 49.3% (12,420 men), indicating a slight increase in the proportion of women over the years.
The age and gender structure are shown in Table 16-4 below.

Table 16-4: *Age and gender structure of the population in Konjic*

Age bracket	Total		Males		Females	
	#	%	#	%	#	%
Total	25,148	100	12,360	49.15	12,788	50.85
0-14	3,673	14.61	1,830	14.81	1,843	14.41
15-65	17,446	69.37	8,867	71.74	8,579	67.09
65+	4,029	16.02	1,663	13.45	2,366	18.50

[5] FBiH Statistical Yearbook, Statistics Institute of FBiH, Sarajevo, 2021
[6] https://www.sogfbih.ba/sites/default/files/javni_dokument/2021-06/Konjic%20-%20Integralna%20strategija%20razvoja%202018%20-%202027.pdf

The City of Mostar, with an area of 1,175 km^2, represents the economic centre of the Herzegovina-Neretva Canton. According to the 2013 Census, Mostar has 105,797 inhabitants, and the average population density is 90.8 residents/km^2.

The majority of the population (48.4%) are Croats, 44.1% are Bosniaks and 4.1% are Serbs.

The natural movement of the population in Mostar is negative. The number of live births and the number of deaths in the period 2013-2020 is shown in Table 16-5 below.

Table 16-5: *Natural movement of population – City of Mostar, 2013-2020*[7]

Year	Live births	Deaths	Natural movement	%
2013	1,011	1,034	-23	2%
2014	1,077	1,010	67	6%
2015	965	1,164	-199	20%
2016	1,025	1,068	-43	4%
2017	974	1,105	-131	13%
2018	1,003	1,114	-111	11%
2019	939	1,142	-203	22%
2020	872	1,231	-359	41%

The majority (69.84%) of the population in Mostar belongs to the category of mature population (age 15-65). Female population represents 51.60% of the total population, with the greatest representation of women in the 65+ age category. According to the data from Federal Agency from Statistics, City of Mostar had 51.68% female and 48.32% male population in 2022.
The age and gender structure are shown in following table.

Table 16-6: Age and gender structure of the population in Mostar[8]

Item	Total		Males		Females	
	#	%	#	%	#	%
Total	105,797	100	51,210	48.40	54,587	51.60
0-14	15,705	14.84	8,030	7.59	7,675	7.26

[7] FBiH Statistical Yearbook, Statistics Institute of FBiH, Sarajevo 2021
[8] Census of population, households and dwellings in BiH, 2013, Agency for Statistics of BiH, Sarajevo 2016

Item	Total		Males		Females	
	#	%	#	%	#	%
15-65	73,884	69.84	36,656	34.65	37,228	35.19
65+	16,208	15.32	6,524	6.16	9,684	9.15

The war that took place in BiH between 1992 and 1995 had a significant influence on the demographic structure of the country with a high level of displacement and ethnic homogenisation in many areas of the country, particularly the City of Mostar and the City of Konjic. The demographic profile was significantly altered after the war.

Before the war, Mostar had a population of 127,000 inhabitants (34.8% Bosniaks, 33.9% Croats, 18.8% Serbs and 12.5% Yugoslavs or "Others"). According to the most recent census in BiH (2013), Mostar now has a total population of 105,797 (48.4% Croats, 44.2% Bosniaks and 4.2% Serbs and 3.2% Others). The slow reconstruction process of houses and infrastructure devastated during the war, the unfavourable political situation in the city, the lack of strategy for sustainable return to the city and the inability to find employment are among the main reasons why more people have not returned to Mostar, particularly Serbs. It is estimated that only about 25% of Serb-owned houses that were ruined during the war have been rebuilt.

Before the war, Konjic had a population of 43,878 inhabitants (54.3% Bosniaks, 26.2% Croats, 15.1% Serbs and 4.4% Yugoslavs or "Others"). Konjic now has total population of 25,148 (89.41% Bosniaks, 6.17% Croats and only 1.41% Serbs).

The Dayton Peace Agreement (specifically, its Annex VII on refugees and displaced persons) states that every refugee and displaced person had the right to return freely to his or her pre-war home in BiH and to be compensated for any property that cannot be restored. After the war, more than 6,500 refugees and displaced persons from all over BiH applied for compensation to relevant authorities. However, the formal compensation system was never properly established. In the absence of a formal compensation mechanism, the only choices for displaced persons and refugees were to apply for the return or reconstruction of their homes or to sell their houses, as many did.

In July 2000, the Constitutional Court of BiH issued a decision requiring the two entities, the Federation of BiH (FBiH) and Republika Srpska (RS), to amend their constitutions to ensure full equality of all three constituent peoples (Bosniaks, Croats and Serbs) throughout BiH. In the 2018 verdict, the Constitutional Court of FBiH declared unconstitutional part of the Constitution of the Herzegovina-Neretva Canton (to which Mostar and Konjic belong) because Serbs as constituent peoples were not included – which means that they officially did not

have the right to their own language and education. The most recent parliamentary initiative to regulate the status of Serbs as a constituent people and the equal use of the Serbian language and alphabet in Cyrillic was submitted in April 2021, and the Constitution was amended in August 2021.

16.5.2 Economy

Mostar is both the administrative and economic center of the Canton, which is known for its diverse economic activities. The city ranks among the top 10 most developed local communities in the FBiH, although its development index has seen a decline in recent years. In 2020, Mostar dropped to 9th place, down from 8th in 2018 and 6th in 2019. The City's economy is characterised by a variety of sectors, with a strong presence of small and medium-sized enterprises. These businesses are primarily active in trade and manufacturing, including metalworking, woodworking, and food production. Mostar also benefits from a well-developed business infrastructure, with 14 business zones that offer opportunities for growth. However, many of these zones lack comprehensive regulatory plans, limiting their potential for full development. Tourism plays a significant role in Mostar's economy, driven by its rich cultural and historical heritage. The Old Bridge and surrounding monuments are major attractions that bring in tourists from across the globe. Although Mostar ranks third in tourist arrivals within FBiH, the City faces challenges in expanding tourism beyond its central area. Additionally, seasonal fluctuations in visitor numbers are a concern, requiring strategies to boost year-round tourism. Agriculture is another growing sector in Mostar, with a rise in the number of family farms and agricultural businesses. However, challenges such as insufficient promotion and weak connections within the agricultural value chain have hindered the sector’s full development. Electricity production, particularly through hydroelectric power plants located along the Neretva River and its tributaries, also contributes significantly to Mostar’s economy. These plants are mostly owned by the utility company Elektroprivreda HZHB and play a vital role in the region's energy production. Despite these strengths, Mostar faces several economic challenges. One of the most pressing issues is youth emigration, as many young people leave the City in search of better opportunities elsewhere, leading to a loss of talent and workforce. Slow administrative processes further complicate business operations, making it difficult for entrepreneurs to navigate regulatory requirements. Lastly, there is a need to strengthen local agricultural value chains to unlock the full potential of the sector and boost its contribution to the local economy. [9]

[9] Development Strategy of the City of Mostar 2022-2027, https://www.mostar.ba/storage/2022/11/Strategija-razvoja-Grada-Mostara-2022.-2027.-H.pdf

The economy of Konjic relies on agricultural production, beekeeping, animal husbandry, wooden and metal industry, and the tourism sector, whereas the economy of Mostar area relies on the production of aluminium and metal industries, agricultural production, stone processing, electricity production from renewable sources of energy, and the tourism sector[10].

16.5.3 Employment, Income and Livelihoods

According to the 2013 Census, 85% of the population in Konjic is working age population, with an equal ratio of men and women but only about a third (31.4%) of these are economically active residents[11]; the rest are economically inactive (e.g., retired persons, students, housekeepers, persons unable to work, etc.). Table 16-7 shows the economic structure of the population by sex in Konjic.

Table 16-7: Economic structure of the population of Konjic

Konjic	Working age population		Economically active residents				Economically inactive residents	
			Employed		Unemployed			
	#	%	#	%	#	%	#	%
Total	21,475	100	6,745	31.4	2,459	11.4	12,271	57.1
Males	10,530	49.3	4,284	19.9	1,415	6.5	4,831	22.5
Females	10,945	50.9	2,461	11.4	1,044	4.8	7,440	34.6

With regard to the qualification structure of unemployed persons, the majority are high school graduates (34%), followed by qualified workers (30%), unqualified workers (18%), university graduates (11%), college graduates (6%), and semi-qualified workers (1%). According to more recent data from the Development Strategy of Konjic 2018-2027, in 2016, there were 4,948 employed persons, with men making up a larger proportion (62%) compared to women (38%). The largest share of employment was in the manufacturing industry, with 50.63%, followed by construction (7.31%), trade (6.18%), and agriculture (6.40%). The number of employees in micro-enterprises was 645, while large enterprises had 1,199 employees. The unemployment rate in Konjic was 45.5%, higher than the regional average of 40.9%. The largest group of unemployed individuals had low or unskilled qualifications.

[10] Development Strategy of Konjic Municipality 2018-2027, https://www.konjic.ba]
[11] The economically active population refers to people aged 15-65 who are either in employment or unemployed.

Same as in Konjic, 85% of the total population in Mostar is working age population, with an equal ratio of men and women. Economically active residents represent 47.2% of the working age population, whereas the rest are economically inactive residents– the majority of the latter are females. Table 16-8 shows the economic structure of the population by sex in Mostar, according to the 2013 Census.

Table 16-8: Economic structure of the population of Mostar

City of Mostar	Working age population		Economically active residents				Economically inactive residents	
			Employed		Unemployed			
	#	%	#	%	#	%	#	%
Total	90,092	100	31,551	35.0	11,003	12.2	47,538	52.7
Males	43,180	47.9	17,163	19.0	5,888	6.5	20,129	22.3
Females	46,912	52.1	14,388	16.0	5,115	5.7	27,409	30.4

With regard to the qualification structure of unemployed persons, the majority are qualified workers – vocational secondary education (46%), followed by unqualified workers – primary education (27%), university graduates (16%), persons with a high school degree (10%), persons with an undergraduate degree (1%) and semi-qualified workers – primary education with some vocational training (1%).[12] According to more recent data present in the Development Strategy of the City of Mostar 2022-2027, in 2020, Mostar accounted 61% of the total employed population in the Herzegovina-Neretva Canton. The employment rate in Mostar was 45%, which is than the Cantonal average of 35.6%. However, in 2020, there was a 5% decrease in employment compared to 2019, primarily due to the impact of COVID-19. The unemployment rate in 2020 stood at 32.5%, which was an increase of 2.9% from the 2019. Women accounted for 54% of the unemployed population.

16.5.4 Education

Improving the quality of education at all levels and increasing the education rates of the population are among the objectives of social development defined in the Development Strategy of the Herzegovina-Neretva Canton (2021-2027).

[12] Statistic Bulletin of Employment Service of Herzegovina-Neretva Canton, Mostar, 2020

In the Herzegovina-Neretva Canton, there are a total of 33 secondary schools (28 state and five private) and numerous elementary schools. There are a total of three universities in the Herzegovina-Neretva Canton:

- "Dzemal Bijedic" University in Mostar with eight faculties.
- The University of Mostar with ten faculties.
- Private University "Hercegovina" in Medjugorje and Mostar with two faculties.

According to the 2013 Census, 6.15% of population of Konjic is without any education, 12.41% has incomplete primary education, 24.24% has finished primary school, 45.48% has finished secondary school, 0.67% has post-secondary school specialisation, 3.09% has high school and first level of faculty, 7.96% has advanced schools (faculty/ academy/ university). The ratio of females and males with advanced education is almost the same (51.4% male population and 48.6% female population). According to the Development Strategy of Konjic Municipality 2018-2027, the educational system includes primary, secondary, and higher education. Primary education comprises six central schools and 22 branches, serving a declining number of students, with 2,210 enrolled in 2016 compared to 2,592 in 2012. Secondary education is offered at "Srednja skola Konjic," which experienced a decrease in enrolment from 1,436 in 2012 to 881 in 2016. Higher education is represented by the College of Tourism and Management, which also faces declining student numbers. Enrolment trends show a decrease, with only nine students (six male, three female) in 2016.

According to the 2013 Census, 2.25% of population of Mostar is without any education, 4.78% has incomplete primary education, 15.81% has finished primary school, 55.72% has finished secondary school, 0.78% has post-secondary school specialisation, 4.91% has high school and first level of faculty, 15.75% has advanced schools (faculty/ academy/ university). The ratio of females and males with advanced education is almost the same (44.69% of male population and 55.31% of female population).

However, more recent data from the Development Strategy of the City of Mostar 2022–2027 shows notable developments in the education sector. For primary education, 36 schools (including 2 for children with disabilities) enrolled 8,583 students and 83 students with disabilities in 2020. Secondary education saw a 15% decline in enrolment from 2016, with 4,527 students attending 24 schools (out of which 1 is religion and 2 are for students with disabilities). Higher education, led by the University of Mostar and Džemal Bijedić University, recorded approx. of 7507 students in 2020, a 12% decrease compared to 2016.

16.5.5 Infrastructure

The following major roads and motorways pass through the Canton:

- From west to east: M2 main road (Klek-Zaton Doli), M6 (Grude-Trebinje) and M6.1 (Resanovci-Gacko)
- From south to north: Motorway A1 (Svilaj-Bijaca), main road M17 (Bosanski Samac-Capljina) and M17.3 (Capljina-Neum).

The total length of main roads in the Canton is 362.68 km.

The railway connection between Konjic and Mostar is part of the train line Sarajevo-Capljina which is part of the Pan-European Corridor V, branch C. The line is monorail, electrified and the length of the section between Konjic and Mostar is about 62 km.

The total length of this railway is 171.76 km, and the entire length of the railway is electrified and equipped with signal-safety devices. Although the overhaul of the railway line has mostly been completed, only cargo traffic is performed today on the entire railway route. Passenger traffic is conducted only from Sarajevo to Capljina. The max. speed through BiH is 70 km/h. The organisation responsible for the railway sector is the Railways of the Federation of Bosnia and Herzegovina.

The Ploce-Sarajevo railway passes through the Canton, to which Konjic, Mostar, Jablanica and Capljina are connected. The length of the tracks in the Canton is 126.2 km, while the total number of railway stations and stops is 28, three of which are connected to the high-speed train network.

Mostar International Airport (OMO) is the third busiest airport in BiH after Sarajevo and Tuzla airports.

The Mostar Airport was reconstructed from a military airport, and was opened for civilian air traffic in 1965, exclusively for domestic flights. During the Winter Olympic Games in 1984, the airport gained the status of an International Airport and was operational until 1991. It was reopened for air traffic in 1998 when the devastated terminal building with complete infrastructure was renovated.

Nowadays, Mostar International Airport d.o.o. is a public company owned by the City of Mostar with 88% ownership and Zagreb Airport with 12% ownership. Currently, there are no airlines providing air transport to and from Mostar Airport[13]. It has regional significance and has the potential to service important tourist destinations such as, Old Town Mostar with the Old Bridge, Buna Spring and Tekija in Blagaj, and Hutovo Blato. It is also near Medjugorje (religious tourism), which is about 25 km away from the airport, with approx. 1 million tourists a year.

[13] Source: https://mostar-airport.ba/red-letenja/]

The airport infrastructure consists of an asphalted runaway (2.4 km in length and 49 m in width) and one driveway parallel to the runaway, with five junctions to the runway. Additional airport facilities are the passenger terminal, hangars, and airport parking space for passenger cars.

The planned motorway section is located north of the Mostar Airport. The end of this motorway section is at a distance of 13.6 km from the airport.

Konjic does not have an airport.

FBiH Development Strategy 2021-2027[14] highlights the possibility of transformation of Corridor Vc into a development corridor.

The Development Strategy of Herzegovina Neretva Canton[15] recognises the importance of building key transport corridors, including Corridor Vc and the Adriatic-Ionian Motorway, which are of strategic importance for connecting the City of Mostar with Croatia and beyond. Corridor Vc, which passes through Herzegovina, is recognised as a key route for improving regional connectivity, boosting tourism, and fostering economic development.

The Development Strategy of the City of Mostar[16] acknowledges the importance of transport infrastructure, including Corridor Vc, which is mentioned within the context of planned projects. However, its specific impact on tourism and economic development is not extensively explored. Corridor Vc is identified as part of the planned infrastructure, with its significance primarily highlighted in relation to the city's wholesale market plans. The proximity of Mostar Airport to the Vc Corridor further underscores its importance, as the development of the Corridor could enhance connectivity and drive the modernisation of infrastructure, ultimately strengthening the airport’s capacity.

The Development Strategy of the City of Konjic[17] briefly mentions Corridor Vc, but it does not provide further elaboration on its significance, as it is only referenced once in a neutral context.

16.5.6 Water Supply and Sanitation

The public water company in Konjic manages both the city water supply system (built in 1960) and seven local systems. There are 17 additional systems managed entirely by Local Community Offices. Water intakes for the water supply systems are in most cases captured natural springs, while only about 5%

[14] Development Strategy of FBiH 2021-2027, https://parlamentfbih.gov.ba/
[15] Development Strategy of Heryegovina-Neretva Canton 2021-2027, https://skupstina-hnk.ba/
[16] Development Strategy of City of Mostar 2022-2027, https://www.mostar.ba/
[17] Integral Development Strategy of City of Konjic 2018-2027, https://www.konjic.ba/ba/

of water is provided by pumping from wells. 90% of water is transported by gravity, while the rest is transported by pressure pipelines, i.e., with the help of pumps.

Around 75% of Konjic residents are connected to the municipal sewage system, while other residents use septic tanks. The public sewage system in Konjic is constructed as a separate system with gravitational flow, except for some smaller parts of settlements with a mixed sewerage system. Several collector segments have been constructed so far as part of the WATSAN FbiH project[18]. These include the left bank collector (ACC 350 mm, L = 550 m) and the right bank collector (ACC 450 mm, L = 860 m) with temporary discharge into the Neretva River.

Konjic has a central sewage treatment plant, put into operation in 2016. Faecal collectors are placed on the left and right banks of the Neretva River. The "Drecelj" collector is at an estimated distance of 400 m from the Konjic Bypass.

The water supply system of Mostar area consists of two regional units – the Mostar-West system and the Mostar-East system. The water sources Studenac, Radobolja and Bosnjaci are used to supply west side of the city and suburban settlements as the central part of the system, and the sources Salakovac and Buna-Blagaj as the local, east part of the system.

The City of Mostar has initiated activities to address the issue of wastewater. A wastewater treatment plant (WWTP) was constructed along with two main collectors on the banks of the Neretva River (one on the right bank and the other on the left bank of the river).

A small part of the existing sewage system is connected to the left-bank collector, and the plant is currently operating at 40% capacity. The development of a secondary sewage network is in the process, i.e., connection of the population to the main pipes of the collector.

16.5.7 Electricity Supply System

There are several facilities for the production of electricity in Mostar, Konjic and Jablanica, mostly hydropower plants. Four were built before the war (HPP Mostar – installed capacity of 72 MW; HPP Salakovac – installed capacity of 210 MW; HPP Grabovica – installed capacity 114 MW; and HPP Jablanica – installed capacity 180 MW), and the only post-war HPP in this area is HPP Mostarsko blato with an installed capacity of 60 MW. The construction of a wind farm at Podvelezje (capacity of 48 MW) was completed in 2021.

[18] https://www.watsanfbih.org/

Electricity distribution of in Mostar is the responsibility of two public companies (Elektroprivreda Inc. Mostar and Elektroprivreda BiH Inc. Sarajevo). This network covers low and medium voltage underground/overhead lines with associated transformer cells. Transmission of electricity is the responsibility of the public enterprise Elektroprijenos Inc. Banja Luka – operational area of Mostar. The transmission system includes power lines of voltage levels 110 kV, 220 kV and 400 kV and associated substations.[19] The network of electric power transmission facilities in Mostar is extremely branched and consists of transformer stations, switchgear and transmission lines of all three transmission voltage levels (400 kV, 220 kV, 110 kV). High voltage poles can be found in Humilisani as well as along the alignment.

In Konjic, there are a few electricity poles situated along the alignment in the cadastre municipalities *Konjic I* and *Bijela*. The main power supply is provided by the transformer station TS 110/35/10 kV Konjic, which is owned by Elektroprenos BiH. The substation is connected to HPP Jablanica and the area of Sarajevo via two 110 kV transmission lines[20].

16.5.8 Telecommunication Services

Telecommunication services in Konjic and Mostar are provided by HT Mostar and BH Telecom for fixed and mobile telephone systems, and HT Eronet for the mobile telephone system. In addition, Telemach company provides digital and analogue cable television services.

16.6 Baseline Conditions in the Project Area

16.6.1 Population and Demographics

16.6.1.1 Wider Konjic Study Area

The following table presents the data from the 2013 Census on settlement size, population, and population density for the settlements in the wider study area.

Table 16-9: Size, population, and population density of the affected settlements in Konjic

No.	Settlement	Population	Area (km²)	Density (inhabitants per km²)
1.	Ovcari	488	1.89	257.5

[19] Zagrebinspekt Ltd. Mostar, IGH Ltd. Banja Luka, Environmental Impact Assessment Study LOT 4, 2016.
[20] Development Strategy of Konjic Municipality 2018-2027, https://www.konjic.ba/ba/ [accessed on October 26, 2022]

No.	Settlement	Population	Area (km²)	Density (inhabitants per km²)
2.	Bijela	184	24.72	7.5
3.	Galjevo	145	2.34	62.0
4.	Polje Bijela	1,402	2.24	627.2
5.	Dzepi	295	29.46	10.0
6.	Josanica	34	3.56	9.5
7.	Mladeskovici	142	5.97	2.38
8.	Prevlje	49	0.61	80.9
9.	Repovica	96	2.23	43.1
10.	Vrbici	-	-	-
11.	Tresanica	-	-	-
12.	Glavicine	-	-	-
13.	Gornje Polje	-	-	-
14.	Donje Selo	202	2.97	67.9
15.	Drecelj	-	-	-

Note: Data on the population and the population density per km² was not available for the settlements of Vrbici, Tresanica, Glavicine, Gornje Polje and Drecelj

Based on the presented data, it can be noted that *Polje Bijela* has the largest number of population with 1,402 inhabitants and is the most densely populated settlement, whereas *Josanica* is the least populated settlement with only 34 inhabitants.

Dzepi is the largest settlement with an area of 29.46 km², while *Prevlje* is the smallest settlement with only 0.61 km².

With regard to ethnicity, the population in the majority of settlements are mainly Bosniaks. Josanica is the only settlement with the majority of population belonging to the Croat ethnic group. Serbs are the minority in each settlement. Table 16-10 below shows details on the ethnic background of the population.

Table 16-10: Ethnic background of population in the affected settlements in Konjic

No.	Settlement	Total	Bosniaks		Croats		Serbs		Others	
		#	#	%	#	%	#	%	#	%
1.	Ovcari	488	373	76.4	90	18.4	7	1.4	18	3.7

No.	Settlement	Total	Bosniaks		Croats		Serbs		Others	
		#	#	%	#	%	#	%	#	%
2.	Bijela	184	160	86.0	21	11.3	2	1.1	3	1.6
3.	Galjevo	145	77	53.1	62	42.8	3	2.1	3	2.1
4.	Polje Bijela	1,402	1,285	91.6	91	6.4	12	0.8	6	0.4
5.	Dzepi	295	289	97.9	/	/	3	1.0	/	/
6.	Josanica	34	6	17.6	27	79.4	1	2.9	/	/
7.	Mladeskovici	142	88	61.9	40	28.1	11	7.7	1	0.7
8.	Prevlje	49	49	100	/	/	/	/	/	/
9.	Repovica	96	73	76	22	22.9	1	1	/	/
10.	Vrbici	-	-	-	-	-	-	-	-	-
11.	Tresanica	-	-	-	-	-	-	-	-	-
12.	Glavicine	-	-	-	-	-	-	-	-	-
13.	Gornje Polje	-	-	-	-	-	-	-	-	-
14.	Donje Selo	202	177	86.6	11	5.5	14	6.9	/	/
15.	Drecelj	-	-	-	-	-	-	-	-	-

Note: Data on the ethnic background of population was not available in the 2013 Census for the settlements of Vrbici, Tresanica, Glavicine, Gornje Polje and Drecelj

Table 16-11 below shows details on the gender structure of the population in the wider study area. Men and women are almost equally represented in the wider study area.

Table 16-11: Gender structure of the population in the affected settlements in Konjic

No.	Settlement	Total	Males		Females	
		#	#	%	#	%
1.	Ovcari	488	221	45.2	267	54.7
2.	Bijela	184	94	51.0	92	50.0
3.	Galjevo	145	71	48.9	74	51.0
4.	Polje Bijela	1,402	700	49.9	702	50.0
5.	Dzepi	295	147	49.8	148	50.1
6.	Josanica	34	17	50.0	17	50.0
7.	Mladeskovici	142	69	48.5	73	51.4

No.	Settlement	Total	Males		Females	
		#	#	%	#	%
8.	Prevlje	49	23	46.9	26	53.0
9.	Repovica	96	44	45.8	52	54.1
10.	Vrbici	-	-	-	-	-
11.	Tresanica	-	-	-	-	-
12.	Glavicine	-	-	-	-	-
13.	Gornje Polje	-	-	-	-	-
14.	Donje Selo	-	-	-	-	-
15.	Drecelj	-	-	-	-	-

Note: Data on the gender structure of population was not available in the 2013 Census for the settlements of Vrbici, Tresanica, Glavicine, Gornje Polje, Donje Selo and Drecelj.

16.6.1.2 Wider Mostar Study Area

The following table presents the data from the 2013 Census on the settlement size, population, and population density per km^2. The Potoci settlement is the most populated settlement with 2,183 inhabitants and has the highest density of population per km^2 (224.6 inhabitants per km^2). Podgorani is the least populated settlement with 614 inhabitants and has the lowest density (14.3 inhabitants per km^2).

Humilisani is the largest settlement in terms of area, whereas Potoci is the smallest settlement.

Table 16-12: Size, population, and population density of affected settlements in Mostar

No.	Settlement	Total population	Area (km^2)	Density (inhabitants per km^2)
1.	Humilisani	1,161	47.60	24.4
2.	Potoci	2,183	9.72	224.6
3.	Podgorani	614	42.97	14.3
4.	Kutilivac	1,624	25.58	63.5

Regarding ethnicity, the majority of population in all settlements are Bosniaks. There is a considerable Croat population in Potoci (around a third of the population) and in Kutilivac (around a fifth of the population), whereas Serbs are

a significant minority in all the settlements. Table 16-13 below shows data on the ethnic background of the population in these settlements according to the 2013 Census.

Table 16-13: Ethnic background of the population in the affected settlements in Mostar

No.	Settlement	Total	Bosniaks		Croats		Serbs		Others	
		#	#	%	#	%	#	%	#	%
1.	Humilisani	1,161	1,034	89.1	8	0.7	105	9.0	14	1.2
2.	Potoci	2,183	1,160	53.1	759	34.8	226	10.4	38	1.7
3.	Podgorani	614	614	100	/	/	/	/	3	2.1
4.	Kutilivac	1,624	1,318	81.1	270	16.6	16	0.9	5	0.3

The table below shows details on the gender structure of the population. Men and woman are almost equally represented in all four settlements.

Table 16-14: Gender structure of the population in the affected settlements in Mostar

No.	Settlement	Total	Males		Females	
		#	#	%	#	%
1.	Humilisani	1,161	577	49.7	584	50.3
2.	Potoci	2,183	1,091	49.9	1,092	50.0
3.	Podgorani	614	306	49.8	308	50.1
4.	Kutilivac	1,624	798	49.1	826	50.8

16.6.2 Land Use

Land use and categories in the Project area

As explained in detail in *Chapter 13. Soil* of the ESIA, almost 76% of the Project footprint (motorway and the Konjic Bypass) will be laid down on forest land and almost 20% on agricultural land. Out of the 100 ha of the forest land, actual forests take up to 40% while the rest are mainly shrubs, bushes, and low growing vegetation. Additional 10 ha of agricultural land and 4 ha of forest will be occupied by access roads. Such distribution of land use is expected since the motorway is passing through rural areas and mountains.

Land use in the Project area (according to the 2018 Corine Land Cover for BiH) is shown in the two maps below – one for the Konjic side and one for the Mostar side.

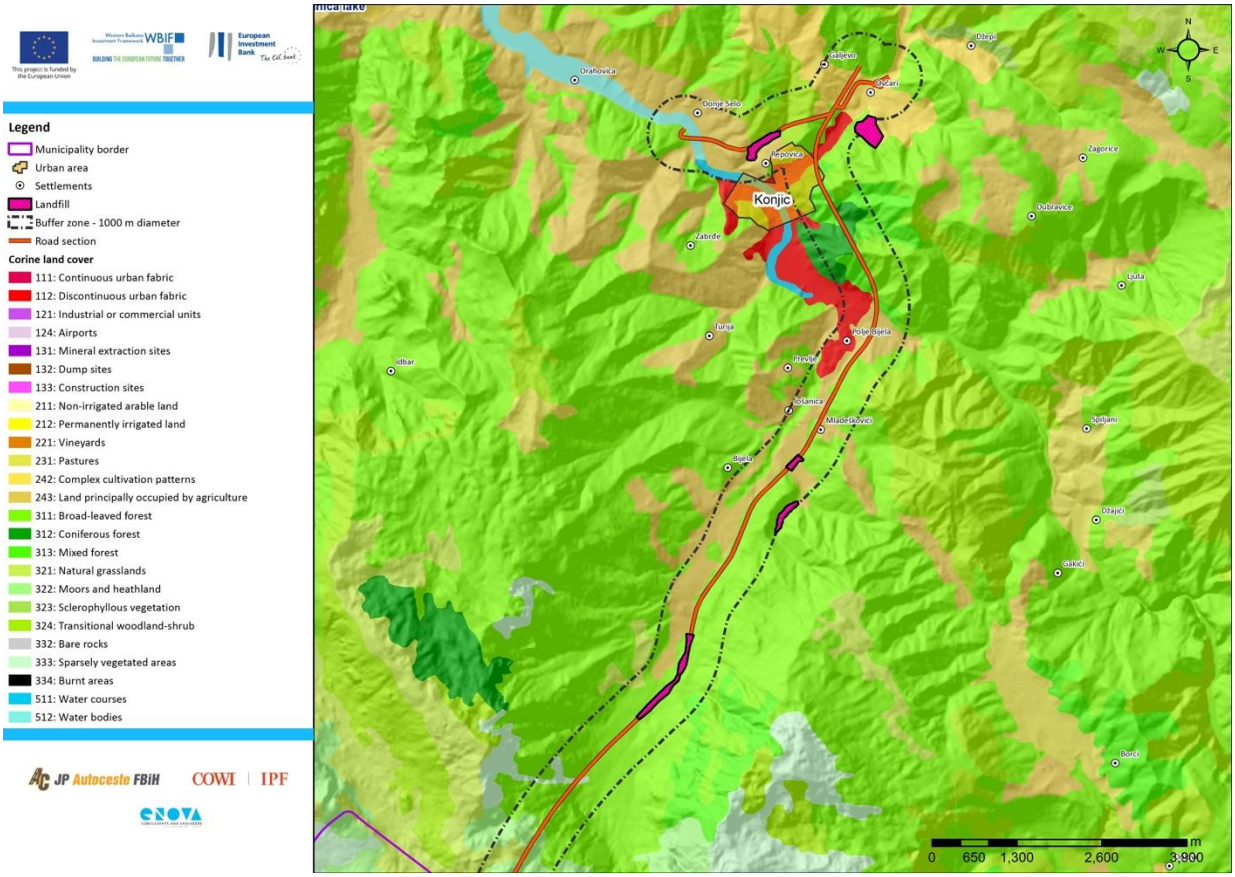


Figure 16-5: Land use on the Konjic side

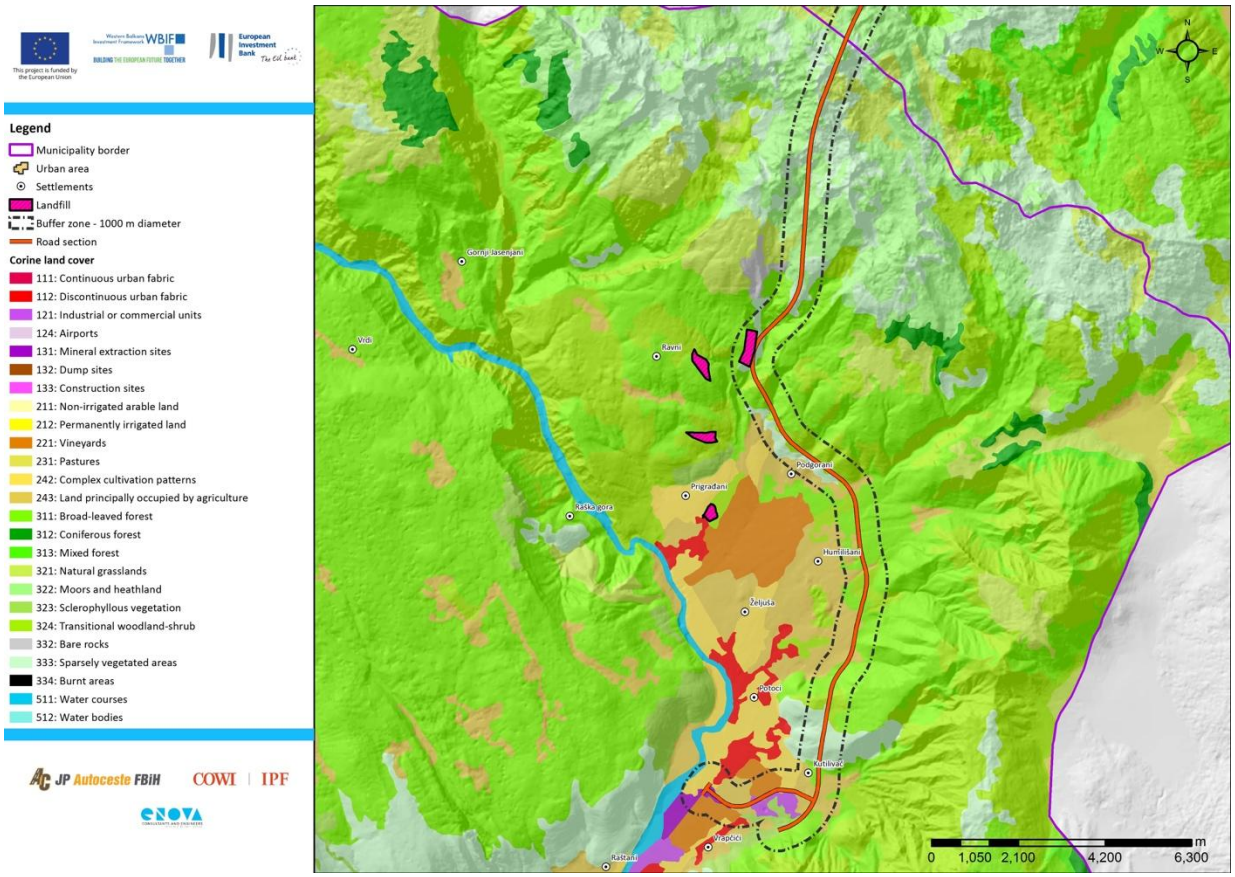


Figure 16-6: Land use on the Mostar side

The tables below give an overview of land categories along the alignment. The first table refers to land categories occupied by the footprint of the main alignment and the Konjic Bypass, whereas the second table refers to land occupied by the footprint of access roads.

Table 16-15: Land occupied by the main alignment including the Konjic Bypass

Category	Area (ha)	%
1 - ARTIFICIAL SURFACES (discontinuous urban fabric, mineral extraction sites)	4.16	3.16
2 - AGRICULTURAL LAND (vineyards, complex cultivation patterns[21], land principally occupied by agriculture)	26.41	20.08
3 – FOREST (various types of forests, natural grasslands, sparsely vegetated areas, etc.)	100.37	76.33
4 - WATER BODIES	0.52	0.40

[21] Several small, cultivated plots of land with different types of cultivation - annual crops, pastures and/or permanent plantations, possibly with scattered houses or gardens.

Table 16-16: Land occupied by access roads

Category	Area (ha)	%
1 - ARTIFICIAL SURFACES (discontinuous urban fabric)	1.33	8.96
2 - AGRICULTURAL LAND (vineyards, complex cultivation patterns, land principally occupied by agriculture)	9.66	65.14
3 – FOREST (broad-leaved forest, transitional woodland-shrub, sparsely vegetated areas)	3.84	25.90

The table below provides information on land in the 500 m buffer zone from the motorway and the bypass axis (excluding the footprint).

Table 16-17: Land occupied by the buffer zone around motorway and Konjic Bypass (500m from the axis, excluding the footprint)

Category	Area (ha)	%
1 - ARTIFICAL SURFACES (discontinuous urban fabric, industrial or commercial units, mineral extraction sites)	164.14	3.92
2 - AGRICULTURAL LAND (vineyards, complex cultivation patterns, land principally occupied by agriculture)	931.33	22.22
3 – FOREST (various types of forests, natural grasslands, sparsely vegetated areas, etc.)	3059.31	72.99
4 - WATER (water courses and water bodies)	36.65	0.87

Use of agricultural land. Additional data on use of agricultural land by households (HH) were collected through the socio-economic surveys conducted during the development of this ESIA.

Ownership of agricultural land. The majority (86.92%) of surveyed HH own agricultural land, but only less than 1% is formally registered for agricultural production.

Vegetable growing. The vast majority (90.35%) of surveyed HH grow vegetables, mainly for subsistence, whereas only 2.63% sell vegetables along with subsistence purposes. Vegetable growing is rated as "very important" for the household income for almost a fifth of households.

Fruit growing. 80.7% of surveyed HH are engaged in fruit production, mainly for subsistence – only 2.63% sells fruit along with subsistence purposes. Fruit growing is "very important" for the household income for around 9.26% of HH.

Livestock/poultry farming. 14.91% of surveyed HH are engaged in livestock/poultry farming. The majority of these (76.47%) use farming products only for subsistence, 5.88% sell their products and 17.65% both sell and use the

products for their own needs. Livestock/poultry farming is rated as "very important" for the household income of a fourth of these HH.

Beekeeping. Bee-keeping activities are not common in the project area; only 2.78% of HH engage in beekeeping activities. 66.7% of these HH use bee products only for subsistence and 33.3% for sale.

Forestry. The most common types of forests in the Project area are broad-leaved forest (around a third of all forest areas). Even though the Project area abounds in forests, forestry activities are not common; only 4.39% of surveyed HH are engaged in such activities, all only for subsistence. A very small minority (0.88% of HH) are engaged in activities such as collecting mushrooms and herbs in the forests.

Owning land elsewhere. Almost a half (45.74%) of the surveyed HH own agricultural land at another location – but only a third of these uses it for agriculture, forestry or use for other personal needs such as grass mowing.

16.6.3 Education

Since there is no official statistical data on education per settlement in the Project area, these data were collected through the socio-economic surveys during the development of this ESIA.

Almost a fourth (23.6%) of HH members have completed only primary school, over half (58.8%) have completed secondary school, a minority (14.1%) have a university degree, while 3.5% reported that they never went to school.

There are no educational establishments identified within the wider study area itself The nearest educational institutions are located in the urban area of the City of Konjic (elementary schools "Prva osnovna skola" and "Druga osnovna skola" in the Repovica settlement, around 500 m away from the planned route), and elementary schools in Mostar (elementary school "Livac" in the Kutilivac settlement, approx. 900 m away from the route and elementary school "Humi" in the Humilisani settlement, around 1 km m away from the route).

16.6.4 Employment, Income and Livelihoods

Since there is no official statistical data on employment and income per settlement in the Project area, these data were collected through the socio-economic surveys during the development of this ESIA.

The majority of heads of HH among the surveyed households are pensioners (51.56%), followed by employed persons (39.06%) and unemployed persons (9.38%).

In terms of monthly income:

- 18.26% of HH have monthly income of less than 500 convertible marks (BAM) (≈255 EUR),
- 28.57% have between 500 BAM (≈255 EUR) and 1,000 BAM (≈511 EUR),
- 39.68% have between 1,000 BAM (≈511 EUR) and 1,500 BAM (≈767 EUR), and
- 13.49% households have over 1,500 BAM (≈767 EUR).

The main sources of income of the HH are pensions (67.46%) for elderly people and salaries (56.35%) for employed people. Less significant sources of income reported by HH are income from sale of agricultural products (24.6%) and small businesses (0.79%). Other sources reported are scholarships, private markets, and income from livestock farming.

The vast majority (92.79%) of HH stated that they have sufficient income only for basic needs, and 3.61% do not have enough income for even basic needs. Only 3.6% self-reported a high level of income.

16.6.5 Vulnerable Groups

Social exclusion affects certain groups more than others due to factors such as age, disability, and place of residence. Motorway construction, such as Prenj section, can result in a range of environmental and social impacts that may affect vulnerable groups even further. Each of these impacts emphasises the importance of diligent monitoring and management of construction activities to protect the health and well-being of these populations.

EBRD ESP 2019 defines vulnerability as "*people or groups of people who may be more adversely affected by project impacts than others by virtue of characteristics such as their gender, gender identity, sexual orientation, religion, ethnicity, indigenous status, age (including children, youths and the elderly), physical or mental disability, literacy, political views, or social status*". This approach aligns with the EBRD's guidelines, emphasising fair consideration of marginalised populations and efforts to reduce adverse effects.

EIB's E&S Standards[22] state that "*vulnerable or marginalised persons and groups are those that: (a) are usually exposed to several risks and adverse impacts at once; (b) are more sensitive to those risks and impacts, often having been*

---

22 *https://www.eib.org/attachments/publications/eib_environmental_and_social_standards_en.pdf*
https://consult.eib.org/consultation/essf-2021-en/user_uploads/standard-7---vulnerable-groups--ips-and-gender---clean.pdf

subject to pre-existing discrimination; and (c) have a weaker adaptive capacity for coping with those risks and recovering from those impacts, due to limited access or rights to required assets and/or resources. As a result, they can be disproportionately affected by project-related risks and impacts".

More information about EBRD Environmental and Social Policy (2019) and the EIB Environmental and Social Standards (2018) can be found in Chapter 0.
In addition to the listed institutions, municipal mechanisms for gender equality have also been established, including the Commission for Gender Equality in the Municipality of Konjic and the Commission for Gender Equality in the City of Mostar. While the Mostar Commission has led the development of the Gender Action Plan for 2023–2027, there is limited information available regarding the activities or meeting frequency of the Konjic Commission. Furthermore, there is no data confirming the creation or implementation of a local Gender Action Plan in Konjic, making it challenging to evaluate the progress of gender equality initiatives in the municipality.

Legal and Policy Framework for Addressing Vulnerable Groups.

16.6.5.1 Institutional Framework in BiH and FBiH for Human Rights Protection

Human rights protection in BiH is supported by various institutions at the national, entity, and cantonal levels. The table below provides an overview of these institutions and their respective roles in the human rights framework in the country.

Institution	Level	Description
Ministry for Human Rights and Refugees	BiH	Ministry deals with the human rights and rights of refugees, based on which their main two departments are divided. Department for human rights follows and prepares reports on the state of human rights in BiH based on international conventions.
Agency for Gender Equality of BiH	BiH	The Agency monitors and analyses gender equality in the country, providing annual reports and recommendations to the Council of Ministers. It coordinates the development and implementation of the Gender Action Plan, ensures the alignment of laws and policies with gender equality standards, and collaborates with institutional mechanisms and NGOs. The Agency also handles complaints related to gender rights violations, represents BiH internationally on

Institution	Level	Description
		gender issues, and works to promote gender equality in all areas of public life.
Institution of the Ombudsman for Human Rights	BiH	Independent institution dealing with the protection of rights of natural persons and legal entities in accordance with the Constitution of BiH and international human rights instruments. More specifically, it deals with rights of children, disabled persons, minorities, economic, social and cultural rights, among others. The complaints for the Ombudsman function based on the filling out a complaint available on their website.
BiH Council for Children	BiH	The Council was established to fulfil the country's obligations under the UN Convention on the Rights of the Child and its optional protocols. It is an expert, intersectoral, advisory, and coordinating body within the Council of Ministers, responsible for promoting and protecting children's rights, particularly by monitoring the implementation of the BiH Action Plan for Children. The Council operates under the Ministry of Human Rights and Refugees and consists of 13 members, including government officials, NGO representatives, and academics.
BiH Council for Persons with Disabilities	BiH	The Council is a professional, advisory, intersectoral, and coordinating body established by the Council of Ministers of Bosnia and Herzegovina. Its primary role includes promoting the human rights of persons with disabilities, initiating and participating in the creation and monitoring of strategic, legislative, and policy documents related to disability. The Council collaborates with international and local organisations, facilitates coordination among relevant institutions, and provides recommendations and opinions on legislation and projects. It also works to improve the position of persons with disabilities in alignment with the UN Convention on the Rights of Persons with Disabilities.

Institution	Level	Description
Roma Advisory Board (Roma Committee)	BiH	The Board was established in 2002 to address issues related to the Roma minority. It is an advisory and coordinating body of the Council of Ministers, responsible for monitoring the implementation of the Action Plan for Roma and the Roma Inclusion Decade (2005-2015). The Board's duties include overseeing the Action Plan's execution in areas such as employment, housing, and healthcare, securing funding, and engaging with donors. It consists of 22 members, including 11 Roma representatives and 11 institutional representatives, with support from the Ministry of Human Rights and Refugees of BiH.
Ministry of Labour and Social Policy	FBiH	This **Ministry** plays an important role in addressing the needs of vulnerable groups such as: > **Pension and disability insurance**: Developing and managing policies and systems to provide pensions and disability benefits, ensuring financial security for individuals unable to work due to age, disability, or other circumstances. > **Social security and solidarity**: Focusing on the protection of civil war victims, support for families, adoption processes, guardianship, and comprehensive social protection, with particular attention to those in vulnerable situations.
Gender Centre FBiH	FBiH	The Gender Centre of the FBiH is a government body focused on promoting gender equality. It ensures laws and policies align with national and international standards, monitors the status of women's rights, provides policy recommendations, and raises awareness through education and advocacy. The Centre plays a key role in fostering equality across all areas of society.
Cantonal Ministry of Health, Labour and Social Protection	Cantonal	This Ministry, among its various responsibilities, focuses on ensuring the well-being of vulnerable groups. This includes providing access to healthcare, social protection services, and

Institution	Level	Description
		rehabilitation for women, children, and war victims. Additionally, it coordinates with humanitarian organisations to address the specific needs of vulnerable individuals and ensures that healthcare and social services are accessible to those in need.

In addition to the listed institutions, municipal mechanisms for gender equality have also been established, including the Commission for Gender Equality in the Municipality of Konjic and the Commission for Gender Equality in the City of Mostar. While the Mostar Commission has led the development of the Gender Action Plan for 2023–2027[23], there is limited information available regarding the activities or meeting frequency of the Konjic Commission. Furthermore, there is no data confirming the creation or implementation of a local Gender Action Plan in Konjic, making it challenging to evaluate the progress of gender equality initiatives in the municipality[24].

16.6.5.2 Legal and Policy Framework for Addressing Vulnerable Groups

This ESIA adopts a comprehensive approach to identifying and addressing vulnerable groups, incorporating not only the provisions of the FBIH laws but also the broader, more inclusive requirements set out in the EBRD Environmental and Social Policy (2019) and the EIB Environmental and Social Standards (2022). The identification process has carefully considered these frameworks to ensure that all individuals and groups who are at risk of disproportionate impacts are adequately identified, consulted, and supported throughout the project lifecycle.

FBiH Laws on Vulnerable Groups:

- **The Law on Expropriation in FBIH** provides for additional compensation for individuals directly affected by land acquisition who are identified as vulnerable under specific legal criteria.

- **The Law on Social Protection, Protection of Civilian Victims of War, and Protection of Families with Children** offers monetary and material assistance to individuals and families in social need, with rights asserted through municipal authorities.

[23] https://www.mostar.ba/storage/2024/10/Gender-akcioni-plan-Grad-Mostar-septembar-2024.pdf
[24] https://fondacijacure.org/wp-content/uploads/2022/04/Akcioni-plan-Konjic.pdf

- **The Law on Displaced Persons and Returnees in FBiH and Refugees from BiH** aims to ensure the social and economic reintegration of displaced persons and returnees, implemented through federal and local institutions.

These laws are primarily focused on mitigating immediate social and economic impacts on legally recognised categories of vulnerable groups.

EBRD Environmental and Social Policy (2019):

- **PR 1** requires that projects identify vulnerable groups early in the assessment process to ensure their specific needs are accounted for and that they are not disproportionately impacted by the project.

- **PR 5** requires that the livelihoods and living standards of affected vulnerable groups are restored or improved through targeted assistance, in addition to compensation, where applicable. This includes enhanced consultation and participation during the land acquisition and resettlement process.

The policy also emphasises meaningful consultation as a key principle, ensuring that vulnerable groups are actively engaged in project discussions, and their feedback is integrated into mitigation and monitoring plans.

EIB Environmental and Social Standards (2022):

- **Standard 6** focuses on addressing the impacts of land acquisition and resettlement, ensuring that the livelihoods of displaced and vulnerable groups are restored or improved through targeted compensation and mitigation measures.

- **Standard 7** ensures the protection of vulnerable groups such as displaced persons, women, ethnic minorities, the elderly, and people with disabilities throughout the project lifecycle. This includes meaningful consultation and integration of their concerns into project planning and implementation.

16.6.5.3 Vulnerable Groups among Surveyed Population

The development of large infrastructure projects such as the Prenj motorway has the potential to increase existing vulnerabilities within the affected communities, particularly through environmental and health impacts. For instance, the construction process can lead to higher levels of particulate matter and other pollutants, which can degrade air quality. This poses a heightened risk for respiratory and cardiovascular problems, especially among children,

pregnant women, and individuals with pre-existing health conditions[25]. Moreover, the large amounts of waste generated by construction activities can cause soil and water pollution[26], further increasing health risks for pregnant women and young children, whose developing bodies are especially sensitive to toxins. The noise generated by construction can also disrupt daily routines and contribute to higher stress levels, particularly among children and youth[27]. Furthermore, individuals with disabilities, the elderly, children, and young people may face increased safety and accessibility challenges when navigating areas near construction sites. These issues could hinder their ability to access vital services such as healthcare and education.

During the operational phase, the motorway can continue to pose issues related to public health, especially affecting vulnerable groups. Air quality may still be impacted by increased levels of vehicle emissions, especially in high-traffic areas, affecting vulnerable groups such as children, the elderly, and individuals with pre-existing health conditions. Inadequate pedestrian crossings, poorly maintained infrastructure, and high-speed traffic can increase the risk of accidents and injuries. This can further decrease accessibility and mobility for disabled individuals, elderly persons, and children, making it more difficult for them to access important services such as healthcare, education, and employment. The operational phase may also involve the need for ongoing maintenance activities, which can continue to cause localised disruption, including dust and noise pollution. While these impacts may be less intense than during construction, they can still affect surrounding communities, particularly those living in proximity to the motorway.

For the purposes of this Project, a survey involving 83 households (with 259 individual members of these households) was conducted, through which various vulnerable groups were identified. The responses of the surveyed individuals included 61% of men and 39% of women. The following criteria were applied to identify and collect data on vulnerable groups in the Project area:

- Reviewing the data collected during the socio-economic surveys by applying vulnerability criteria (this included: (i) household criteria – household composition, special needs of a person/household, health status, etc.; and (ii) socio-economic criteria (level of poverty, returnee status, etc.),
- consulting with representatives of the local communities and NGOs in the Project area of influence,
- Applying best practices on vulnerability and relevant literature/studies.

[25] https://esap.ba/wp-content/uploads/2022/04/GESEP_Air-pollution-DB_ENG_WEB.pdf
[26] https://esap.ba/wp-content/uploads/2022/04/GESEP_Waste-DB_ENG_WEB.pdf
[27] https://esap.ba/wp-content/uploads/2022/04/GESEP_Chemicals-and-noise-DB_ENG_WEB.pdf

- **Key vulnerable groups identified.** The table below outlines the vulnerable groups considered, specifying their particular vulnerabilities and explaining their significance in the context of the Project. It is important to note the following:
    1. Not every individual in these categories will necessarily be vulnerable. Vulnerability is often context dependent. The inclusion of these categories is to ensure that targeted mitigation measures address specific needs, rather than to assume universal vulnerability.
    2. These categories are not mutually exclusive; an individual may belong to several categories simultaneously

Official data on post-war returnees in Mostar and Konjic is not publicly available, so the Consultant gathered information through socio-economic surveys and by contacting Local Community Offices and NGOs in the area. Among identified returnees, approx. 68% identified as Croats, 28% as Bosniaks and 4% as Others. About a third of returnee households receive assistance, such as housing reconstruction aid. Local community representatives, including those from Bijelo Polje, Bijela, and the NGO "Association of Serb Returnees Neretva" in Konjic, reported Serb returnees are living in these areas but raised no concerns about motorway construction. Representatives from Dzepi, Centar, Tresanica, and Donje Selo also did not report any returnees or raise issues related to the returnee population.

Category	Specific Vulnerability Criteria	Vulnerability relevance in context of motorway construction	Identified groups or individuals
Economic status	Households were classified as **financially vulnerable** if their monthly income was: > **below the poverty line**[28], > **unstable** (e.g., reliant on social assistance or periodic earnings), or > **sufficient to cover basic needs only** (as indicated by self-assessment in the socio-economic survey).	Financially vulnerable households may have additional financial strains in coping with additional costs or disruptions caused by motorway construction. These can include: > transportation-related costs (changes in transportation routes or increased travel times could raise expenses for commuting, accessing services or delivering agricultural or other goods) > health-related costs (in case of, for e.g., increased exposure to pollution) > loss of livelihoods (households dependent on farming or small-scale businesses that are disrupted by land acquisition or construction activities may experience	A significant portion of households (25%) are classified as "very poor," with incomes below ≈EUR 500, highlighting the financial insecurity faced by many families. The majority (71%) of households reported earning just enough to meet basic needs, while a smaller number of households (4%) are affected by unemployment, primarily in the communities of Bijela and Kutilivac.

[28] The methodology of the poverty data analysis is explained in more details in Chapter **Error! Reference source not found.Error! Reference source not found.**.

Category	Specific Vulnerability Criteria	Vulnerability relevance in context of motorway construction	Identified groups or individuals
		income loss, further exacerbating their vulnerability) > Additionally, limited financial means may prevent these households from attending public hearings or consultations about the Project if held in distant locations.	
Returnee status	**Returnees** are individuals or families who have returned to their former place of residence after having to relocate or evacuate due to the war (in this context, between 1992-1995).	Returnees may face heightened vulnerability due to their history of displacement. In particular, the prospect of resettlement may trigger trauma or anxiety related to their prior experiences of forced displacement during the conflict. Furthermore, for many returnees, land can hold cultural and emotional significance.	Although returnees may form a smaller group within the overall population, the presence of returnee households in the Project area was confirmed during consultations with the Association of Serb Returnees (October 2022), as well as through individual surveys conducted as part of the socio-economic census (2022). Their views were considered during the consultation process. Out of the total number of respondents interviewed, 30% identified as returnees. Of the total number of returnees, 68% identified as Croats, 28% identified as Bosniaks, and 4% as Other. However, none of the respondents identified as a Serb.

Category	Specific Vulnerability Criteria	Vulnerability relevance in context of motorway construction	Identified groups or individuals
Family structure	Family units were classified in the following categories: > **single-person households** (may include elderly, unemployed or disabled individuals who may lack regular care or support networks) > **single-parent households** (one parent raising one or more children without a partner's support) > **families with more than two children** (may face higher economic and logistical demands due to larger family sizes)	Limited support and resources associated with these vulnerabilities, particularly those involving financial or caregiving demands, can make it challenging for such households to cope with any additional financial strains and to adapt to temporary or permanent changes caused by the Project. For single-parent households, the demands of caregiving can make it difficult for single parents to attend public hearings or consultations, particularly if such events require travel or extended time commitments. Note: Not all households in these categories will face vulnerability unless combined with factors such as low income or location near high-impact areas.	There are few households with more than two children, representing 7% of the sample, reflecting the prevalence of larger family structures typical in rural areas. However, the survey found no single-parent households or families with children without parental care.
Age	Age-based vulnerabilities were identified for **children** (0-6 years), **youth** (7-18 years), and **elderly** individuals (65 and older).	Children and youth may be at a higher risk of injuries or accidents due to construction activities and increased traffic, as they may not recognise hazards or act safely in high-risk situations. Noise,	The age distribution highlights a mixed population, with children (0-6 years) and elderly (65+) individuals representing a combined 23% of the population.

Category	Specific Vulnerability Criteria	Vulnerability relevance in context of motorway construction	Identified groups or individuals
		dust and pollution may have a greater impact on their health. Elderly people (especially in rural areas) may have: > Limited access to or familiarity with the internet, making digital communication methods less effective) > Physical limitations that hinder their ability to navigate disrupted or unsafe access routes > Pre-existing health conditions that increased pollution, noise, and vibrations may increase	
Education levels	This category includes individuals: > **without formal education** (those who lack any formal schooling) > **with only primary education** (those who have completed only basic levels of education)	Individuals with lower educational levels may have difficulty accessing and/or understanding Project-related information. Note: Lack of education amplifies vulnerability when coupled with other factors, such as limited access to in-person communication or decision-making exclusion.	The survey shows that most individuals have at least primary or secondary school education. However, there are still a few individuals without formal education, and many have only completed primary school, particularly in rural communities such as Gornje Polje.

Health	Health-related vulnerabilities can include: > **physical disabilities** (conditions that affect mobility) > **mental disabilities** (impairments affecting mental and social interactions) > **chronic illnesses** (conditions requiring ongoing care, monitoring and financial support, such as asthma, diabetes and kidney disorders) > **pregnant women** (pregnant women may face heightened health risks and require access to regular prenatal care or they may be more vulnerable to increased exposure to environmental hazards)	Individuals with health-related vulnerabilities face heightened risks during motorway construction due to: > Limited possibilities for engagement for people with mobility limitations that make it harder for them to participate in community engagement activities > Restricted access to healthcare (construction activities may disrupt transportation routes or increase travel times, delaying access to critical healthcare services) > Increased health risks (dust, noise and pollution can exacerbate chronic illnesses).	There is a moderate number of individuals with health vulnerabilities, primarily physical disabilities and chronic illnesses, affecting 12 individuals across the settlements.

16.6.6 Local Economy

Economic activities in the wider study area were analysed based on site visits by the Consultant and the socio-economic survey conducted among households and 16 businesses. The surveyed businesses represent 64% of the total 25 identified businesses within the buffer zone of the planned route. It is important to note that agricultural activities carried out by households were not included in the business survey, as they were not classified as such in official business records. However, the household survey indicated that many households' practice agriculture mainly for personal use rather than as formal, registered commercial operations.

The local economy of the Project area is based mainly on agriculture and tourism related activities, as well as some metal processing and construction.

Agricultural activities are very common in the settlements of Ovcari, Bijela and Kutilivac. The settlements of Gornje Polje and Polje Bijela are characteristic for rafting centres and activities (along the Neretva River and Bijela River), with tourism activities included.

The City of Konjic has two business zones:

- ***Unis* business zone** is an industrial metal processing zone located in Donje Polje, the urban area of the City of Konjic. It is estimated to be 1.1 km from the planned motorway section and covers an area of 20 ha. This business zone employs approx. 2,000 workers.
- ***Sipad* business zone** located along the main road M17 Sarajevo-Mostar, in the Tresanica settlement. It covers an area of 20 ha and employs about 265 workers. This zone is located approximately 0.20 km from the motorway section.

The main activities of 16 businesses located in the wider study area that were surveyed are:

- Construction and civil engineering
- Tourism and trade
- Production of cardboard packaging
- Catering
- Tourism and hospitality activities
- Manufacture, wholesale and sale of furniture and construction materials
- Vehicle technical inspection and insurance
- PVC hardware/ carpentry
- Production of designed and traditional furniture
- Quarry (excavation and sale of materials, supervision of road communications)
- Glass production
- Transport of passengers and goods
- Production and sale of PVC joinery
- Construction and civil engineering
- Tourism and trade

- Production of cardboard packaging
- Catering
- Tourism and hospitality activities
- Manufacture, wholesale and sale of furniture and construction materials
- Vehicle technical inspection and insurance
- PVC hardware/ carpentry
- Production of designed and traditional furniture.

14 of these 16 businesses confirmed they are formally registered and have their own business premises, whereas two businesses did not wish to respond to this question. The majority of the businesses operate as a limited liability company. Most of the surveyed businesses (62.5%) have auxiliary facilities (such as parking lots) in addition to business premises.

The survey also included insights into the business scale, with 81.82% of businesses operating at the international level and 18.18% at the state level.

The businesses were asked whether their business activities are season dependent. 46.2% of them confirmed that they are (around half of these added that the period March-November is most intensive) and 38.5% reported that they are not. 7.7% of businesses pointed out that their business operations somewhat stagnate in winter and 7.7% reported that passenger transport is season-dependent, but transport of goods is not.

More than a half of the surveyed businesses (57.2%) emphasised that their daily business largely depends on the accessibility of their premises to the customers and the proximity of the road, while accessibility is not important for only 7.1%.

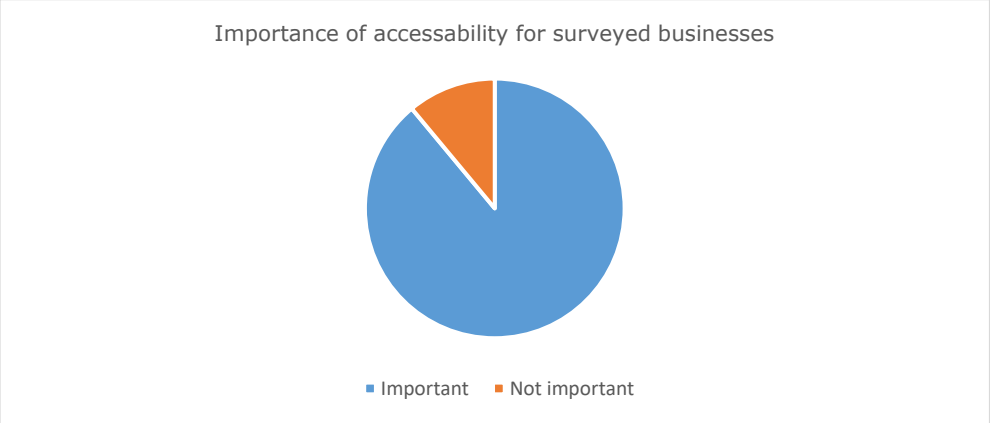


Figure 16-7: Importance of accessibility for surveyed businesses

Regarding the level of information provided, vast majority of business respondents were satisfied with the information received and held positive views towards the Project, although several respondents requested more frequent updates. Several respondents (approx. 15%) expressed negative view towards the Project, particularly those engaged in tourism and hospitality businesses.

16.6.7 Traffic Infrastructure

16.6.7.1 Existing Road Infrastructure in the Project Area

Several already existing roads will be affected by the construction of the motorway section and the Konjic Bypass. Several roads (one main road and two regional roads) are in use in the Project area:

1. Main road M17: northern border of Croatia-Doboj-Zenica-Sarajevo-Mostar-Capljina-southern border of Croatia,
2. Regional road R435: Konjic-Borci-Glavaticevo-Odzaci,
3. Regional road R435a: Potoci-Rujiste-Cesim-Borci.

JPAC's official map given below shows main roads (red colour) and regional roads (light orange colour) in FBiH.

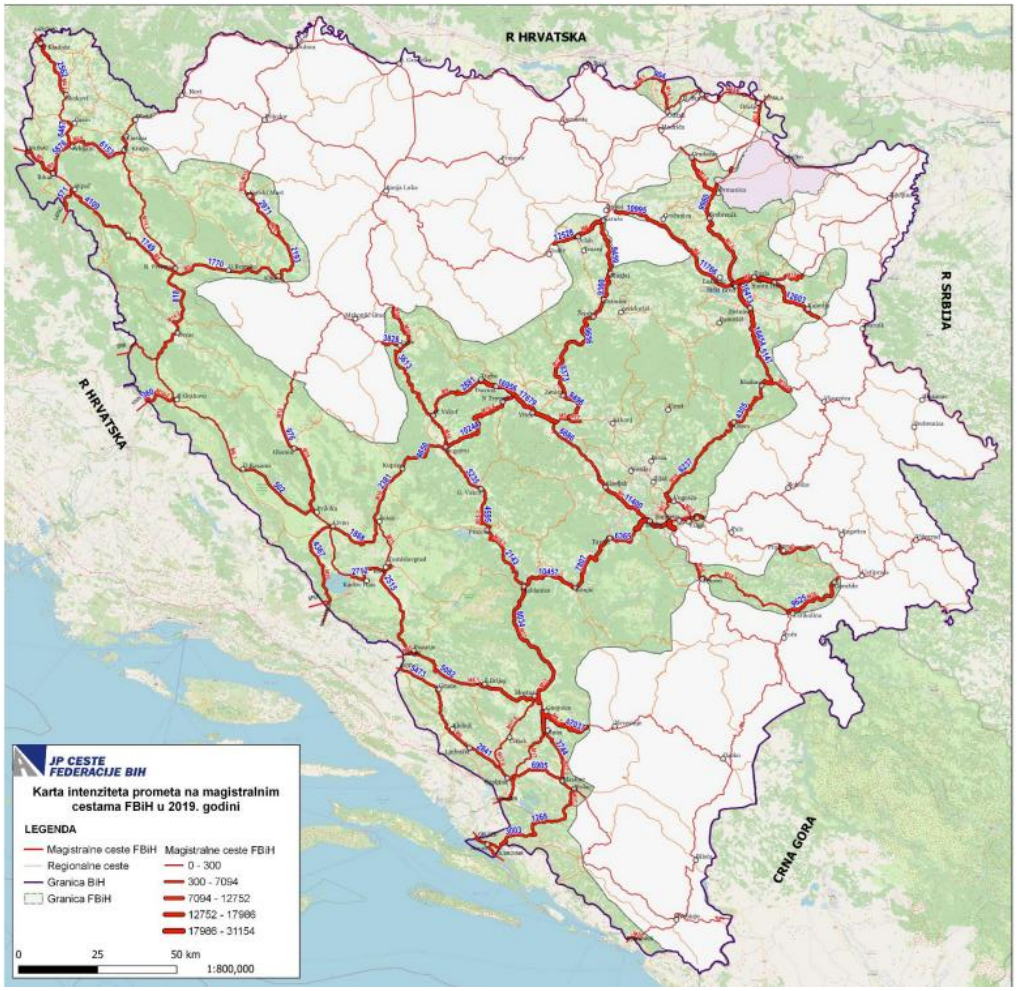


Figure 16-8: Main roads (red colour) and regional roads (light orange colour) in FBiH

According to data presented in the Study of Traffic Count Locations on the Main Roads of FBiH (2019), it can be noted that the section of M17 from Konjic to Mostar has moderate traffic intensity. Furthermore, M17 passes through

populated areas with relatively intensive pedestrian traffic and speed limit 40 - 50 km/h.

The rest of the road network is made up of access roads, local roads, unpaved roads, and footpaths, which connect local settlements with the above listed three roads. The local roads are used by local inhabitants to reach their houses and land plots, as well as by local businesses during their business activities.

16.6.7.2 Planned Project Road Infrastructure

The following road infrastructure is designed as part of the Project:

Main motorway route Konjic (Ovcari) – Prenj Tunnel – Mostar North- The total length of the section is 34.26 km, and the detailed description is presented in *Chapter 2 Project description*.

Konjic Bypass will connect the motorway at Ovcari Interchange with the M17 to Jablanica. This bypass will allow for M17 traffic to access the motorway directly without entering the urban area of Konjic. The total length of the Konjic Bypass is approx. 2.5 km, and it is designed with a maximum speed of 70 km/h. Detailed description of Konjic Bypass is presented in *Chapter 2 Project description*.

Local roads – where existing local and other access roads will be cut by the motorway; new local roads will be constructed for providing access of the local community to land plots.

At the point of intersection with the motorway route, it is planned to relocate and place the existing road network under, above or parallel to the motorway route. Detailed descriptions of new local roads are presented in *Chapter 2 Project description*.

Access roads to the motorway section – following access roads will be constructed as a part of the Project:

- Ovcari Interchange will enable the connection of the motorway and the existing main road M17 in the Ovcari settlement. The interchange is designed in the shape of a rhombus, and the connection with the existing main road will be enabled by means of a 1.0 km long access road.
- The second access road is planned near the Konjic South Interchange. The interchange has been designed to connect the settlements on the south with the motorway and the existing regional road R435 Konjic-Borci which leads to Boracko Lake. The Konjic South interchange has also been designed in the shape of a rhombus, and the connection with the existing road network will be achieved by an access road that connects to the R435. On the access road, the lateral toll station Konjic South is designed.

Access roads to Prenj Tunnel – According to the Main Design for access roads to the Prenj Tunnel[29], northern and southern access roads to Prenj Tunnel will be constructed. **Northern access roads** consist of two sections in the total length of approx. 6.6 km passing through the Bijela settlement. **Southern access roads** to the Prenj Tunnel are divided into six sections with a total length of approx. 7.2 km. Detailed descriptions of access roads to Prenj Tunnel are presented in *Chapter 2 Project description*.

16.6.7.3 Railway Infrastructure

The connection between the Ovcari Interchange and access road to the motorway crosses the existing railway line (Mostar-Capljina) in the Ovcari settlement in the form of a viaduct, then passes parallel to the railway, which is at a 150 m distance from the nearest point of the alignment (at approx. 150-300 m). The crossing point of the motorway route with the railroad tracks is located 510 m north of the railway station Konjic.

The map below shows the position of the railway in the Ovcari settlement in relation to the planned Project infrastructure.

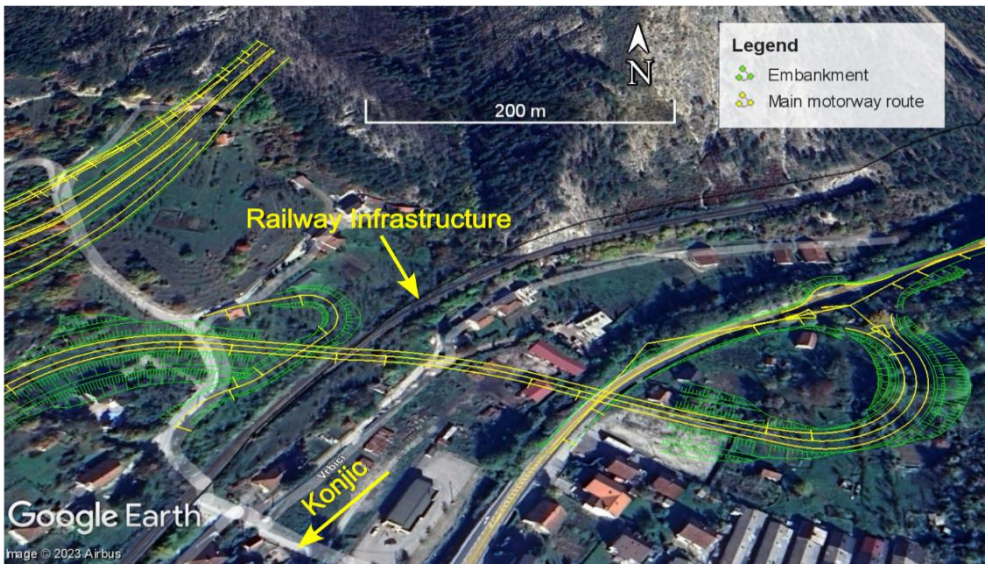


Figure 16-9: Railway infrastructure crossed by the viaduct between the Ovcari Interchange and access road to the motorway

The Konjic Bypass crosses the railway in the Donje Selo settlement in the form of a viaduct.

[29] Corridor Vc – Ovcari – Tunnel Prenj – Mostar North Development of Preliminary and Main Design for Preparatory Works, Design QC, Sarajevo, August 2022

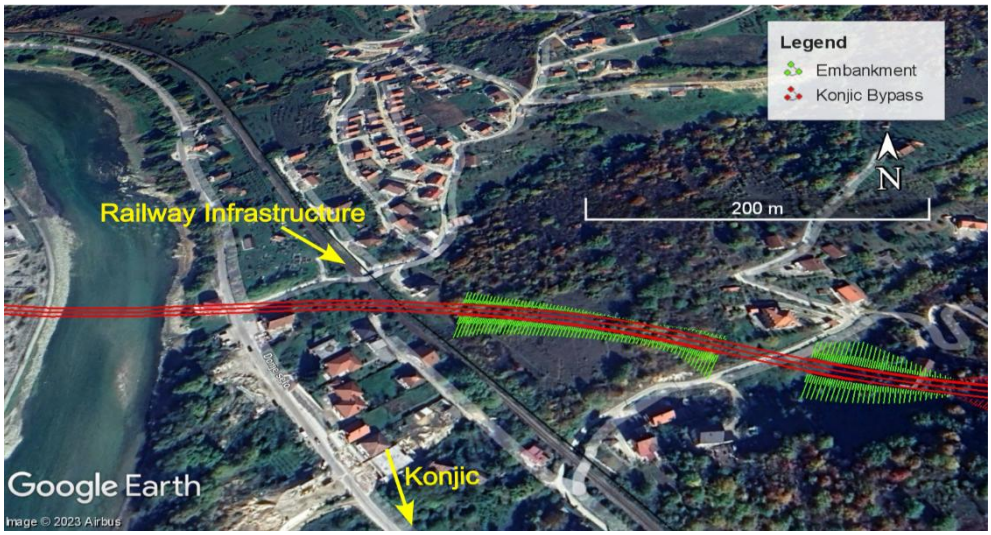


Figure 16-10: Railway infrastructure crossed by the viaduct in the Donje Selo settlement

The viaduct passes over the railway infrastructure in the *Sipad* industrial zone, in the Tresanica settlement, as shown in the map below.

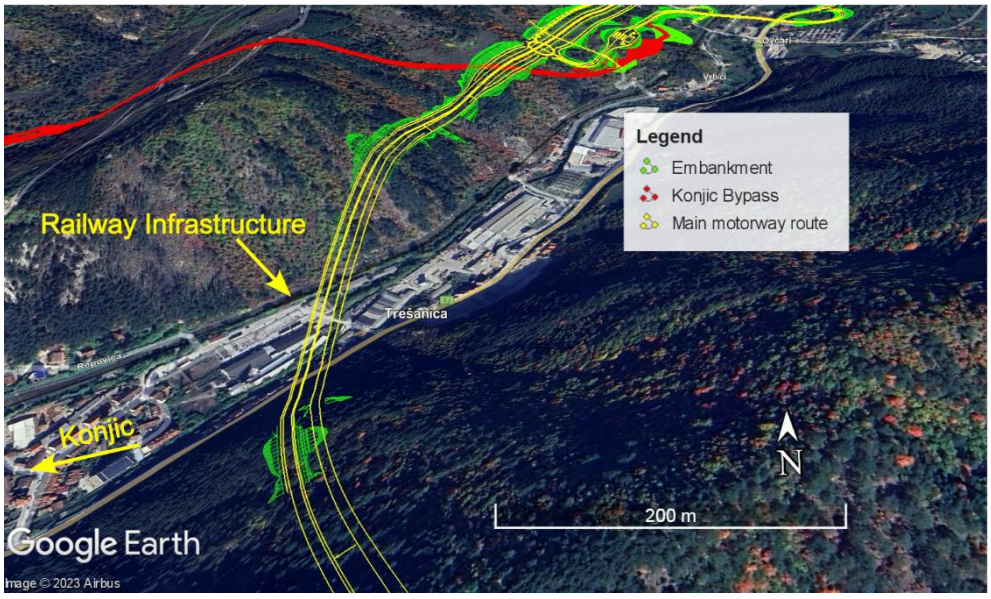


Figure 16-11: Railway infrastructure crossed by the motorway in the Tresanica settlement

At this point, the road section and the railway continue in separate ways. The railway route continues southeast, while the section continues southwest towards Prenj.

16.6.8 Water Supply and Sanitation

At the beginning of the motorway section (in the Ovcari settlement), there are two sources of drinking water: Zivasnica and Homolje; however, their catchment areas are situated above and outside the axis of the motorway section.

The motorway passes through the catchment areas of 5 springs utilised for water supply:

- **Sanica** (for supplying Jablanica): located about 11 km west of the motorway route
- **Konjicka Bijela** (for supplying Konjic and part of the population in the Bijela settlement): consists of two sources, Bijela and Gornja Bijela, which are located at a mutual distance of about 350 m, and the reservoir Gornja Bijela. The spring is officially not protected, and no sanitary protection zones have been established to date. The motorway route passes (a) in the immediate vicinity of the two springs in the form of an open route embankment and (b) in the form of a tunnel through the Prenj Mountain in the catchment area of the spring.
- A **local spring** in the Konjicka Bijela riverbed captured for the needs of part of the population of the Bijela settlement (up to 30 households) is located on the motorway route. This spring is not managed by the Konjic Water Supply Company. Note: These households do not have alternative water sources, so measures have been defined in *Chapter 7. Geology and Groundwater* to ensure continuous water supply for this settlement.
- **Salakovac** (for supplying Mostar): The section from Prenj Tunnel to Mostar North with access roads is designed to pass through the sanitary protection zones (SPZ) of the Salakovac spring. Four SPZs have been determined for the Salakovac spring: (i) protection zone I as a zone with the strictest bans and restrictions, (ii) protection zone II as a zone with strict bans and restrictions, (iii) protection zone III as a zone with moderate bans and restrictions, (iv) protection zone IV as a zone with preventive bans and restrictions.
  A large section of the Prenj Tunnel passes through SPZ IV, around 7.5 km. The next 5 km of the section from Prenj Tunnel to Mostar North, which includes two tunnels and 3 viaducts/bridges, passes through SPZ III. A part of the access road that leads from the main road in Salakovac via Prigradani and Podgorani to the exit portal of the Prenj Tunnel passes through SPZ III for about 2.7 km. This access road is designed in a way that it also passes through SPZ II for about 1.5 km.
- **Bosnjaci** (for supplying Mostar): One part of the motorway route will pass through the SPZ III of the Bosnjaci spring, which is used for water supply of the Mostar City. About 2 km of the open route before the tunnel and about 600 m of the Orlov Kuk Tunnel were designed to pass through the SPZ III of the Bosnjaci spring. The remaining 1.6 km of the Orlov Kuk Tunnel does not enter the defined SPZs of the Bosnjaci spring.

In the vicinity of the Konjic Bypass, there are no recorded sources of water supply.

Detailed information on the geology and hydrogeology of the Project area is presented in *Chapter 7. Geology and Groundwater*, whereas detailed information about the surface water environment and flood risks in the Project area is presented in *Chapter 8. Surface waters*.

According to data obtained through the socio-economic survey, 91% of the households living in the wider study area are connected to the public water supply network, but only 50% are connected to the public sewage network while the rest uses septic tanks.

The vast majority of HH (83%) use tap water and 21% reported that they also own private wells.

The representatives of 5 Local Community Offices consulted during the development of this ESIA emphasised that the water source Bosnjaci located on Prenj must not be jeopardised by the Project.

16.6.9 Telecommunication Services

96.43% percent of surveyed households stated that they have connections to the telecommunication network. These services are offered by HT Mostar, BH Telecom and HT Eronet, which all provide Internet services as well.

16.6.10 Sports and Recreation Infrastructure

Several sports and recreational facilities are located in the Project area:

- In the Donje Selo settlement, the city stadium Konjic is situated approx. 240m from the Konjic Bypass.
- Next to the stadium, there are football training facilities and a commercial pool.

- Shooting range of the company Igman d.d. Konjic, Gornja Bijela, is located around 180 m from the motorway section that passes through the Gornja Bijela settlement.

16.6.11 Waste Management Infrastructure

Existing landfills for municipal waste

The cantonal Public Enterprise "Standard d.o.o. Konjic" is the authorised public company responsible for collection and disposal of municipal waste in Konjic. Waste is disposed of at the city landfill in Konjic which is in the Repovica settlement and around 110 m from the Konjic Bypass.

The Mostar landfill for municipal waste is located at the very end of the motorway section, in the Vrapcici settlement, around 230m from the planned route. The landfill is operated by the Public Enterprise "Deponija" d.o.o. Mostar.

Planned spoil disposal sites

The construction of the motorway section will generate approx. **6.9 million m^3** of construction waste (spoil), of which approx. 3.4 million m^3 will be used as material for embankments. The final disposal will be required for 3.5 million m^3

of spoil that will be generated during excavation activities. Part of the spoil material will be disposed on the disposal sites which will be designed and used for this purpose, and part will be used for landscaping activities.

The proposed disposal site locations are Humilisani in Mostar, City Solid Waste Landfill in Konjic and landscaped areas which will be constructed as extensions of the exiting motorway embankments.

Humilisani has the capacity to accept the 2,800,000 m^3 of excess material from the construction of the second section of Tunnel Prenj, motorway section from Tunnel Prenj to Mostar North and access roads on the southern (Mostar) side. The location of the proposed landfill is located outside the boundaries of water protection zones and of future natural protected areas, along the left side of the motorway, and next to the regional road R435a.

Konjic City Solid Waste Landfill is located adjacent to the project and is located outside any future protection areas. The plan is to dispose 160,000 m^3 of spoil generated from the construction of Konjic Bypass.

The excess material will be used for landscaping the part of the route with the aim to blend with the surrounding environment. The largest landscaping project that will take place, utilising approximately 203,330.00 m^3 of excavation material from the route is located near the beginning of the Prenj Tunnel section. By reshaping the left side of the highway route, the embankment's height will be less visible and will better blend in with the surrounding environment.

The described disposal sites can accept the total spoil generated during the construction in the Project area. The final location of disposal sites will be determined by JPAC, the City of Konjic and the City of Mostar during the preparation of the Main Design.

The described disposal sites can accept the total spoil generated during the construction in the Project area. The final location of disposal sites will be determined by JPAC, the City of Konjic and the City of Mostar during the preparation of the Main Design.

16.6.12 Cultural, Historical and Archaeological Heritage

A preliminary screening of presence of the cultural and historical heritage in the Project area was initially carried out for the purpose of the Local EIA Study for LOT 4[30]. One such asset in Konjic and 13 assets in Mostar were registered in the wider zone of the motorway route (within approx. 500-1,000 m or more, none closer than 450 m). According to the list provided by the Commission to Preserve National Monuments, most of the listed monuments are classified as

[30] Zagrebinspekt Ltd. Mostar, IGH Ltd. Banja Luka, EIA Study LOT 4, 2016

'national monuments of great importance' for BiH or as 'national monuments of importance' for BiH[31][32]. These assets are shown in Table 16-18 below.

Table 16-18: *List of assets of cultural and historical heritage*[33]

No.	Location	Description	Distance from the motorway
1.	Vrabac, Bijela, Konjic	Remains of medieval fortress	1,379 m
2.	Mesdzid, Podgorani, Mostar	Ottoman mosque	521 m
3.	Karadjoz Bey Mosque, Potoci, Mostar	Ottoman mosque	1,445 m
4.	Humilisani, Mostar	Medieval necropolis and graveyards	1,082 m
5.	Milavina cemetery, Humilisani, Mostar	Necropolis and medieval tombs	1,241 m
6.	Bosnjaci, Potoci-Bosnjaci, Mostar	Medieval necropolis	549 m
7.	Bara, Potoci, Mostar	Prehistoric graveyards	2,464 m
8.	Antelj fence, Potoci, Mostar	Medieval monuments and tombs	2,425 m
9.	Grcine, Potoci, Mostar	Roman settlement, Mithras, and early Christian church	2,189 m
10.	Kratine, Humilisani, Mostar	Roman settlement, shrine and early Christian church	1,383 m
11.	Gradina, Podgorani, Mostar	Roman fortress and middle-aged quarry	621 m
12.	Crkvina, Kuti, Mostar	Remains of the late antique church	481 m
13.	Karaula, Lisani, Mostar	Prehistoric tumulus	821 m

[31] Rulebook on evaluation criteria, division and categorisation of national monuments, Commission for the Preservation of National Monuments of BiH
[32] The national legislation does not specify protection and mitigation measures for CH assets for different categories but the Institute issues decisions on protection specifically for each asset, with measures applicable to the asset in question. The measures include, for e.g., no construction works nearby that may cause damage to the assets.
[33] Temporary List of National Monuments of BiH, Commission to Preserve National Monuments, Sarajevo

No.	Location	Description	Distance from the motorway
14.	Gradina, Potoci, Mostar	Prehistoric hillfort	823 m

Out of all the registered sites, only two are in operation (mosque in Podgorani and mosque in Potoci) whereas the remaining are ruins.

In addition to the above listed 14 assets, **six additional assets were identified** during the development of this ESIA – four near the motorway section and two near the Konjic Bypass.

In the Kutilivac settlement, at an estimated distance of 170m from the motorway section, there is a Muslim cemetery called Kuti. This is a cemetery that is still in use and visited. Access to it is not affected by the proposed road. The map below shows its location (green pin).

Archaeological and historical research conducted during the last few decades of the 20th century in Potoci revealed several medieval cemeteries with decorated medieval tombstones characteristic for BiH (bos. *stećci*). The larger necropolis in Kuti stands out in particular. This cemetery includes 27 tombstones with different decorated motifs and is located in the immediate vicinity of the old Orthodox cemetery in Kuti. Tombstones are oriented east-west and some of them have partially or completely sunk into the ground. Also, part of the stecak near the old mosque in Potoci is located on the properties of local residents, and some of them have been incorporated into fences on private properties for a long time.

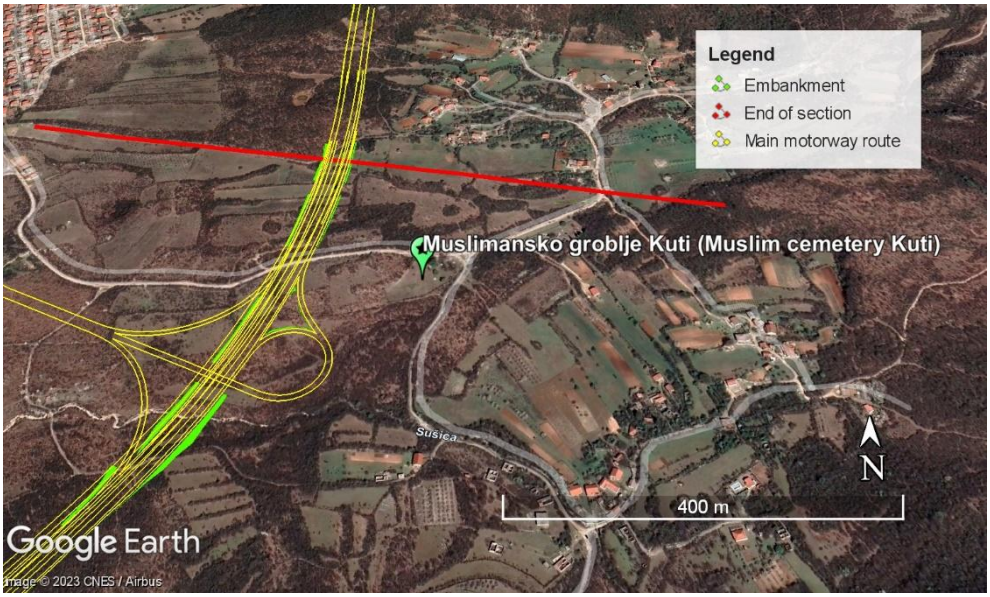


Figure 16-12: Muslim cemetery Kuti in the proximity of the motorway section (green pin)

An Orthodox cemetery is located in the Mladeskovici settlement. This is a cemetery that is estimated to be 122 m away from the motorway route, and is in use and visited. The map below shows its location (green pin).

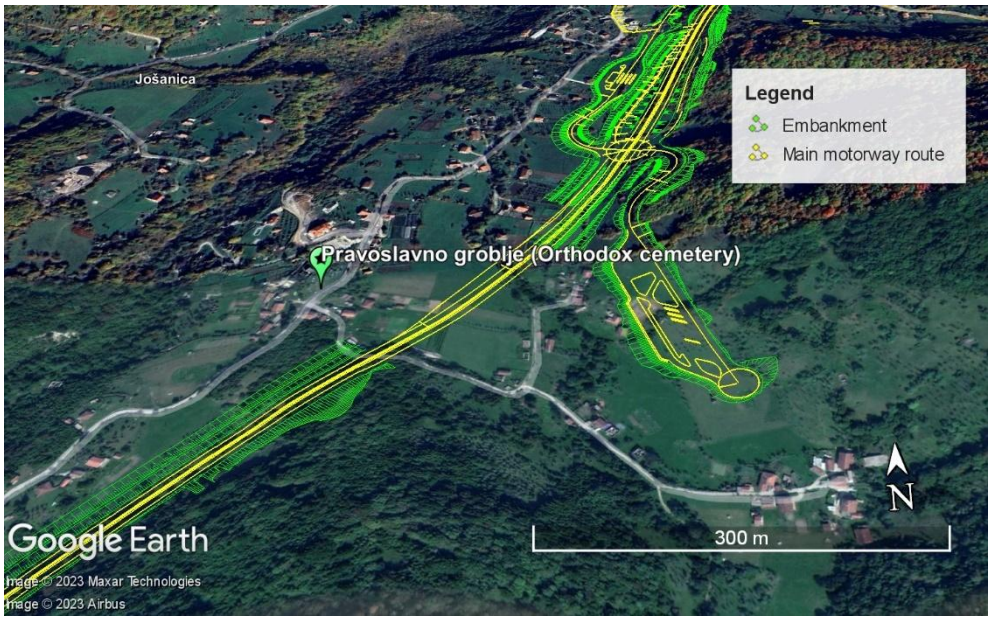


Figure 16-13: Orthodox cemetery in Mladeskovici settlement (green pin)

The Orthodox church "Holy Sunday – Bijela" and the mosque "Bijela" are located in the Bijela settlement. The church is approximately 415 m away from the planned motorway route, and estimated distance of the mosque from the motorway section is 467 m. The positions of the church (upper green pin) and mosque (lower green pin) are shown in the figure below.

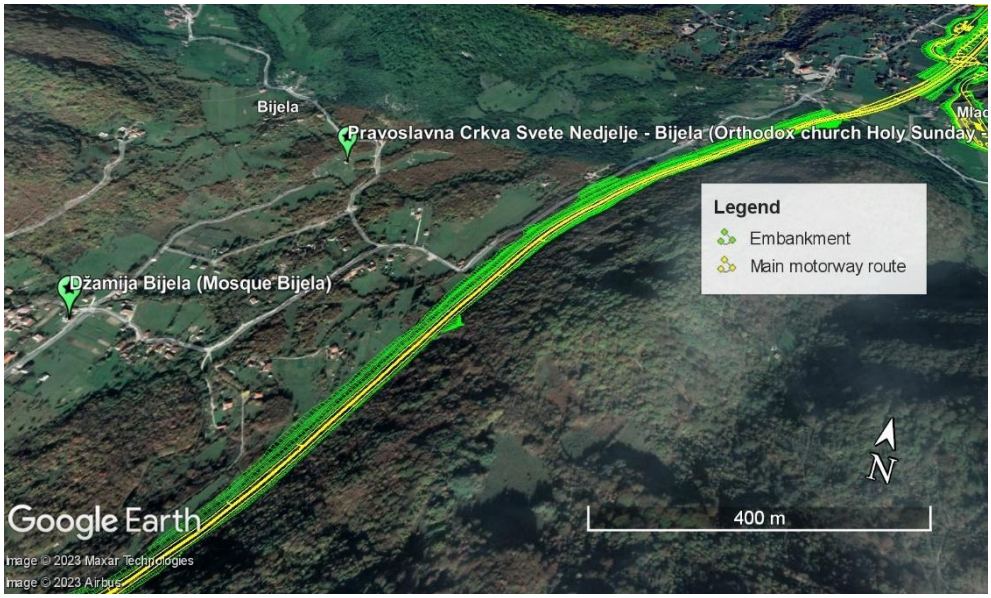


Figure 16-14: Orthodox church "Holy Sunday – Bijela" (upper green pin) and mosque "Bijela" (lower green pin) in the Bijela settlement

In the Konjic Bypass area (in the Donje Selo settlement), a mosque and an Orthodox cemetery are in proximity of the planned viaduct at this location. Inside the Orthodox cemetery there are approx. 10 stone monuments[34]. The mosque is around 30 m from the viaduct, and the cemetery is 110 m from the viaduct. The map below shows the locations of the mosque (lower green pin) and the cemetery (upper green pin).

Figure 16-15: Mosque and Orthodox cemetery in the Donje Selo settlement

Figure 16-16: Mosque (left) and Orthodox cemetery (right) in the Donje Selo settlement

16.7 Impact Assessment Methodology

The social impact assessment uses the same methodology as for the assessment of environmental aspects, with some changes in criteria for determining the impact magnitude and sensitivity. The social impact assessment has included consideration of both intended and unintended socio-economic and community

[34] Information about the stone monuments was provided by the representative of Konjic Parish contacted during the development of this ESIA. The Parish has no information on what these monuments are or how old they are.

consequences of the Project, beneficial and adverse, and any social change processes invoked by those interventions.

Adverse impacts will be avoided wherever possible; otherwise, management and mitigation measures have been identified to reduce effects on the community. Measures are included to enhance beneficial impacts and share their benefits more widely, in particular amongst local people who may also be negatively affected by the Project.

The significance of social impacts has been determined through consideration of the level of sensitivity of Project affected individuals, households, communities, and other social groups (social receptors), and the magnitude of the impact experienced by them. The assessment of impact significance has been undertaken using the overarching framework presented for assessing environmental impacts; however, specific magnitude and sensitivity criteria for socio-economic impacts are presented below in Table 16-19 andTable 16-20.

Table 16-19: Criteria for determining social impact magnitude

Category	Description (adverse impacts)
Major	A highly likely impact that would have implications beyond the Project life affecting the wellbeing of many people across a broad cross-section of the population and affecting various elements of the local communities', or workers', resilience.
Moderate	A likely impact that continues over several years throughout the Project life and affects the wellbeing of specific groups of people and affecting specific elements of the local communities', or workers', resilience.
Minor	A potential impact that occurs periodically or over the short term throughout the life of the Project affecting the wellbeing of a small number of people and with little effect on the local communities', or workers', resilience.
Negligible	A potential impact that is very short lived so that the socio-economic baseline remains largely consistent and there is no detectable effect on the wellbeing of people or the local communities', or workers', resilience.

Table 16-20: *Criteria for determining sensitivity of a social receptor*

Category	Description
High	An already vulnerable social receptor with very little capacity and means to absorb proposed changes or with very little access to alternative similar sites or services, and/or minimal opportunities for mitigation.
Medium	An already vulnerable social receptor with limited capacity and means to absorb proposed changes or with little access to alternative similar sites or services, and/or limited opportunities for mitigation.

Low	A non-vulnerable social receptor with some capacity and means to absorb proposed changes and with some access to alternative similar sites or services, and/or reasonable opportunities for mitigation.
Negligible	A non-vulnerable social receptor with plentiful capacity and means to absorb proposed changes and with good access to alternative similar sites or services, and/or good opportunities for mitigation.

Likely impacts are evaluated considering the interaction between the magnitude and sensitivity criteria as presented in the impact evaluation matrix in the table below.

Table 16-21: *Impact evaluation matrix*

		Magnitude						
		Adverse				Beneficial		
Sensitivity		Major	Moderate	Minor	Negligible	Minor	Moderate	Major
	High	Major	Major	Moderate	Negligible	Moderate	Major	Major
	Medium	Major	Moderate	Minor	Negligible	Minor	Moderate	Major
	Low	Moderate	Minor	Negligible	Negligible	Negligible	Minor	Moderate
	Negligible	Minor	Negligible	Negligible	Negligible	Negligible	Negligible	Minor

For evaluating significance before mitigation measures, it is important to consider the likelihood that a given risk event is expected to occur and the magnitude of the expected impacts. Impacts that have been evaluated as being "moderate" or "major" are significant effects and identified as such in the specialist sections. Consequently, impacts that are "minor" or "negligible" are not significant. Understanding the significance of risks is important for prioritising the need for mitigation measures.

The impacts are assessed for pre-construction, construction, and operation phase. Impacts in the decommissioning phase are not assessed since it is anticipated that the Project will have an operational life of at least 50 years. If decommissioning takes place, impacts are expected to be similar to those during construction.

Wherever the Project is likely to result in significant E&S impacts, mitigation measures are proposed.

16.8 Assessment of Impacts

16.8.1 Impacts on Community Health and Safety

During the **construction phase**, the following risks for the well-being of local communities have been identified:

- At this stage of Project preparation there are no estimates on how many workers will be employed by the construction contractor or where they will be coming from (although it is recommended to give preference to the employment of local population during construction to the extent possible), but worker influx is reasonably expected as the Project will require a large workforce to carry out various tasks. Potential negative impacts on local communities caused by worker influx can be: impacts on community dynamics and potential social tensions, exposure of local population to diseases including communicable diseases and Sexually Transmitted Diseases (STD) - or Sexually Transmitted Infections (STI), or possible gender-based violence and harassment (GVBH) issues. Worker accommodation (camps) will need to be provided by the contractor, in line with local legislation and EBRD's worker accommodation guidelines.
- Noise generation caused by construction activities and mechanisation used at construction sites can lead to nuisances and disturbances to people living in the vicinity of the construction sites. Noise from construction sites can disrupt daily life and increase stress levels, especially in children, youth and elders.
- Construction operations such as pile-driving works, drilling and excavation works and particularly use of explosives during tunnel construction will lead to increased vibrations.
- Dust emissions generated by site construction activities can have impacts on air quality in the vicinity of the construction site. With increased wind velocities dust can disturb local communities in the wider area as well. In addition to dust, exhaust gasses from mechanisation can create disturbances to local communities. Although this poses the risk for entire community, especially those with respiratory issues or vulnerabilities, such as children, the elderly, or individuals with pre-existing health conditions should be especially considered.
- Soil and water contamination may be caused by construction-related activities and can have a long-term impact if not properly mitigated and/or remediated. Water pollution (both surface and ground water) and soil pollution can have harmful consequences for local communities in case the contaminated groundwater reaches water sources used by local communities (i.e., for irrigation in agriculture). This can specifically refer to vulnerable groups, such as children, youth, elders and persons with affected health or specific health conditions, who may be more sensitive to changes in access to clean water or electricity, which are essential for maintaining hygiene and health. Contamination from the Project area

could lower soil productivity, introduce contaminants into the food chain, and present health risks to people.

- The presence of construction sites carries a risk of unauthorised access (especially dangerous for specific vulnerable groups, such as children or elders, who may lack cognitive development to comprehend potential imminent danger such sites may pose to unauthorised trespassers) by the public and exposure to risks such as falls and hazardous materials or interactions with heavy equipment, both within construction sites on en route to active sites.
- Construction trucks, equipment and vehicle movements will increase existing traffic volumes. Increased traffic may result in road safety risks. This increase in construction-related journeys can pose risks to inhabitants of local communities living near the local roads which will be used for construction vehicle movements, but especially to vulnerable members of communities, such as children, youth, elders or persons with mental disabilities, who may possess physical or cognitive limitations that hinder their ability to navigate disrupted or unsafe access routes. *Please see the following section for more details about these impacts.*

The socio-economic survey conducted among households living in the wider study area showed that household members are concerned about the negative impacts on community health and safety, mostly about noise and vibrations and reduced air quality. 57.3% of surveyed HH members believe that noise and vibrations may have significant negative impact. 50% believe that poor air quality on construction sites would also have significant negative impact, whereas moderate impacts expected by the local communities are potential surface and groundwater pollution (44.8%) and potential reduction in the quantities of surface and groundwater (37.5%).

During socio-economic survey conducted with businesses, a significant number (54.55%) foresee limited access for customers and suppliers during construction, which could disrupt daily operations. Negative impacts, such as increased noise, dust, and restricted road access, were reported by businesses involved in tourist and catering activities, as well as workshops.

According to the results of the socio-economic surveys performed during the development of this ESIA, there are some vulnerable households among the permanent population of the area. Since this is a rural area with small villages/communities, they may have less absorptive capacity to any changes in the social environment (as described above) compared to a large urban environment; therefore, sensitivity of these communities to changes is assessed as medium. The impact magnitude is assessed as moderate since there will be considerable construction activities and worker camps with a large number of workers on site as is typical for motorway construction activities. Consequently, the significance of community health and safety impacts during construction is assessed as a **moderate adverse impact**.

No severance effects are expected to occur as new local roads, overpasses and underpasses will be constructed (described in detail in *Chapter 2. Project Description*). Where existing local and other access roads will be cut by the motorway; new local roads will be constructed for providing access of the local community to land plots. At the point of intersection with the motorway route, it is planned to relocate and place the existing road network under, above or parallel to the motorway route. Consultations with local communities during final design phase are foreseen as additional mitigation measure.

For the **operation phase**, some of the above-described risks can occur, and will persist during the entire operation phase - for example, noise and emissions and emissions of exhaust gasses will be permanent due the passage of cars on the motorway. The nearest receptors will be some houses located in the settlements of Ovcari, Donje Selo, Polje Bijela, Podgorani, Humilisani and the City of Konjic. Based on the outcome of calculations from the simulation of road traffic noise during motorway operation, it is estimated that the noise level will exceed the limits in some nearby settlements and sensitive receivers, and for this reason its magnitude is moderate. The sensitivity is expected to be medium as only the nearest receptors will be affected. As such this impact is considered moderate and significant. Please see *Chapter 11 Noise* for further details.

-
- During the operation phase, it is expected that permanent direct employment opportunities for small number of people will be generated, for the positions such as: Clerk-Treasurer of toll collection, Expert associate for road belt protection, Expert associate for mechanisation, Senior officer for maintenance of cooling, heating and ventilation system equipment, Senior officer of traffic management and supervision, etc. The operation phase is therefore also expected to generate permanent direct employment opportunities for a small number of people. This is considered a positive impact although the magnitude is negligible given the very small number of people who will be affected by it.

A summary of the assessment is provided in the table below.

Table 16-22: Summary of potential impacts on community health and safety and road safety and assessment of their significance before mitigation

Phase	Type of potential impact	Adverse/ Beneficial	Magnitude	Sensitivity	Impact evaluation	Significance (before mitigation)
Community health and safety						
Construction	Community health and safety	Adverse	Moderate	Medium	**Moderate**	**Significant**
	Increase in demand of goods and services Temporary local employment	Beneficial	Medium	Minor	**Minor**	Not significant
Operation	Noise impacts	Adverse	Moderate	Medium	**Moderate**	**Significant**
	Permanent employment	Beneficial	Negligible	Medium	**Negligible**	Not significant

16.8.2 Impacts on Local Roads and Infrastructure

The existing road network in the Project area is made up of access roads, local roads, unpaved roads, and footpaths, which connect local settlements with the main M17 road and two regional roads (as described in the baseline section 16.6.7.1). During the **construction phase**, there will be an increase in traffic on the existing local road network because of the movement of vehicles for transporting building materials and disposing of excavated soil material. Temporary access restrictions or difficulties may occur in particular during construction works near or directly on local roads. In addition, the local roads are asphalted or macadam roads which are susceptible to damages, especially under heavy weights. Although these restrictions may have impact on entire communities, it is important to consider their most vulnerable members. Particularly, children, youth, elders and individuals with mental illnesses may lack physical or mental capabilities to react properly to potential imminent danger. On the other hand, pregnant women, persons with physical disabilities or single parents may struggle to reach needed health institutions or prompt medical care if needed. Additionally, for single parents and those with limited financial needs, such interruptions may cause additional financial strain, as they may need to take longer or more difficult/unsafe travel routes.

Across surveyed settlements, most businesses expressed their concerns about potential traffic and road disruptions, particularly those located in Tresanica and Ovcari areas. Approx. 60% of surveyed businesses stated that limited road accessibility is their key concern due to its potential effects on customer reach and goods flow.

Increased traffic is particularly expected in:

- the Ovcari settlement during the construction of the Ovcari Interchange and construction of the main access road that connects the motorway and Konjic Bypass
- the Drecelj settlement during the construction of the roundabout that connects the settlement with the road M17 and the planned motorway
- the Bijela settlement during construction of the motorway section and the Prenj Tunnel
- in the urban area of the City of Konjic during construction of the access road to the Prenj Tunnel
- in the Mladeskovici settlement where the Konjic South Interchange is planned
- in the Kutilivac settlement (end of the motorway section).

It is estimated that the anticipated increase in traffic flows and access restrictions on local roads due to construction activities will have an adverse impact of moderate magnitude, as there will be a noticeable increase of traffic on some already narrow local roads with slow traffic (such as in the Bijela settlement) and construction may last for several years at some locations (such as the Prenj Tunnel). Due to the narrow roads, increase in road accidents can

also occur during construction works. Sensitivity is assessed as medium, as alternative routes will be provided. Therefore, this impact is overall assessed as moderate.

Any damages to local roads will be an adverse impact, with a moderate magnitude as there may be noticeable damage to local roads caused by heavier traffic than is currently experienced. However, this is not expected to be a permanent change. The sensitivity is expected to be low as there are reasonable opportunities for mitigation through road repair which will be performed by JPAC (via the contractors for construction). As such the impact is considered minor and not significant.

At the locations where local roads will be cut by the Project infrastructure, as described in the section *Traffic Infrastructure* of this chapter, new connection roads will be constructed for providing local community access to their land plots and houses. In addition, JPAC will work on the reconstruction of local roads used by the local community during their daily activities.

Road safety will be improved during the **operational phase**. Roads in BiH are known for the danger they bring to drivers. On average more than ten thousand people get killed or injured in road traffic accidents in BiH every year. Generally, it is assumed that the construction and putting the motorway in operation will improve road safety. Based on JPAC data on road accidents for the period 2016-2019, almost 50% more accidents with injuries were recorded on main road sections compared to motorway sections. The improved design standards used for this Project should result in a smaller number of accidents for the same volume of transport (vehicle/km). Furthermore, the separation of transit flows will relieve the existing congested road network, so the risk of accidents will be reduced. In addition, placing road safety, speed limit and other warning signs will also reduce the risk of accidents. This is especially beneficial for vulnerable groups, such as children and youth, who are at higher risk of being injured during traffic accidents. Additionally, approx. 60% of surveyed businesses expect benefits such as improved connectivity, faster transport and expanded customer bases, new business opportunities and increased revenue.

This is considered as a beneficial impact, with a moderate magnitude. The sensitivity is assessed as medium as it will affect positively all people living near the existing road network and people using the existing road network. As such the impact is considered moderate and significant.

A summary of the assessment is shown in Table 16-23 below.

Table 16-23: *Summary of potential impacts from local road damage and impacts on local traffic and assessment of their significance before mitigation*

Phase	Type of potential impact	Adverse/ Beneficial	Magnitude	Sensitivity	Impact evaluation	Significance (before mitigation)
Road damage and impacts on local traffic						
Pre-construction	No impacts	-	-	-	-	-
Construction	Local road damage Traffic congestions Access restrictions	Adverse	Moderate	Medium	**Moderate**	**Significant**
Operation	No impacts	-	-	-	-	-

16.8.3 Disruptions to Public Utility Services (Electricity, Water, Sewage, Telecommunication)

Disruptions to public utility services in the settlements along the motorway section could represent a negative impact to local communities by causing disturbances in their everyday-life activities during the **construction phase**.

Information on possible collisions with public utility infrastructure which may result in accidental disconnections will be provided within the preliminary consents on the Preliminary Design from competent authorities and public utility companies. JPAC will need to submit a request for such consents. The preliminary consents will contain detailed instructions and mitigation measures to be implemented during the development of design documentation and construction works in order to mitigate possible negative impacts and have continuous supply of electricity, telecommunication and other public utility services in areas affected by any collisions. Approximately 30% of the surveyed businesses expressed significant concerns about these disruptions.

Considering that there might be possible collision points, it can be concluded that accidental disconnections during earthworks represent an adverse risk with a moderate magnitude due to the temporary character of such disruptions. The sensitivity of local communities to such disruptions is assessed as medium because the rural communities that might be affected would have limited alternative to similar services. The significance of this adverse impact is therefore considered to be minor.

Such disruptions during the construction phase could disproportionately impact vulnerable groups within the local communities, including children, the elderly, individuals with health issues, pregnant women, single parents, and others. For example, children and pregnant women may be more sensitive to changes in access to electricity, which is essential for maintaining a safe and comfortable living environment. The elderly and individuals with health conditions may rely on continuous electricity for medical equipment or to manage health needs. Single parents, especially those with young children, may struggle to manage daily responsibilities without reliable access to these basic services. Although temporary, these disruptions could significantly affect the well-being and routines of these vulnerable individuals.
Disruptions to public utility services are not foreseen **during the pre-construction and operational phases.**

A summary of the assessment is provided in the table below.

Table 16-24: Summary of potential impacts on community from disruptions to public utility services and assessment of their significance before mitigation

Phase	Type of potential impact	Adverse/ Beneficial	Magnitude	Sensitivity	Impact evaluation	Significance (before mitigation)
Disruptions to public utility services						
Pre-construction	No impacts	-	-	-	-	-
Construction	Disruptions to public utility services	Adverse	Moderate	Medium	**Moderate**	**Significant**
Operation	No impacts	-	-	-	-	-

16.8.4 Impacts on Water Supply

Along its route, the motorway passes through the catchment areas of springs used for water supply. As the route will pass through their catchment areas, it is evident that the construction and operation of the motorway may have negative impact on groundwater quality, flow and recharge which can cause interrupted water supply.

The motorway route passes through the sanitary protection zones of two important and very sensitive springs, Salakovac and Bosnjaci[35], as well as in the immediate vicinity of the unprotected Konjicka Bijela spring (Bijela and Gornja Bijela), where negative impacts on groundwater may occur during the **construction phase**. These can have a greater impact on vulnerable groups, particularly households reliant on agriculture, as water is crucial for irrigation and livestock care. Those with limited financial resources are also at higher risk, as they may struggle to afford alternatives such as purchasing water from external sources. Additionally, individuals with health-related vulnerabilities or children, youth, elders and pregnant women may face significant challenges, as access to clean water is essential for hygiene and managing various health conditions.

The impact on groundwater quality during motorway construction is possible in case of excavation or blasting of the rock mass, erosion of material from cuts and embankments and in case of accidental spill. These impacts will not leave lasting consequences on the quality and quantity of groundwater. They may cause increased water turbidity or accidental pollution if occur/released in the vicinity of the springs.

The construction of the motorway can have an impact on water supply to the local population. The negative impact can occur on the nameless local spring in the Koniicka Bijela riverbed (upstream section called Suhi potok), over which the motorway route crosses, and which is used by 10-15 households for water supply – both for domestic consumption and agriculture purposes. Protection measures for this spring should be foreseen or the households using this source must be supplied with an alternative source of drinking water and water for other needs.

The Bosnjaci spring is also under possible impacts of construction of cuts and embankments as well as the Orlov Kuk Tunnel that will take place in the III water protection zone of this spring. An option for temporary disconnection of the source from the water supply network should be provided in the event of an accidental pollution or temporary turbidity until the quality returns into the legally prescribed limits.

[35] Study on the Protection of the Bosnjaci Water Source, City of Mostar, Institute for Water Management, December 2022, Study on the Protection of the Salakovac Water Source, City of Mostar, Institute for Water Management, December 2022 and Decision on the Protection of the Salakovac Water Source (Official Gazette of the City of Mostar, No. 14/23).

During motorway operation, possible negative impacts on groundwater quality are the infiltration of storm water from the roadway structure and its direct discharge into the environment.

A detailed analysis of the Project's impact on the water sources and water supply is presented in *Chapter 7 Geology and groundwater*.

Impacts on water might occur **during the construction and operational phases**. A summary of the assessment is provided in the table below.

Table 16-25: Summary of potential impacts on water and assessment of their significance before mitigation

Phase	Type of potential impact	Adverse/ Beneficial	Magnitude	Sensitivity	Impact evaluation	Significance (before mitigation)
Impacts on water						
Pre-construction	No impacts	-	-	-	-	-
Construction	Impact on groundwater quality and water supply	Adverse	Moderate	Medium	**Moderate**	**Significant**
Operation	Impact on groundwater quality and water supply	Adverse	Moderate	Medium	**Moderate**	**Significant**

16.8.5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

The Project will require land acquisition and resettlement in the **pre-construction phase**.

A Land Acquisition and Resettlement Framework (LARF) for this road section has been developed within this Assignment. The LARF will serve as the basis for the development of detailed Land Acquisition and Resettlement Plans (LARPs) for the Project, which will be developed once the exact nature and magnitude of the land acquisition or restrictions on land use related to the Project are known. Upon the development of design documentation, Expropriation Studies will be developed containing the exact scope of land acquisition and physical and/or economic resettlement (land plots and assets which will be affected during the expropriation procedure).

It is currently estimated that approximately 350 land plots will be permanently acquired for needs of constructing the motorway section and the Konjic Bypass, with the displacement of some households and businesses. In addition, private land may need to be acquired for the disposal sites (please see section Waste Management Infrastructure in the Baseline chapter above).

This impact has been assessed as a major adverse impact and therefore significant. Compensation entitlements for such losses are provided within the developed LARF and need to be specified in the LARPs to be developed by JPAC upon the development of Expropriation Studies.

Special attention shall be given to the needs of vulnerable groups based on their personal situations, with appropriate measures to assist them. Vulnerable groups include, but are not limited to:

- those who depend on affected land for livelihoods,
- informal land users,
- elderly or single-headed households,
- persons with disabilities, and
- ethnic minorities.

During LARPs preparation socio-economic surveys, key informant interviews / focus group discussions with relevant stakeholders, and consultations with NGOs and local community representatives will evaluate vulnerabilities among affected people and inform support measures.

Businesses impacted by land acquisition or project activities will receive special attention. Some may face temporary disruptions, income loss, or relocation needs.

Vulnerable groups, especially elderly, ill persons or persons with disabilities and low-income families, may be excluded from the opportunity to participate in the consultation process. This exclusion can result in their concerns being

overlooked, leading to decisions that fail to address their specific needs. Additionally, without proper engagement, the project may face conflicts and unanticipated risks, particularly if vulnerable groups are unaware of how the project affects them.
A more detailed assessment of possible impacts is provided in the LARF.

During the **construction phase**, it may be necessary to temporarily occupy privately owned land plots for the purpose of construction of access roads and placement of worker camps, machines, and material. Construction activities may also cause damage to land plots, natural or other assets (e.g., structures, trees) due to temporary disposal of excavation materials and heavy machinery parking. In addition, local traffic congestions may potentially impact, in terms of access restrictions, the active businesses in the project area. Temporary losses of business income during construction may occur in the settlements of Gornje Polje, Bijela, Kutilivac, Drecelj and Ovcari where several businesses and agricultural activities are located.

These are adverse impacts with a moderate magnitude, whereas sensitivity is assessed as medium. Such impacts during construction works will only be temporary, and compensation and tailored assistance for vulnerable groups will be provided for temporary land occupation and any damages, as well as loss of income until the completion of construction works (mitigation measures are defined in the LARF). As such, the impact is considered moderate and significant.

Land acquisition, restrictions on land use and involuntary resettlement are not expected during the **operational phase**.

A summary of the assessment is provided in the table below.

Table 16-26: Summary of potential impacts from land acquisition, restrictions on land use and involuntary resettlement and assessment of their significance before mitigation

Phase	Type of potential impact	Adverse/ Beneficial	Magnitude	Sensitivity	Impact evaluation	Significance (before mitigation)
land acquisition, restrictions on land use and involuntary resettlement						
Pre-construction	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Adverse	Major	Medium	**Major**	**Significant**
Construction	Temporary occupation of private land and temporary losses of business income[36] and wages during construction works	Adverse	Moderate	Medium	**Moderate**	**Significant**
Operation	No impacts	-	-	-	-	-

[36] Business owners may lose income, while hired labour may face loss of wages

16.8.6 Health and Safety Risks for Workers; Labour and Employment

Workers' accommodation (camps) will be required for the Project, which will need to be set up in line with EBRD/IFC Guidance Note "Workers' accommodation: processes and standards" 2009. Site preparation, construction and operation activities and the use of temporary workers' accommodation (camps) pose potential risks to the health, safety, security of construction workers if not managed appropriately.

During the construction and operation phases, occupational health and safety (OHS) risks can be expected. The impacts can be:

- *Direct* (possibilities of injuries caused by activities performed during construction works or by accidents that may occur both during construction and operation phases),
- *Indirect* (emissions, soil and water contamination, etc.).

During the **construction phase,** workers will be exposed to many risks that are directly related to activities performed on construction site. Potential risks are identified as follows:

- *Falling from heights:* The risks related to working at heights are associated with the falling of workers and falling of objects onto those working below. Falls can occur from unguarded edges or openings at height, through fragile materials, into excavations, from ladders, from places of work on an existing facility.
- *Traffic accidents:* Risks related to working near or on roads with traffic depend on the type of work that will be performed. They may include collisions between vehicles operating inside the site, collisions of passing vehicles with site machinery, equipment and workers (in case the site is not adequately signed and physically protected).
- *Power stroke:* Working near high voltage power lines can cause serious and fatal injuries due to direct contact with live lines or arcing from those lines to nearby equipment. The major risks related to electricity are electrocutions and burns and they can be caused by the use of poorly maintained electrical equipment, work near overhead power lines, contact with underground power cables during excavation work or horizontal boring or drilling.
- *Injuries from construction machinery:* These risks depend on the type of equipment used during construction and the construction activities. Risks such as roll-over of the equipment and objects falling onto the equipment are related to earthmoving equipment (e.g., loaders shovel excavators), while risks which imply workers falling from height, collapse of the equipment in use due to overloading, and failures due to poor slinging techniques are related to lifting equipment (e.g., mobile cranes). Vibration from machinery can cause changes in tendons, muscles, bones and joints, and can affect the nervous system. Collectively, these effects are known as Hand-Arm Vibration Syndrome

(HAVS). Workers affected by HAVS commonly report attacks of whitening (blanching) of one or more fingers when exposed to cold.

- *Accidents:* Accidents can be related to injuries from explosions and fires. Explosion risks usually occur from the use of solvents and ignition by sparks, damage of pipes containing explosive gases and unexploded ordinance in the ground. Fire risks can be caused by the use of flammable liquids, welding or abrasive cutting techniques used in places not specially prepared for such works, liquid gases used with an open flame, flammable and combustible materials.
- *Manual handling:* Negative impacts to workers can also derive from risks related to manual handling which involves lifting and moving loads by hand or other bodily force.
- *Excavations and working in confined spaces:* Negative impacts to workers can also derive form risks related to excavations (collapse of sides, people, objects or materials falling in, etc.) and working in confined spaces (risk of injury associated with working in tunnels, pits, trenches and drainage channels).
- *Exposure of workers to diseases* including communicable diseases and Sexually Transmitted Diseases (STD) - or Sexually Transmitted Infections (STI).

Other impacts that can affect workers are indirect and are related to following:

- *Dust emissions* are generated by construction activities and operations that involve excavations, movement of vehicles and cut and fill activities, and can have an impact on air quality in the vicinity of the construction site. During site clearing and land preparation activities, dust can cause diseases such as pneumoconiosis, asthma, chronic bronchitis and/or emphysema. In addition to dust emissions, other emissions into air are likely to occur as a result of the combustion of fossil fuels and exhaust gases from the mechanisation. Work with mechanisation often occurs in the fore part of tunnels and, therefore, workers in these areas are the most heavily exposed.
- *Gas emissions of geological and non-geological origin* can be released from underground layers of minerals, rocks or sediments during excavation, especially if it is done through layers containing organic materials, by oxidation of organic matter or through electrolysis of water. High concentrations of these gases can cause fires and explosions in the presence of sparks, or suffocation. However, these gases are usually present in small amounts, far below dangerous limits, and do not pose a worrisome problem.
- *Chemical emissions* are often in underground construction in a variety of ways. For example, insufficiently coherent layers of rock may be stabilised with different chemicals dangerous to the human body. Consequently, vapours may be found in the tunnel atmosphere during application. Following application, these contaminants may escape into the tunnel from the surrounding walls, and it may therefore be difficult to fully control their concentrations, even with intensive mechanical ventilation.

- *Noise emissions and vibration* can cause nuisances to workers. Workers on construction sites can be exposed to loud sources of noise which can permanently damage a person's hearing. Construction operations such as pile-driving works, drilling and excavation works and particularly use of explosives during tunnel construction will lead to increased vibrations.
- *Soil and water contamination* are impacts that can have consequences on workers as well. Water and soil pollution on construction sites and during maintenance can be caused by inadequate handling of hazardous substances (i.e., diesel and oil, and other harmful chemicals), inadequate waste handling, equipment damage which may lead to leakage of lubricants and fuel (increased input of oils into water and soil). These risks can have harmful consequences to workers due to exposure to hazardous materials which can cause possible intoxication. Other disturbances can be caused by noxious odours from polluted sites.
- *Intrusion of groundwater in tunnel tubes* during excavation can impact stability of the structure and cause safety risks.

Risks from unexploded ordnances (UXO) are addressed separately under section 16.8.7 of this document.

The possible OHS risks for workers are considered as an adverse impact. The magnitude is expected to be major during the construction phase as construction workers are directly exposed to such risks which can cause permanent negative consequences to workers health. Negative OHS impacts can be mitigated by implementing mitigation measures aimed at providing a safe working and accommodation environment for construction workers. As such the impact is considered moderate and significant.

The construction phase will also raise complex challenges regarding labour practices and regulatory compliance. The construction sector's reliance on subcontracting chains, seasonal employment and cost-reduction strategies presents risks of non-compliance with labour standards during construction. While the Labour Law of FBiH establishes robust protections (requiring formal employment contracts, fair recruitment processes, the prohibition of discrimination and the prohibition of child or forced labour), there is an uncertainty about how effectively these provisions will be implemented for the Project. Without stringent on-site oversight by Supervision Engineers, there may be a risk of labour violations, including undeclared employment, excessive work hours and the absence of a functional grievance mechanism to address worker concerns. Such practices have been widely documented in the country. Even though the national unemployment rate in the country is around 23% (2024, Agency for Statistics of BiH) an estimated 14% of the workforce is engaged in informal employment (2024, ILO), which may indicate weak enforcement of labour standards and a lack of formal job opportunities. This results in inadequate wages, lack of social insurance and heightened job insecurity. This problem is particularly prevalent in the construction sector. Inspection reports from 2024 in FBiH highlight the prevalence of labour non-compliance: out of 209

construction companies inspected, around 25% were penalised for labour violations, many of which involved undeclared workers.

The additional risks related to employment of foreign workers add another layer of complexity to the broader challenges of non-compliance with labour standards. While systemic issues such as informal employment can affect all workers, foreign workers may be more exposed to vulnerabilities due to language barriers, cultural differences and lack of support networks. The employment of foreign workers is governed by the Law on Foreigners of BiH, which regulates entry, residence and work procedures. Foreign workers must obtain both a work permit and a residence permit. According to BiH's Labour and Employment Agency, the chronic shortage of skilled labour in the country, particularly in the construction sector, has forced the sector to increasingly depend on foreign workers. According to the Agency, around 30% of all work permits issued in the first half of 2024 were allocated to the construction sector. Foreign workers include countries such as Nepal, Bangladesh, India and China. The Employers' Association of FBiH estimates a current deficit of approximately 30,000 workers across the country. This shortage has contributed to a gradual increase in the number of work permits issued to foreign nationals, with 2023 seeing a rise of over 20% compared to the previous year. The most significant growth in permits was observed for citizens of Pakistan, Nepal and Bangladesh. Given the scale and technical demands of the motorway construction phase, it is likely that foreign workers will be required to fill critical labour shortages. It will be crucial to ensure that all employment terms and conditions are clearly communicated and easily understood by the workers. To this end, the contractor and its subcontractors must commit to providing employment contracts in both the workers' native languages and English.

These risks are assessed as moderate in magnitude due to the likelihood of such issues persisting throughout the construction phase. Sensitivity of workers in the construction sector is assessed as high, particularly for seasonal and foreign workers who may lack adequate social protection or bargaining power. Combining the moderate magnitude and high sensitivity, the risks of non-compliance are deemed significant. Rigorous on-site oversight will be needed to prevent violations of workers' rights or poor working conditions.

The construction phase offers an opportunity to generate economic benefits through local employment opportunities. The nearest communities could benefit if local workers and businesses (such as transport operators, product sellers or suppliers) are engaged, as was successfully done during previous Corridor Vc construction efforts. However, the contractor's workforce plans remain unknown, leaving uncertainty about the extent of local involvement. According to data obtained during the conducted socio-economic survey, around 10% of heads of HH living in the wider Project area are unemployed. Furthermore, over half (58.8%) of inhabitants among the local population have secondary education. Unemployed local residents with secondary education could potentially be employed as low skilled workers during construction works. With regard to project perceptions, 48% of male and 43% of female HH members rated

generation of employment during the construction and operation phases of the motorway as a 'significant positive impact'.

For specialised technical roles requiring advanced skills, such as equipment operation or engineering, the local workforce may lack the necessary qualifications. To address this, contractors could implement targeted training programs or on-the-job upskilling to enhance local participation. Contractors will be required to detail in their tender submissions whether and how they will incorporate local workers through pre-construction recruitment and targeted training.

In the invitation to the tenderers for the construction of the motorway sections, JPAC defines gender - neutral requirements for key personnel to be engaged during the project. Some key personnel positions might include Project manager, Site manager, Earthworks manager, Electrical manager, Occupational health and safety manager, Environmental specialist, Responsible designer for tunnel, Responsible designer for bridge/viaduct, etc. In the invitation to the tenderers, only the positions and the required general and experience in similar works are defined, and tenderers should propose a first-choice candidate and an alternate. After the tender is awarded, the selected Contractor is solely responsible to ensure and select a sufficient number of employees needed for construction works.

There are no legal restrictions to employ women in any of the works performed during the construction of the motorway sections. However, due to the nature of the construction works which require heavy physical work, these positions are mostly filled by qualified men workforce. At the same time, women are engaged mostly in managerial and engineering positions.

Employment opportunities are expected to occur for positions, such as:

- Clerk-Treasurer of toll collection
- Expert associate for road belt protection
- Expert associate for mechanisation
- Senior officer for maintenance of cooling, heating and ventilation system equipment
- Senior officer of traffic management and supervision

The magnitude of this beneficial impact is assessed as moderate, as the construction phase has the potential to deliver economic benefits to local communities by creating employment opportunities and engaging local businesses (although contingent on workforce plans). The sensitivity of the affected communities is assessed as medium; while the population has a high level of educational attainment and working-age individuals represent a significant portion, gaps in technical skills for specialised roles may limit their ability to fully capitalise on these opportunities without targeted support. Combining the moderate magnitude with the medium sensitivity, the impact is considered significant, with the potential to enhance socio-economic conditions if local hiring and skill development are prioritised.

During the **operational phase,** some of the above-described impacts can occur. During this phase there will also be a risk of falling from heights (for example during maintenance works on the viaducts) and other risks such as injuries from construction machinery.

The anticipated OHS risks during the operation phase are considered an adverse impact. The magnitude is expected to be moderate as OHS impacts will only be possible during short periods (maintenance works only) and there will be less possibilities for accidents to occur than during the construction phase. Maintenance and possible reconstruction activities will involve less machinery than during construction, thus also meaning less possibility of injuries.

During the operational phase, the risks associated with labour standards are expected to be minimal due to the relatively low complexity of maintenance operations compared to the construction phase. JPAC, as the implementing authority, oversees the motorway through its Maintenance Department, which focuses on small-scale interventions. More extensive tasks, such as regular and winter maintenance, are outsourced to specialised companies with the necessary expertise and resources to handle these operations efficiently. These companies are legally obligated to comply with the Labour Law of FBiH, which sets forth robust standards for employment conditions. The magnitude is assessed as minor due to the limited scope and low complexity of maintenance operations, and the sensitivity is considered low as workers engaged in operational-phase tasks are typically part of formalised employment arrangements. Combining the minor magnitude with the low sensitivity, the risks associated with labour standards during the operational phase are deemed not significant.

During the **pre-construction phase** there are no risks related to OHS. The Table 16-27 below shows the summary of the assessment.

Table 16-27: *Summary of potential impacts from health and safety risks for workers and assessment of their significance before mitigation*

Phase	Type of potential impact	Adverse/ Beneficial	Magnitude	Sensitivity	Impact evaluation	Significance (before mitigation)
Health and safety risks for workers						
Pre-construction	No impacts	-	-	-	-	-
Construction	Health and safety risks for workers	Adverse	Major	Low	**Moderate**	**Significant**
	Risks of non-compliance with labour standards and weak on-site oversight in enforcing labour standards during construction; additional risks related to employment of foreign workers	Adverse	Moderate	High	**Major**	**Significant**
	Economic benefits through local employment	Beneficial	Moderate	Medium	**Moderate**	**Significant**

Phase	Type of potential impact	Adverse/ Beneficial	Magnitude	Sensitivity	Impact evaluation	Significance (before mitigation)
	opportunities and local services					
Operation	Health and safety risks for workers	Adverse	Moderate	Low	**Minor**	Not significant
	Risks associated with labour standards during operation and maintenance	Adverse	Moderate	Low	**Minor**	Not significant

16.8.7 Danger from Unexploded Ordinance

The motorway section passes through an area where fighting took place in the 1992-1995 war period. According to data provided by Bosnia and Herzegovina Mine Action Centre (BHMAC), in the areas of Polje Bijela, Prevlje, Mladeskovici and Podgorani, there are some unexploded ordinance (UXO) suspicious areas that need to be inspected and demined. Some areas therefore may need to be demined, which will be known after JPAC receives approval/verification from BHMAC.

Although the remaining area along the motorway section is proclaimed safe, special attention is needed during earth moving works and blasting works, and in case of any doubt BHMAC will be contacted for further instructions. Thus, danger from mines and UXOs represents a potential risk both during the **pre-construction and construction phases**.

Danger from mines is an adverse impact. The magnitude is expected to be major as the negative impact from the explosion of UXOs could have permanent consequences on workers' or deminers' health (causing fatal outcomes). The sensitivity is expected to be low as there are few receptors in the suspicious areas (workers contracted for construction works or deminers[37] contracted for demining) and there are reasonable opportunities for mitigation. As such, the impact is considered moderate and significant.

[37] In 2019, two demining-related incidents took place in BiH, in which two deminers were killed and four injured. Source: http://www.bhmac.org/?page_id=747&lang=en [accessed on 30th of October 2022]

Table 16-28: *Summary of potential impacts related to danger from mines before mitigation*

Phase	Type of potential impact	Adverse/ Beneficial	Magnitude	Sensitivity	Impact evaluation	Significance (before mitigation)
Danger from UXO						
Pre-construction	Danger from mines	Adverse	Major	Low	**Moderate**	**Significant**
Construction	Danger from mines	Adverse	Major	Low	**Moderate**	**Significant**
Operation	-	-	-	-	-	-

The following figures show the areas in Konjic and Mostar affected by the potential presence of UXOs (dark red line – "suspicious area"), and the area already demined area coloured in blue.

Figure 16-17: Mine field maps of Konjic and Mostar (Part I)

Figure 16-18: Mine field maps of Konjic and Mostar (Part II)

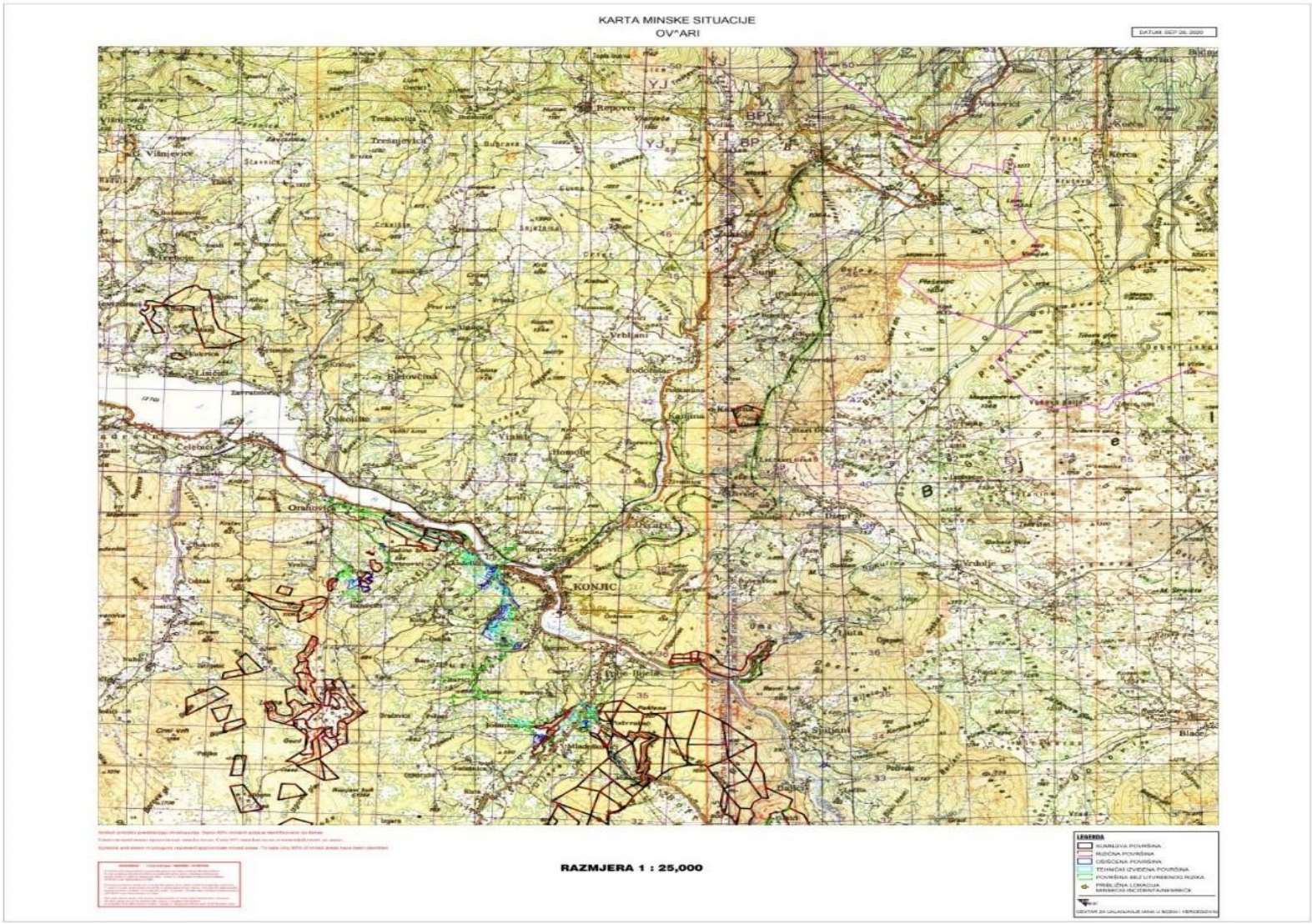


Figure 16-19: Mine field maps of Konjic and Mostar (Part III)

16.8.8 Impacts on Cultural, Historical and Archaeological Heritage

As described in the baseline section, six cultural/religious assets of importance are located in the wider Project area – listed from nearest to furthest from the Project footprint:

- the mosque Donje Selo (at around 30 m from the viaduct belonging to the Konjic Bypass),
- the Orthodox cemetery in the Donje Selo settlement (at around 110 m from the viaduct belonging to the Konjic Bypass),
- Another Orthodox cemetery in the Mladeskovici settlement (at around 122 m from the motorway route)
- Muslim cemetery Kuti in the Kutilivac settlement (at around 170 m from the motorway section)
- the Orthodox church "Holy Sunday – Bijela" and the mosque "Bijela" located in the Bijela settlement (at around 415 m and 467 m respectively from the motorway section).

In the **construction phase,** access restrictions to these sites (particularly those closest to the Project footprint) may occur due to the proximity of works. The magnitude is expected to be moderate as preparatory, and construction works on some sections (e.g., the viaduct near which the mosque Donje Selo is located) are expected to last for a longer period and may affect access to these sites. Sensitivity is assessed as medium as these local communities are small and have little access to alternative similar sites or alternative roads to these sites. Overall, these impacts are assessed as moderate and thus significant impacts.

Increased noise and vibrations may also be expected as an adverse impact in this phase. The magnitude is expected to be moderate, as described in more detail in *Chapter 11. Noise and Chapter 12. Vibration*.

Other recognised assets in the Project area are not closer than 500 m to the route alignment.

During the **construction phase,** it is also possible that previously unknown archaeological sites may be found during construction. The magnitude of this impact is currently assessed as moderate whereas sensitivity is considered to be medium. Overall, the impact on cultural heritage and archaeology is moderate. As part of national regulatory requirements, JPAC will need to obtain the positive opinion from the Federal Institute for Protection of Monuments for the execution of construction works. The Institute requires that construction works must be ceased in case of any chance finds and the Institute immediately notified. In line with EBRD PR 8, a chance find procedure will need to be developed prior to construction commencing and implemented, including training of project workforce and monitoring of implementation.

In the **operational phase,** noise can have an adverse effect with a moderate magnitude, as described in more detail in *Chapter 11. Noise*.

Table below provides a summary of impacts and assessment of their significance.

Table 16-29: *Summary of potential impacts on cultural, historical and archaeological heritage and assessment of their significance before mitigation*

Phase	Type of potential impact	Adverse/ Beneficial	Magnitude	Sensitivity	Impact evaluation	Significance (before mitigation)
Cultural, historical and archaeological heritage						
Construction	Damage to visible and buried cultural, archaeological and architectural heritage	Adverse	Moderate	Medium	**Moderate**	**Significant**
	Access restrictions	Adverse	Moderate	Medium	**Moderate**	**Significant**
	Noise and vibration impacts	Adverse	Moderate	Medium	**Moderate**	**Significant**
Operation	Noise	Adverse	Moderate	Medium	**Moderate**	**Significant**

16.9 Mitigation and Enhancement Measures

The mitigation and enhancement measures presented in this chapter are also reflected within the ESMP.

16.9.1 Measures for Community Health and Safety

To reduce and mitigate impacts associated with **community health and safety during the pre-construction and construction phase**, the following measures will be implemented:

- In the design stage, organise consultations with City level authorities and LCOs on all issues of significance for the communities, including but not limited to the issues of planned disposal sites for construction waste, planned new local roads and underpasses/overpasses (considerations of sufficiency, dimensions and safety) with the aim of clearly presenting all planned additional infrastructure, hear the views of local residents in relation to access to their land and make changes, as far as practicable, to accommodate their needs.
- Include in CESMP provisions on workers' accommodation (camps) in accordance with PR provisions and the EBRD/IFC Guidance Note "Workers' accommodation: processes and standards" 2009 referred to in PR 2, including the requirements for developing disease prevention measures by the Contractor, including communicable diseases and Sexually Transmitted Diseases (STD) - or Sexually Transmitted Infections (STI), as well as with EBRD Briefing Note on Workplace Risk Assessment including provisions for Covid-19 (2020).
- Develop and implement an **Emergency Preparedness and Response Plan** for construction (as part of the CESMP) to identify and address all major hazards for workers and the local community during the motorway construction.
- Develop and implement a **Traffic Management Plan** (TMP) for the construction phase (as part of the CESMP) containing traffic organisation measures.
- In the pre-construction phase, ensure the approvals and permits from all relevant authorities and, if necessary, install barriers for the safety of traffic participants.
- During the construction phase, JPAC and the Contractors to organise at least one public consultation meeting for each subsection (in Mostar or in Konjic – whichever is closer to the subsection) to present the Project progress and receive feedback regarding the impacts of construction works.
- Ensure that medical staff, first aid facilities, sick bay and ambulance services are available at all times at the site and at any accommodation (camps) for Contractor's personnel and ensure that all suitable arrangements are made in line with necessary welfare and hygiene requirements enabling prevention of epidemics.
- Carry out a detailed pre- and post-construction condition assessment and crack survey for any existing structures (residential, cultural/religious or commercial assets) in a distance up to 40m from the construction works,

based on vibration modelling and calculations explained in detail in *Chapter 12 Vibration*.

- A requirement that all workers have access to human resources policy and procedures;
- A requirement that all workers (including sub-contractors) must comply with the Construction Workers' Code of Conduct (this will be included in the employment contracts);
- Details of the grievance mechanism for all workers (including sub-contractors) in line with Lenders' requirements.

Additionally, throughout contract implementation, the Contractor will:

- provide education/awareness raising activities in the form of online presentations or brochures for communicable diseases and STDs, STI and HIV/AIDS on screening, diagnosis, counselling,
- provide education/awareness raising activities in the form of online presentations and brochures for the workforce about refraining from unacceptable conduct toward local community members, specifically women, and inform workers about local laws that make sexual harassment and gender-based violence and harassment a punishable offence which is prosecuted,
- cooperate with law enforcement agencies as needed in investigating complaints about gender-based violence and harassment;
- prevent unauthorised access of the public to construction sites and contact with dangerous locations and equipment and hazardous materials by establishing a fenced safety zone around the facilities during construction of Project infrastructure.
- during construction works create safe crossing points, provision of flagmen and site security to ensure that interaction between construction workers and all project vehicles and equipment, and the public, are limited.
- implement SEP, in particular the provisions on providing timely information to local communities on the extent of works and duration prior to the commencement of construction works, as well as information on access to land on the other side of the motorway and the contact details of the Contractors for any grievances.
- place a panel with all relevant data about the construction (names of investor, contractor and designer; name and type of structure; time of commencement and completion of construction works). Panel to include information regarding contact details for environment, safety and community matters.

To reduce and mitigate impacts associated with **community health and safety during the operation phase**, the following measures will be implemented:

- Develop and implement an Emergency Preparedness and Response Plan for operation (as part of the OESMP) to identify and address all major hazards for workers and the local community during the motorway operation.
- Develop and implement a Traffic MP for the operation phase (as part of the OESMP) to identify and address all major hazards for workers and the local community during the motorway operation. The Plan should also include

details on safety and stakeholder engagement measures relating to road safety to be applied.

- Implement SEP, in particular the provisions on providing timely information to local communities, on the extent of works and duration prior to the commencement of maintenance work, as well as provisions on ongoing implementation of the grievance mechanism.

16.9.2 Measures for Disruptions to Public Utility Services (Electricity, Water, Sewage, Telecommunication)

To reduce and mitigate impacts associated with **disruptions to public utility services during the pre-construction phase**, the following measures will be implemented:

- Submit the requests for obtaining prior consents on the Preliminary Designs from competent authorities and public utility companies.
- Foresee mitigation measures for identified collision points contained in preliminary consents from competent authorities and public utility companies, responsible for transport/transmission, communications and infrastructure (such as development of additional detailed designs for collision resolution, and inclusion of mitigation measures within the Main Design).
- Develop a Utility Conflict/Collision Matrix to provide management tools to deal with conflicts, organise relevant information on conflicts and alternatives and allow tracking of conflict resolution progress.

To reduce and mitigate impacts associated with **disruptions to public utility services during the construction phase**, the following measures will be implemented:

- Implement mitigation measures for identified collision points contained in the preliminary consents from competent authorities and public utility companies, responsible for transport/transmission, communications and infrastructure (such as additional construction activities for collision resolution).
- Ensure prompt reaction in case of disruptions.
- Implement SEP, in particular the provisions on: (i) providing timely information to local communities (both residents and private commercial facilities) on planned cuts in public utility services and contact points in case of accidental disconnections, and (ii) provisions on regular communication with utility companies regarding ground disturbance works near public utility installations to reduce the risk of accidental disconnections and to ensure any issues are flagged with these utility companies.

16.9.3 Measures for Impacts on Water

To reduce and mitigate impacts associated with **impacts on water during the pre-construction and construction phases**, the following measures will be implemented:

- Implement all appropriate engineering measures as described in detail in *Chapter 7 Geology and groundwater* to prevent cutting off underground

streams and contamination of groundwater, as well as ensuring the Project does not impact the supply of drinking water in any village.

- Implement SEP, in particular the provisions on communicating with water utilities and providing timely information to local communities on planned water supply cuts and deteriorated water quality in case of an accidental pollution or temporary turbidity.

16.9.4 Measures for Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

To reduce and mitigate impacts associated with **land acquisition, restrictions on land use and involuntary resettlement**, the following measures will be implemented:

- Develop and implement the LARPs for the subsections: Konjic (Ovcari)-Prenj Tunnel, for the Prenj Tunnel itself, for Prenj Tunnel-Mostar North and for the Konjic Bypass, in line with the developed LARF. Given the low levels of income and other vulnerabilities of the households living or owning land in the Project area, it will be necessary for JPAC to take this into account during the development of the LARPs, provision of direct support to vulnerable households, and the implementation of the land acquisition process, and ensure transparency and measures to improve the livelihoods and standards of living of affected persons.
- Develop and implement site-specific LARP in line with the developed LARF, if privately owned, used or occupied land take is required for construction of new local roads.
- Set up and implement a Project-specific grievance mechanism as elaborated in LARF/LARPs and SEP.
- Develop and implement a Traffic Management Plan (TMP) for the construction phase (as part of the CESMP) containing traffic measures. The TMP will need to consider phasing off the works to ensure local access is retained, as access restrictions may cause temporary losses of business income during construction works.
- Implement a Detailed Construction Waste Management Plan (DCWMP) and put in operation waste management procedures to avoid inappropriate deposition of construction waste in and around the construction site.
- Assistance to vulnerable people shall include the following activities, depending on a case-by-case screening to be carried out with support from the municipalities/cities departments of social affairs:
  - *Assistance during the compensation and resettlement process*:
    - individual visits to the homes of vulnerable persons/households to explain eligibility criteria and entitlements (in particular for elderly people and people with disability/ chronic illnesses),
    - *assistance during the payment process*, i.e., ensuring that PAP have bank accounts into which compensation can be paid, and that compensation documents and payment process are well understood (in particular for elderly people /people with disabilities)
    - *assistance to exercise the right to receive vulnerable people benefits provided under the Law on Bases of Social Welfare, Protection of*

Civilian Victims of War, and Protection of Families with Children, as applicable
- Assistance in identifying and buying new property
- Assistance in moving (e.g., special transport measures for persons with specific needs, etc.)

- *Assistance during the post-resettlement period*:
  - Assistance in finding training courses to enhance employability and giving priority in employment, where possible, in particular for poor and/or unemployed people; assistance in securing the compensation money and reduce risks of misuse or robbery,
  - counselling in matters such as family, health, money management, and livelihood restoration,
  - health care if required at critical periods or enrolling vulnerable households in a health insurance scheme,
  - assistance in identifying training courses to enhance employability and prioritisation for employment where possible.

If the conditions of Article 47 of the Expropriation Law of FBiH 38 are met, vulnerable households will receive an increase in compensation in addition to the above activities.

Land related grievances will be managed separately by the JPAC Department of Property, Legal Affairs and Expropriation and the Division for Study Documentation, Social and Environmental Policy, whose representatives will be part of the PIU, with specific contact details for each LARP to be defined in the LARPs.SEP especially encourages the participation of vulnerable groups in all aspects, ensuring information about public meetings is accessible through multiple channels, tailoring communication to the needs of vulnerable groups, accommodating women's schedules, and organising accessible small group discussions for vulnerable communities at local offices.

16.9.5 Measures for Impacts on Local Roads and Infrastructure

To reduce and mitigate impacts associated with **road damage and impacts on local traffic during the construction phase**, the following measures will be implemented:

- Implement SEP, in particular the provisions on providing timely information to local communities about the Project, risks and disturbances associated with the construction and operational phases, timing of any disruptions, and alternative access routes (with maps) during any periods of restricted access.
- Develop and implement a TMP for construction phase (as part of the CESMP) containing traffic management measures. The TMP will need to consider phasing off the works to ensure local access is retained, including public transport.

[38] The personal and family circumstances of the owners whose real property is pending expropriation, as well as circumstances which may have adverse economic effects, should be considered when determining the compensation level (Article 47 of the Law)

- Construct new local roads to enable local inhabitants to reach their land plots and other locations in case local roads are interrupted by the motorway section. If no state-owned land free from private users is available for construction of these new roads, prepare site-specific LARPs in line with the developed LARF for any occupation of privately owned, used or occupied land take.
- As mentioned under the measures for community health and safety, in the design stage, organise consultations with City level authorities and LCOs on all issues of significance for the communities, including but not limited to the issues of planned disposal sites for construction waste, planned new local roads and underpasses/overpasses (considerations of sufficiency, dimensions and safety) with the aim of clearly presenting all planned additional infrastructure, hear the views of local residents in relation to access to their land and make changes, as far as practicable, to accommodate their needs.
- Provide information on alternative access roads as needed and informing relevant local communities about these options.
- Prior to construction works, document the status of all local roads which will be used by the Contractors during construction works. All local roads used for the purpose of construction machines and vehicles movement should be fully restored to at least the pre-project state prior to demobilisation of construction teams.

16.9.6 Measures for Health and Safety Risks for Workers; Labour and Employment

To reduce and mitigate impacts associated with **health and safety risks for workers during the construction phase**, the following measures will be implemented:

- Develop and implement an OHS Plan and Fire and Explosion Management Plan (as part of CSOP) and implement specific OHS measures with special focus on (but not limited to): unexploded ordnances, installing safety fences and warning signs at all critical work areas (e.g. open trenches, excavations, material and equipment staging areas, etc.), movement of vehicles and traffic management, influx of workers into the local area including general measures, health surveillance, code of conduct of workers etc.; sufficient provision of medical care facilities and resources for workforce; working at heights, working in confined spaces, working with hazardous material (e.g. explosives); management of electrical hazards, prevention of unintended ground movements and collapse, and biological hazards (poisonous snakes).
- Follow the FBiH legislation on labour and OHS, as well as PR 2 provision on grievance mechanism for workplace concerns.
- Organise workers' camps in line with EBRD/IFC Guidance Note "Workers' accommodation: processes and standards" 2009.

•

To reduce and mitigate impacts associated with **labour and employment**, the following measures will be implemented:

- Require the contractor and subcontractors to develop and implement a comprehensive Labour Management Plan (LMP) prior to the start of construction. The LMP should include:

- Adherence to the Labour Law of FBiH and Lenders' requirements
- A requirement that all workers have access to human resources policy and procedures
- A requirement that all workers (including sub-contractors) must comply with the Construction Workers' Code of Conduct (this will be included in the employment contracts)
- Provisions for fair recruitment, employment contracts, wages, working hours, and grievance mechanisms
- Measures to prevent discrimination, child labour, forced labour and other labour rights violations
- Specific protocols for the inclusion and protection of foreign workers, ensuring compliance with BiH's Law on Foreigners for work permits and residence permits
- Details of the grievance mechanism for all workers (including sub-contractors) in line with EBRD and EIB requirements, to address and resolve complaints confidentially and promptly, ensuring accessibility to all workers, including foreign employees

> Mandate that all employment contracts are provided in workers' native languages and English, clearly outlining terms of employment, wages, working hours, and grievance procedures.
> Require Supervision Engineers to regularly monitor the contractor's and subcontractors' compliance with labour standards, including:
  - Verification of employment contracts and payroll records.
  - Inspections to ensure safe and fair working conditions.
  - Oversight of working hours and rest periods to prevent excessive work hours.
> Require the contractor to enhance local employment opportunities by prioritising hiring from local communities for general labour roles; include in tender requirements a clear plan for local recruitment and workforce integration. Mandate the contractor to implement training and upskilling programs for local workers. Encourage contractors to source materials, transport services and other construction-related needs from local businesses.

•

To reduce and mitigate impacts associated with **health and safety of workers during operation phase**, the following measures will be implemented:

> Include in OESMP and implement specific health and safety requirements for both the Company and the sub-contractor's personnel during road operation and maintenance. It should include (but not be limited to): hazardous materials management, traffic accidents, traffic management, working at heights, working in confined spaces, electrical hazards, etc.

16.9.7 Measures for Danger from UXOs

To reduce and mitigate impacts associated with **danger from UXOs during pre-construction phase**, the following measures will be implemented:

> In case of any mined areas, ensure demining before construction works in cooperation with BHMAC specialists

- Arrange the execution of construction works only after JPAC receives the approval/verification that the field does not have suspected areas and mine risks

To reduce and mitigate impacts associated with danger from UXOs **during construction phase**, the following measures will be implemented:

- Ensure that equipment operators receive training for identification of potential UXOs during construction works.
- Pay special attention during the earth moving works and blasting works; in case of any doubt, stop the works and send a notification to BHMAC for consultations and further instructions.

16.9.8 Measures for Cultural, Historical and Archaeological Heritage

To reduce and mitigate impacts associated with cultural, historical and archaeological heritage during the pre-construction, construction and operation phases, the following measures will be implemented:

- Submit the requests for obtaining prior consents on the Preliminary Designs from Federal Institute for Protection of Monuments.
- Include in the Main Design all the measures as instructed by the Institute and undertake any preventive archaeological surveys as required by the Federal Institute for Protection of Monuments and notify the Institute of survey results.
- Ensure the presence of an archaeologist in the pre-construction phase in the area of the settlement Kuti (Kutilivac), where earlier research has indicated the presence of a larger necropolis with approximately 27 medieval tombstones (stecak) near the old Orthodox cemetery in Kuti. This is to ensure proper field research before the commencement of construction work.
- Communicate with the Konjic Parish and Islamic Community through individual meetings about the Project, risks and disturbances associated with the construction and operational phases, timing of any disruptions, and alternative access routes (with maps) during any periods of restricted access.
- Ensure alternative access to the mosque and Orthodox cemetery in the Donje Selo settlement, Orthodox cemetery in the Mladeskovici settlement and the Muslim cemetery in the Kutilivac settlement in case of any access restrictions.
- Post community grievance mechanism information the entrances to the mosque and cemeteries as well as construction sites.
- Post info-panels placed on construction sites and places of worship.
- Ensure that the Contractor develops a Chance Find Procedure and trains relevant staff and in its requirements prior to any site preparation and construction works. The provisions of the Chance Find Procedure need to include:
  - Notification of relevant competent bodies of found objects/sites,
  - Alerting project personnel to the possibility of chance finds being discovered,

- Fencing off the area of finds to avoid any further disturbance or destruction,
- Having a person responsible for cultural heritage available and present during land disturbance activities.

> Implement SEP, in particular the provisions on ongoing consultations and engagement with affected stakeholders prior to, during and after works being conducted near sites of interest.

Appendix 1. Questionnaire for Households

MOTORWAY KONJIC (OVCARI)-TUNEL PRENJ-MOSTAR SJEVER

Household Questionnaire

(In wider 500 m buffer zone from the motorway route)

Questionnaire number	

Address / settlement (local community):

Approx. distance from the motorway route (m):

Survey date:

Surveyor name:

HOUSEHOLD CHARACTERISTICS/ DEMOGRAPHICS

Full name of respondent:	
Is the respondent the head of household:	Yes/no
If "no", full name of head of household:	
Sex (head of household):	Male/female
Ethnic group:	
Contact phone number:	
Employment status of head of household:	a) Employed b) Unemployed c) Student d) Pensioner

Number of household members (age and gender)

	Male	Female	Total
0-6 years			
7-18 years			
19-30 years			
31-65 years			
Over 65 years			
Total			

How many adult household members have:

Never gone to school	
Finished primary school	
Finished high school	
Finished university	

PROJECT INFORMATION RECEIVED

Have you been informed about the planned construction of the motorway? YES/NO

If yes, by whom?

When?

Are you satisfied with the level of information about the project received to date?

1- satisfied
2- partially satisfied
3- unsatisfied

If the answer is 2 or 3, please explain.

In your opinion, what is the most effective way for you to become more informed about the details of this project? (e.g. meetings with JPAC, public hearings, daily newspapers, radio, TV or some other way?)

LIVING CONDITIONS

How long have you been living here (year when you settled here):

Where were you living before?

Are you a returnee after the 1992-1995 war?

If yes, where did you move to during the war?

Please state whether you have any specific problems due to your returnee status.

If you are a returnee, did you get any specific assistance from the government (e.g. donations for reconstructing your house)?

House built in year:

Current use of house:	a. residential b. recreational (e.g. weekend house) c. mixed residential and commercial* d. unused **If there is commercial space used for business operations, fill in separate questionnaire for businesses.*
General condition (of house):	> new or very good

	a. fair b. poor c. ruin, unusable
Living space:	m^2
Heating system:	

Utilities			*Additional information (as needed)*
Connection to public water network	YES	NO	
Connection to public power grid	YES	NO	
Connection to public sewage	YES	NO	
Connection to telephone lines	YES	NO	
Running water in the house	YES	NO	
Road connection	YES	NO	
Public transport connection	YES	NO	

Drinking water source

Community tap water	
Private well	
Bottled water	

Auxiliary structures (yes/no)		*Additional information (as needed)*
Summer kitchen		
Garage		
Storage		
Stall		
Other (specify):		

LIVELIHOODS

Total household income

In which of the following categories does the average total monthly income of your whole household fall:	
Less than BAM 500	
Between BAM 500 and 1,000	
Between BAM 1,000 and 1,500	
More than BAM 1,500	

Amongst the following, what are your main sources of income:			
Salaries		Pensions	
Agric. products		Government assistance	
Small business		Other (specify):	
Remittances		Other (specify):	

In case there are several bread earners in the household, consolidate them together please	*(1: highest, 2 second highest, etc…)*

Amongst the following, what are your main expenses?

Food		Housing (mortgage or rent)		Utilities (water, power, telephone)		Other (specify):			
Education		Health		Transport					

(1: highest, 2 second highest, etc…)

Which statement best describes your financial situation?
a) I do not have enough income even for basic needs
b) I have enough income only for basic needs
c) I have a high level of income

VULNERABILITY

Is anyone in the household suffering from one of the following problems:	
	No. of household members
Physical handicap	
Mental handicap	
Chronic disease requiring regular medical attention	
Chronic disease requiring hospitalisation	
All household unemployed or without regular income	
Household comprised of elderly and/or elderly and single	
Other problem (specify)	

Does any member of the household receive social benefits? Yes/No

If yes, what type of assistance?

INFORMATION ON AGRICULTURAL ACTIVITIES

Does your household own any agricultural land at this location? YES NO
If yes, which type (orchard, meadow etc.) and what size by type (m2)?

Is your household registered for agricultural production?
1. Yes
2. No
3. No, but we are planning to get registered

What type of agricultural production has your household been engaged in?

Type of agricultural activity	**YES/NO**	**If YES:**	
		Use (mark 1, 2 or 3): 1. Subsistence only 2. Only for sale 3. Both for subsistence and sale	**Significance of activity for the household:** 1. Entire household income depends on this activity 2. Activity is very significant for household income 3. Activity is less significant for household income 4. Activity is not significant at all
Production of vegetables	YES/NO		
Production of fruit	YES/NO		
Livestock/poultry breeding	YES/NO		
Beekeeping	YES/NO		
Forestry	YES/NO		
Collecting mushrooms or herbs	YES/NO		
Other (please state)			

Does your household own any other agricultural land? YES/NO
If yes, in which settlement?
Is that other land actively used for agriculture?

ATTITUDES TOWARDS THE EXPECTED IMPACTS OF THE PROJECT

What is your perception of the Project?

> Very positive
a. Positive
b. Neutral
c. Negative
> Very negative

What do you assume could be the main impacts of the project? Please rank them as follows: 0 (no impact), 1 (low impact), 2 (moderate impact), 3 (significant impact).

Impacts	Male member	Female member
Negative impacts		
Reduced road safety due to increased traffic flow on the existing road network during the construction phase		

Restricted access between local communities during road construction		
Restricted access between local communities during road operation		
Restricted access to health institutions during construction		
Restricted access to educational institutions during construction		
Poor air quality at construction sites		
Noise and vibration at construction sites		
Landslides due to construction activities		
Potential contamination of surface and groundwater		
Potential reduction of surface and groundwater		
Worker influx during construction		
Land acquisition and resettlement		
Other (please specify)		
Positive impacts		
Strengthening of local business development		
Generation of employment during the construction and operation phases		
Development of the skills of employed persons		
Improved infrastructure		
Other (please specify)		

How to you perceive the solution for the stated problems?

Male member of the household:

Female member of the household:

Do you have any comments on the proposed route and the construction of the motorway?

Do you have any requests you will expect JPAC to fulfil before construction begins?

Surveyor's observations and comments:

Appendix 2. Questionnaire for Businesses

MOTORWAY KONJIC (OVCARI)-TUNEL PRENJ-MOSTAR SJEVER

Questionnaire for Businesses

(In wider 500 m buffer zone from the motorway route)

Questionnaire number	

Address / settlement (local community):

Approx. distance from the motorway route (m):

Survey date:

Surveyor name:

PROJECT INFORMATION RECEIVED

Have you been informed about the planned construction of the motorway? YES/NO

If yes, by whom?

When?

Are you satisfied with the level of information about the project received to date?

1- satisfied
2- partially satisfied
3- unsatisfied

If the answer is 2 or 3, please explain.

In your opinion, what is the most effective way for you to become more informed about the details of this project? (e.g. meetings with JPAC, public hearings, daily newspapers, radio, TV or some other way?)

GENERAL BUSINESS INFORMATION

1. Name and position of respondent:

2. Main activities of your business:

3. Year of business establishment:

4. Name and sex of business owner(s) – *if different from respondent*:

5. Is the business formally registered: YES/NO

> The business operates as (e.g., d.o.o., etc.):

6. Do you own the business premises?

a. Yes, I am the owner of premises
b. No, I rent the premises
c. Other _____

7. Size of business premises:

a. Main building _____ m^2
b. Surrounding area – parking lot etc. _____ m^2
c. Auxiliary structures _____ m^2

8. Does the business have any auxiliary structures? If yes, please list them.

9. Total number of employees: _____

> The business operates on:

a. Local/regional level
b. National level
c. International level

10. Does your business change according to the time of year (e.g. tourist season or during winter)?

11. To what extent does your day-to-day business depend on accessibility to your premises (customers) and proximity of the road?	*1. Not at all* *2. To some extent* *3. To a moderate extent* *4. To a great extent* *5. To a very great extent*
12. Annual turnover *(optional)*:	
13. Annual profit (*optional)*:	

ATTITUDES TOWARDS THE EXPECTED IMPACTS OF THE PROJECT

Based on your estimate, will access to your business or regular activities be affected by motorway construction and operation? If yes, please describe.

Is the implementation of the project going to improve the conditions of your operation in any way and/or create new opportunities for the business entities which are active in the project area?

What is your perception of the Project?

- > Very positive
- a. Positive
- b. Neutral
- c. Negative
- > Very negative

What do you assume could be the main impacts of the project? Please rank them as follows: 0 (no impact), 1 (low impact), 2 (moderate impact), 3 (significant impact).

Impacts	
Negative impacts	
Restricted access for customers and suppliers to our business facilities during construction	
Traffic restrictions during construction for our business vehicles travelling to other regions	
Reduced revenues due to construction works	
Utility cuts during construction	
Reduced road safety due to increased traffic flow on the existing road network during construction	
Poor air quality at construction sites	
Noise and vibration at construction sites	
Landslides due to construction activities	
Potential contamination of surface and groundwater	
Potential reduction of surface and groundwater	
Land acquisition and resettlement for our business	
Other (please specify)	
Positive impacts	
Possibility of offering business services during construction works	
Increased accessibility to new customers and markets after construction	
Increased revenues after construction	
Reduced time for transportation of goods	
Other (please specify)	

How do you perceive the solution for the stated problems?

Do you have any comments on the proposed route and the construction of the motorway?

Do you have any requests you will expect JPAC to fulfil before construction begins?

Surveyor's observations and comments: