Environmental and Social Impact Assessment

CONSTRUCTION OF NEW MOTORWAY SECTION DEMIR KAPIJA – SMOKVICA AS A PART OF PAN - EUROPEAN CORRIDOR X

NON – TECHNICAL SUMMARY

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Content

References and Background Studies

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Abbreviations

ASR	Agency for State Roads
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
ESAP	Environmental and Social Action Plan
EU	European Union
LACP	Land Acquisition and Compensation Plan
MEPP	Ministry of Environment and Physical Planning
MTC	Ministry of Transport and Communications
NGO	Non-Governmental Organisation
NTS	(Project's) Non-Technical Summary
PA	Protected Area(s)
RAP	Resettlement Action Plan
RM	Republic of Macedonia
Ref.	Reference
SEP	Stakeholder Engagement Plan
VOC	Vehicle Operating Costs

Introduction

The project intention is to construct a modern highway with four lanes (two in each direction and additional lane for stopping) with predicted traffic frequency of 12,000 vehicles per day as an annual average.

The planned highway route is located in the central – south part of Macedonia on the territory of the municipalities Demir Kapija and Gevgelija. It represents a section of the existing highway E-75 and is segment of the Pan-European Corridor X, which runs through Macedonia in North – South direction, connecting the country with Serbia on North and Greece on South. This Corridor is an important element of the core transport network from Greece to Austria. Present average annual daily traffic (AADT) of the Corridor linking Salzburg and Thessalonica through Ljubljana, Zagreb, Belgrade and Skopje of 15,000 vehicles per day is set to increase at 6% per annum to 40,000 vehicles per day by 2020 (Ref.11).

The map of the road network in Macedonia indicating the planned development is given in the Appendix 1.

General project objectives are following:

- To facilitate international and transit movements of people and goods with the EU and its neighboring countries by the modernization and development of the Pan-European Corridor X and the regional core network.
- To facilitate international and transit movements of people and goods with the EU and its regional neighbors by completion of the national components of the Pan-European Corridor X to the level of highway.
- To facilitate the effective movement of people and goods that supports improved living standards and socio-economic environment in the regions through completion of the national components of the Pan-European Corridor X.
- To promote sustainable development especially through minimizing the adverse effects of the transport sector on the environment and through improving transport safety.

Project Sponsor

Project sponsor is the Agency for State Roads of the Republic of Macedonia, which is state owned body, responsible for:

- Planning of the construction, reconstruction, maintenance and protection of the national and regional roads.
- Developing and implementing multi-annual and annual programs for construction, reconstruction, maintenance and protection of the public roads.
- Monitoring and analysis of the conditions in relation to the construction, reconstruction, maintenance and protection of the public roads.
- Making investments in the field of public roads.
- Planning and implementing measures for rational usage of the funds necessary for development of the public roads.
- Technical supervision on the construction, reconstruction, maintenance and protection of the public roads and technical control on the accomplished work regarding the investment maintenance.

Benefits of the Project

Primary benefits of the project can be summarized as follows:

- Increasing traffic flow

After completion of the planned highway section from Demir Kapija to Smokvica, the expected traffic would be approximately 10,000 vehicles per day (in the operational period of 25 years). This section will provide continuity in the technical characteristics of the road to ensure homogeneous traffic flow.

- Time savings

By increasing the mean operational speed of the vehicles, the Project will allow significant benefit in running time reduction in comparison to the current running time.

- Reduction of Vehicle Operating Costs (VOC)

The benefits from the reduction of VOC, identified in the Project cost-benefit analysis, are result of:

  - Fuel savings, and
  - Savings due to the fact that vehicles will spend fewer kilometers on the road network and thus they will be used for less time, meaning that the vehicles will not lose their value as fast as in the past.

- Accident reduction

The current alignment is very bendy with many visibility losses and is known to be one of the most dangerous sections on the national road network in Macedonia. The Project will improve traffic conditions thus contributing towards reduction of potential accidents.

- Better service level

In addition to the economic benefits, one major reason to complete this section is to provide to the users a homogenous service level for their transit travel across the Republic of Macedonia.

- Benefits from the residual value of project

The duration of the physical life of the various elements of the project is considered to be equal to:

  - 40 years for earth works and pavement/asphalt works
  - 75 years for the bridges and tunnels, and
  - 30 years for the road equipment.

The residual value of the Project is approximately 58% of the project's investment costs.

The summary of the above benefits is given in the following table.

Benefit	Total value (in euro, discounted)	% of total benefits
Vehicle operating costs (VOC) reduction	62,184,339.00	51.2
Times savings	37,899,689.00	31.2
Accidents reduction	2,936,372.00	2.4
Residual value	18,447,407.00	15.2

Project History

Project Rationale

Road infrastructure has great importance for economic growth, for labor force mobility and also for competitiveness within international distribution of transport operations. It is one of the key factors that considerable affects economic development and spatial structure of the country / regions. The regional core transport network is considered to be one of the most important policies for bringing long-term peace, stability and economic prosperity to South-East Europe. Construction and completion of the Pan-European Corridor X to the level of highway will contribute to strengthen links with neighboring countries by improving the flow of international trade and by improving connectivity with its more remote areas. Improved infrastructure along the Pan-European Corridor X would enhance the possibilities of increased traffic by linking central Europe with the port of Thessalonica in Greece.

Comparison of Alternatives

During the preparatory phase of the project, the Agency for State Roads has overtaken activities for selection of optimal corridor for the route of the planned highway. These activities have included two main alternative variants, as well as “Do nothing” alternative. The main alternative routes have been assessed against a set of criteria.

The map in the Appendix 2 shows the considered alternatives and the one that has been selected for future development of the planned highway.

Public Information and Public Consultation

The Agency for State Roads has allowed public information / participation and consultations during the implementation of past project stages and shall allow public information / participation and consultations during the next project stages.

The full EIA report(s) and other EIA-related documents, including minutes of meetings and the written communication with NGO have been timely disclosed on the following locations:

- The Macedonian Ministry of Environment and Physical Planning web-site: www.moepp.gov.mk. The documents are still available on this web site.
- The Public Relation Office within the MEPP.

In addition, the full EIA report(s) have been disclosed on the following locations:

- Web-site of the Ministry of Transport and Communications: www.mtc.gov.mk. The documents are still available on this web site.
- Web-site of the Government of Republic of Macedonia: www.vlada.mk. The documents are still available on this web site.
- Liaison offices of the concerned municipalities.

As a part of the implementation of the EIA administrative procedure, the Agency for State Roads in cooperation with the MEPP and MTC organized and conducted a number of public hearing meetings in the Project area. The records of these meetings have been published on the web site of the Government of Republic of Macedonia. Following meetings were organized:

(i) EIA Report (March 2008)

- Public hearing in municipality of Demir Kapija on 10th June 2008
- Public hearing in municipality of Gevgelija on 25th July 2008

(i) Update of EIA Report (July 2009)

- Informative meetings with NGOs (July-August 2009)
- Public hearing in municipality of Demir Kapija on 22nd August 2009
- Public hearings in village Miravci and municipality of Gevgelija on 3rd September 2009

The aim of these meetings was to deliver the information and findings related to environmental assessment of the highway construction and operation to local communities and NGO as well as to explore local communities' response and eventual concerns in regard to the proposed development.

Project Description

The Project is a significant missing link of the Pan-European Corridor X, crossing the territory of the Republic of Macedonia, which now operates through existing national road M1 (single carriageway with 1+1 lanes).

Concerning the construction of road infrastructure along the Pan-European Corridor X, out of the 172 km long section of the Corridor passing through the country in the direction North-South, 79 % has been already constructed to highway standards. Four percent (4%) of the remaining 21% will be completed by the end of 2010 (section Tabanovce – Kumanovo) and the remaining 17% refer to the section Demir Kapija - Smokvica. The main project activity is the construction of completely new highway section (2+2 lanes) between Demir Kapija and Smokvica. The total length of the highway section is 28.18 km and the operational speed is 110 km/h. The project also includes 2 separate level intersections:

- Interchange "Miravci" (at kilometer 21), and
- Interchange "Smokvica" (at kilometer 27).

Planned works in the scope of the Project include: preparatory works, earth works, drainage works, construction of structures and tunnels, dislocation works, construction of pavements, installment of road signalization and implementation of environmental mitigation measures as proposed by the EIA Report.

Most significant technical characteristics of the Project include:

- ✓ Embankments: 3 million m^3
- ✓ Excavations: 6.6 million m^3
- ✓ Bridges: 6 double carriageway bridges (4.55 km of single carriageway)
- ✓ Tunnels: 2 twin tunnels (4.94 km of single tube)
- ✓ Two interchanges: I.C. Miravci and I.C. Smokvica
- ✓ Overpasses: 5 overpasses (2 of them are part of the aforementioned intersections).
- ✓ Underpasses: 7
- ✓ Box culverts: 100

- ✓ Secondary road network (local and service roads – permanent roads): 15 km (80% of the local and service roads are existing roads and the additional 20% of the local and service roads need to be newly constructed)

Key Environmental Issues

Description of the Main Existing Environmental Components

Natural Characteristics of the Project Area

The area of interest of is encircled by mountains from west and east and opened on the north and south by the river Vardar valley and it has specific climatic characteristics. The region is one of the warmest regions in the Republic of Macedonia with characteristic Mediterranean climate.

From the geotectonic point of view, the project area belongs to the very unstable geotectonic unit in the Republic of Macedonia known as Vardar Zone.

The area can be divided into two well-defined morphological units such as:

- Demir Kapija gorge including the River Vardar valley to village Udovo, and
- Valandovo valley, hilly area between Valandovo valley and Gevgelija valley.

Geological composition is characterized by the presence of cliffs and Jurassic carbonate complex in the beginning part of the corridors. Ten caves in the carbonate complex on both sides of River Vardar can be found. Fluvio-denudation relief is prevailing from both sides of the river valley in the Demir Kapija–Udovo area. The main geologic compounds for the region are diabases (green or grey-green coloured and homogenous, massive textured rocks).

The area is characterized by rich hydrographical network represented by the flow of the river Vardar and it's tributaries as well as the thermo-mineral and mineral springs, wells, etc.

Typical soils are cinnamon soils in the hilly area and modified soil types in the plain area.

The project area occupies natural or semi-natural territories. The part from village Miravci to village Smokvica has more anthropogenic features - rural areas and more or less degraded habitats.

One principal landscape can be distinguished in the project area - Sub-Mediterranean (hilly) forested landscape. This principal landscape can be sub-divided into several functionally and spatially distinctive units. These are: limestone canyon part of Demir Kapija gorge; Demir Kapija gorge from the canyon down to village Udovo; hilly more or less natural area from village Klisura to village Udovo and broad valley from Udovo to Smokvica (Valandovo valley).

Quality of Environmental Media

Air, water and soil are considered as unpolluted (in natural areas) or moderately polluted (in settlements and agricultural land).

Only river Vardar has poor water quality. Also rivers Boshava and Anska Reka show signs of pollution impact from the agriculture.

Ecosystems and Habitats

The identified habitats in the project area could be systematised in six main groups according to the type and density of the vegetation cover, type and relief characteristics of the site, natural / anthropogenic origin of the vegetation, presence or absence of human settlements or objects and water areas. According to these criteria the following habitats were identified: (i) forests and scrublands, (ii) open terrain: grasslands, shrubby grasslands, meadows, etc., (iii) rocky areas, including caves, (iv) water biotopes, (v) agricultural land: orchards, fields, gardens, vineyards and cattle breeding areas and (vi) urban and industrial areas.

Social Environment

Occupation: Agriculture is the most important economic activity in the project region. The intensive farming (vegetables), crop growing and production of industrial cultures as well as vineyards are characteristic ones. According the land-property, 85 % of the land belongs to the public sector and only 15% are private property. Livestock breeding is an important economic activity in the region. The goats and sheep are dominating by their importance followed by cattle. Goats are especially well adapted for foraging on shrubby species of the pseudomaquis.

Settlements: Several populated places are found along the highway corridor: Demir Kapija town and villages Klisura, Miravci, Miletkovo and Smokvica. Demir Kapija is the largest populated place along the corridor, with main occupation of the population in agriculture.

Archaeological sites: The area south of Demir Kapija is extremely rich in cultural, historical and archaeological sites. More than 20 archaeological sites are identified in the corridor area.

Land use: The main land use types in the highway corridor area are forest and shrublands, agricultural areas and urban/rural areas. Agricultural land occupies significant surface in the lower parts of the highway corridor: along river Vardar and in the Valandovo-Gevgelija valley. Most of the agricultural land is represented by fields and acres. The highway corridor area overlaps with the territory of two forestry districts: “Demir Kapija” from Demir Kapija and “Kozhuf” from Gevgelija. Forests in the corridor have low biomass and production. Pubescent oak provides most of the timber in the project area.

Tourism: Tourism is not well developed branch in the area although there are potentials to develop this type of activity. The best known tourist places are the Demir Kapija canyon and Bela Voda cave.

Protected Areas

An overview of the protected areas (PA) in the project region and their current status is given in the following table.

Locality	PA Category	Status
Iberliska Reka	IPASON	protected
Klisurska Reka	SINR	proposed
Studena Glava-Rid Trnika	SINR	proposed
Demir Kapija	MN	protected
Krastovec	MN	proposed
Bela Voda cave	MN	proposed
Crni Orevi	MN	proposed
Shtuder	MN	proposed

Source: Spatial Plan of the Republic of Macedonia (adopted 2004)
IPASON - Individual Plant and Animal Species Outside of Natural Reserves; SINR - Nature Reserve for Scientific Research; MN - Monument of Nature (this classifications thus not correspond to the provisions of the Macedonian Law on Nature and will be subject of adaption)

Short description of the protected areas is given in the box below.

- IPASON Iberliska Reka
It was protected since 1963 as a category Individual Plant and Animal Species Outside of Natural Reserves. Iberliska Reka (syn. Chelevechka Reka) was proclaimed as a plane (*Platanus orientalis* L.) reserve. It is located along the river Iberliska Reka flow, between the villages Iberlija and Chelevec (Demir Kapija region). It represents a water gap cut into Demir Kapija Jurassic limestone. The reserve occupies 25 ha area.

- MN Demir Kapija
Demir Kapija canyon is protected area (since 1960) in the category – Monument of Nature (III category according to IUCN). The Demir Kapija canyon is among the richest ornithological reserves in Europe considering the rare birds of pray: *Gyps fulvus*, *Neophron percnopterus*, *Aquila chrysaëtos*, *Circaëtus gallicus*, *Buteo rufinus*, different falcons–*Falco peregrinus*, *Falco naumanni* and other rare and scientifically important bird species.

Environmental Impact Assessment

Construction Stage of the Planned Highway

Forests: The most affected forest ecosystems will be oak shrublands and oak forests at number of localities by direct destruction and fragmentation effect. The destruction of some plane trees is recognized as the most possible impact during the highway construction in the areas of streams, dales, ravines and gullies. Deforestation during the construction will be approximately 1,445 m^3 of timber or an area of 119.3 ha.

Water habitats: Potential impacts on the water ecosystems as a result of pollution and eventual filling with construction waste material in the streams is assessed as significant.

Species: The construction of the highway will cause direct interruptions in the breeding cycle (clutch loss) and decrease in the breeding success of the birds breeding along the highway corridor. Bird community of the pseudomaquis, which holds significant number of species with unfavorable conservation status, will be the most affected. This is also true for the arable fields and oak forests. The passerine species (Shrikes, Thrushes, Warblers, Tits, Finches and other families) will be the most affected by fragmentation and direct habitat loss (both for breeding and foraging), but depending on the locality, highway constriction will also strongly influence the breeding behavior of some raptors. The most sensitive areas in this direction are the cliffs of Demir Kapija and their surroundings.

Impact of mining activities – (area of Demir Kapija limestone canyon): The conflict arises from very high sensitivity of this complex locality. The complexity is a result of presence of different habitats settled by rare and endangered species, especially bird species. The risk for these species arises from the construction work. The mining is unavoidable since the tunnel has to be staved through Jurassic limestone rocks. Although the area of the canyon was assessed as very high sensitive, the highway route must pass through the canyon since there is no other feasible technical solution. The conflict becomes the most expressed during the breeding period of vultures (laying eggs, incubation period and fledging, from March to July).

Agriculture: The main impact on agriculture during highway construction is loss of agricultural land. The surface of agricultural land that will be lost is limited and will be approximately 9.70 ha). Fragmentation of agricultural land is also a potential significant impact.

Archaeological sites: The area is rich in cultural heritage and there is probability of accidental archaeological discoveries.

Pollution: The level of emissions and duration of the construction period will not exceed the carrying capacity of the natural ecosystems. A certain increase of air pollution in the broader project area will certainly occur due to the increased traffic frequency. However, these emission levels will be insignificant for human health.

Waste related to construction of the highway section will be diverse and produced in large quantities. Most of the waste will be construction inert waste, but also quantities of hazardous waste are expected to be produced. By establishment of sustainable waste management system and due to the reasonably short duration of the construction activities, the impacts could be assessed as not significant.

There is a probability of occurrence of risks associated with accidents ((oil leakage, fire, hazardous substances, personal risks, etc.).

Operational Stage of the Planned Highway

Forest ecosystems: Fragmentation of forest ecosystems and shrubland habitats is particularly important, due to the cut of regular biological movement routes of large animals from Kozhuf Mountain to river Vardar (for drinking water and feeding). Many animal species depend on these migration routes, including species of European conservation concern, such are row dear, wolf, otter, wild cat and brown bear.

Landscape: Concerning the section of the road passing through the oak forest some impacts resulting from the deforestation of the forest belt along the road can be expected. However, from landscape point of view this impact is not very significant. The most significant impact on the landscape characteristics will be observed in the areas with high and long bridges. The main changes will occur in the structural aspects of the landscape - its aesthetic value. However, the function of the landscape will not be altered significantly by implementation of proper mitigation measures. Degradation of landscape functional characteristics considers especially fragmentation of individual habitats and agricultural land.

Rivers and streams: The pollution of water ecosystems is caused by discharging of residues from fuel combustion (lead and hydrocarbons), lubricants and tyre parts. All of these contaminants will enter the rivers with wet deposition that washes out the surface of the road. Usage of defrosting agents (salts and sand) will increase conductivity of river and streams' water, and sand will increase turbidity. In both cases, water quality will decrease with great impact on aquatic life. This kind of pollution is typical for strong winters with very low temperatures.

Species: In general, the impacts on the species can be divided into fragmentation effects, increased collection or hunting/poaching, changes in the reproduction and road kills (important for amphibians, reptiles, mammals).

Agriculture: Impacts on agriculture are presented by the effects of air, soil and water pollution by the increased traffic on the highway. One of the specific impacts will be fragmentation of agricultural land caused by intersection of the “agricultural” roads and new highway.

Noise: The noise generated by vehicle traffic on the highway will affect the settlements located alongside the planned highway. For evaluation of noise impact and determination of suitable noise abatement measures, calculations of noise levels were carried out. The predicted noise levels were evaluated with respect to noise standard regulations of Macedonia, WHO and EC regulations. The applied noise standards for existing residential areas were 60 dB (A) at daytime and 50 dB (A) at night time. However, 55 dB (A) at daytime and 45 dB (A) at night time are recommended for the residential areas.

Soil pollution: It is well documented that the most significant pollution from gaseous substances and aerosols (emitted from exhaust pipes of vehicles) occurs in 10 meters distance due to the fast sedimentation of substances heavier than the air. The sedimentation depends on the geomorphology of the terrain, wind speed, vegetation cover, etc.

Air quality: The fuel consumption on the new alignment has to be compared with the amount being emitted currently along the existing road to Gevgelija. For both situations, the number of vehicles will be the same. The speed is high with no stop-and-go characteristics.

Waste: Waste materials that will be generated during the road operation are not numerous and variable as in the case of the construction stage and mainly include communal waste and packaging waste.

Impact on human health can be considered only for the residents of the settlements close to the highway alignment (Demir Kapija, Miravci, Miletkovo and Smokvica). Such impact can result from air pollution emission and to a limited extent to the noise generation.

Risks in the case of traffic accidents, uncontrolled spilling of oil, oil derivates, chemical and other toxic substances might occur. Fires are also possible as a result of traffic accidents.

Mitigation Measures

Construction Stage of the Planned Highway

General mitigation measures: These measures are based on best international construction practice and recommendations of international financing institutions. Certain proposed measures concern specific habitats, localities and sites aiming to avoid construction of access roads and setting up work camps in sensitive habitats. Measures directed toward improvement of supervision of the construction work are also proposed. Construction activities in the area of identified caves and existing archaeological sites are prohibited.

Main specific mitigation measures include:

- Ban of construction works for construction of the planned tunnel at Demir Kapija canyon during the breeding season of vultures and other birds of prey.
- Constructions of culverts for amphibians, reptiles and mammals: in the regions without natural passes and without underpasses, tunnels or bridges will be constructed.
- The most adequate compensation measure in order to mitigate the impact on the forest is to fund aforestation activities in the frames of the affected forestry districts. Aforestation should be performed with native (autochthonous) tree species as stated in the Law on Nature Protection.
- It is necessary to design and construct appropriate facilities along highway route in order to maintain the existing local roads and important forest paths. By implementing this measure, the fragmentation of agricultural land shall be avoided as well as access to various parts/localities in the hilly region for grazing. Enabling good connection between forest lands on both sides of the highway is essential for accessibility and interventions in case of forest fires.
- Extensive mitigation measures are proposed to avoid the adverse impacts on waters. These include proper storage of liquid agents, appropriate set-up of the work camps, measures to preserve vegetation, anti-erosion measures, etc.).
- It is well established practice that investor and proponent compensate the damage to the environment by setting a scheme for enhancement and improvement of environment in adjacent regions, especially in biodiversity conservation field. Such social responsibility may include (i) elaboration of management plan for Demir Kapija protected area (Monument of Nature, including Chelevechka Reka water gap) and (ii) action plan for conservation of vulture colony in the gorge. In addition, creation of an Information center for Demir Kapija canyon will have positive socio-economic effect on the local population.
- As a general mitigation requirement for noise reduction during the construction phase contractors will be required to use modern noise silenced equipment and to keep to usual daytime work hours (exceptions may apply for certain structures). Preferably, equipment that meets the requirements of the European Directive EC/2000/14 on noise emission by equipment for outdoor use should be used.
- Borrow pits:

- In order to exclude the exploitation of the existing limestone mine at the entrance of the Demir Kapija Gorge and limestone marbleized masses on the section Josifovo–Valandovo–Dojran necessary quantities of carbonate material (limestone, marble) shall be provided from the reserves of the open quarry between the villages Kosturino and Memesli.
- The gravels and the sands from the alluvial stratum should be exploited from the existing localities at Gevgelija.

Operational Stage of the Planned Highway

General mitigation measures include elaboration of emergency plans, recommendations for waste management and storage of hazardous substances, decrease dustiness and elaboration of plan for action in emergency situations.

Main specific mitigation measures include:

- Landscaping and forestation of bare land in the surrounding.
- Installment of protective panels along the highway, establishment of monitoring system for bird casualties and movements of amphibians, reptiles and mammals.
- Ground waters: construction of collecting ditches and sealing of surfaces by the road to reduce the area through which surface water can infiltrate into the ground (re-vegetation of the embankments).
- Surface waters: construct road channels and side ditches; outfalls need to be equipped with oil separators to prevent environmental damages to the existing ground and surface water regimes. Considering potential surface water pollution, herbicides should not be used on the road shoulders or embankments for maintenance. Mowing of the verge is highly recommended as well as to leave green cut on site (it should not be used as animal fodder, could be polluted). It will be necessary for the local highway authorities responsible for maintaining the new infrastructure, to be equipped and well trained to service the oil separators and treatment facilities in addition to other normal road maintenance requirements. Emergency plan for threats from water pollution has to be prepared. Compensation measures such as improvement and strengthening of the habitat function of the rivers and riparian vegetation should be undertaken.
- Air pollution: Vegetation as a buffer along the alignment need to be planted and monitoring of the air pollution has to be established.
- Noise:
  - Reduction of noise emissions (reduction of the vehicle speed, construction of special noise reducing road surface which is efficient for speeds over 60 km/h and avoidance of additional noise sources of constructive origin and damages of the road surface).
  - Reduction of sound transmission (installment of noise abatement barriers like walls or embankments and construction of tunnels, housing-in-tunnels, or noise abating buildings at the road border).
  - Reduction of noise impact at the impact area (respecting a setback / noise buffer for new developments and installation of noise reducing windows in affected houses).

Key Social Issues

Description of the Existing Social Environment

Affected Settlements

Table - Total population, households and dwellings in the affected settlements

Municipality	Settlement	Total population	Number of households	Number of dwellings (all types of living quarters)
Demir Kapija	Demir Kapija	3275	992	1139
	Klisura	3	1	19
Gevgelija	Miravci	1647	528	609
	Miletkovo	117	44	39
	Smokvica	263	85	113
	Total	5305	1650	1919

Source: Census of the population, households and dwellings in the Republic of Macedonia, 2002

The educational structure of the population in the settlements along the highway corridor is given in the following table.

Table - The population according literacy and education in the affected settlements

Settlement	Population above 10 years of age	Illiterate	Without school preparation or incomplete elementary school	Elementary school	Secondary school	High school	Un-known
Demir Kapija	2815	466	938	671	824	126	23
Klisura	-	-	-	-	-	-	-
Miravci	1435	32	408	524	343	34	-
Miletkovo	107	4	47	34	20	1	-
Smokvica	278	4	110	99	40	12	1
Total	4635	506	1503	1328	1227	173	24

Source: Census of the population, households and dwellings in the Republic of Macedonia, 2002; Educational characteristics; State Statistical Office, Skopje, 2004

The socio-economic structure of the population in the affected settlements is given in the following table.

Table - Total population at 15 years of age and over, according to the activity; persons that are performing an activity, according to the occupation in affected settlements

Settlement	Total	Economically active			Economically non active	Agricultural population
		All	Persons that are performing an activity	Persons that are not performing an activity		
Demir Kapija	2745	1398	875	523	1347	173
Klisura	3	2	2	2	1	/
Miravci	1363	695	522	173	668	105
Miletkovo	91	39	26	13	52	37
Smokvica	227	90	73	17	137	20
Total	4429	2224	1498	728	2205	335

Source: Census of the population, households and dwellings in the Republic of Macedonia, 2002

Social Impact Assessment and Social Measures

Table – Measures to mitigate negative social impacts

Negative Impact	Mitigation Measure	Project Phase	Responsibility
Land acquisition • It is expected that the acquisition of land will not be connected with any compulsory operations. • It is not likely that any involuntary physical or economical displacement will take place. Also, it is expected that nobody will be deprived of livelihood, and nobody will incur economical losses.	The Agency for State Roads will conduct an appropriate process for conclusion of an Agreement for land purchase and/or timely limited Agreement for use of land, with every concerned party. In order to address the project – related land and property acquisition, the Agency for State Roads has prepared Land Acquisition and Compensation Plan (LACP). • No Resettlement Action Plan (RAP) is required	Planning phase / Pre-construction phase	Agency for State Roads (ASR)
Possibility for accidents and safety risks during construction activities. (work safety aspects)	Detailed measures need to be outlined in terms of protection of employees during the construction of the highway including: • good construction practice • only qualified personnel undertaking tasks relevant to their duties • provision of suitable personal protection equipment • no activities to be undertaken in adverse weather conditions • provision of sanitary services and welfare amenities on site, and • risk assessments and identification. These measures together with the commitment to comply with Macedonian health and safety laws will provide the foundation on which the welfare of the employees and workers health and safety would be based.	Construction phase	Contractor of construction
General construction activities	Communication of time schedule of the project construction activities through different media.	Construction phase	Contractor of construction
Increased traffic and transport activities passing in the project area.	Traffic / Transport Management Plan to be prepared and implemented to minimise likely negative effects.	Construction phase	Contractor of construction
Nuisances during explosive works	Communication with local communities of time schedule and location of explosion works.	Construction phase	Contractor of construction

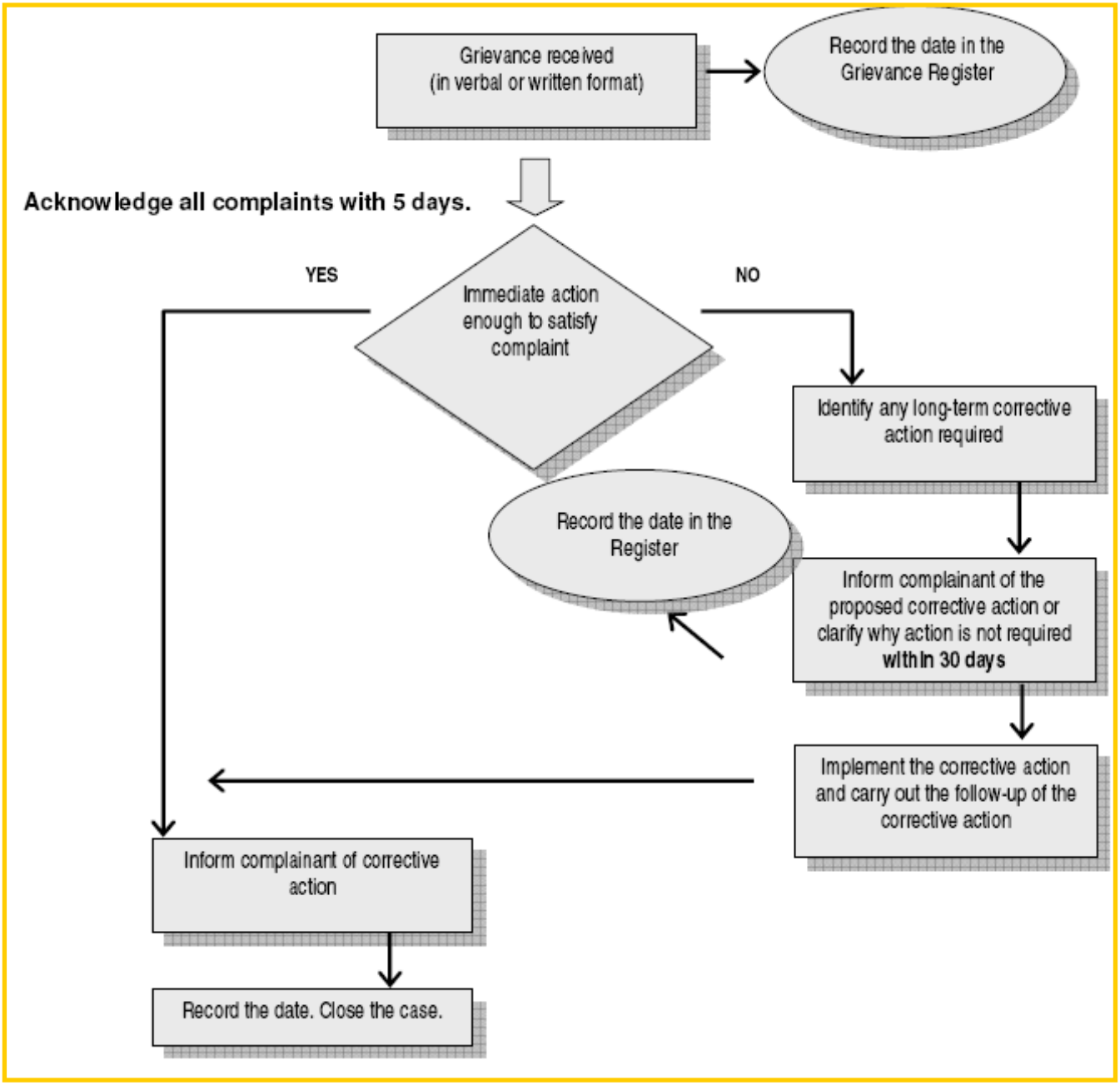
Table – Measures to enhance positive social impacts

Positive Impact	Measure to enhance the positive impacts	Project Phase	Responsibility
Income opportunities for local companies	Utilize local construction companies as far as possible through direct contracting or sub-contracting.	Construction phase	ASR / Contractor of construction
Income opportunities for various services in the wider area as a result of influx of the work force	Utilize local services as far as possible	Construction phase	ASR / Contractor of construction
Employment opportunities The project will provide significant employment opportunities for members of the local, regional and wider communities. It is assessed that the project implementation would result in creation of 4165 job posts in construction stage and 87 job posts in operational stage.	• Temporary job creation during construction period. Priority to be given to directly affected settlement s. • Recruitment of local population in the project area for operation and maintenance of the highway	• Construction phase • Operational phase	• Contractor of construction • ASR
General social benefits: • Time savings • Reduction of Vehicle Operating Costs (VOC) • Accident reduction • Better service level	For details please refer to Project's Cost-Benefit Analysis dated August 2010	Operational phase	ASR
Financial benefits due to regular toll revenues	Regular collection of toll fees	Operational phase	ASR
Improvement of road Infrastructure • The highway includes two intersections: "Miravci" (at kilometer 21) and "Smokvica" (at kilometer 27). These intersections will allow easy access of the local residents in the project area to the highway, thus improving traffic conditions for local population.	Regular maintenance and control of the condition of the highway facilities.	Operational phase	ASR

Grievance Mechanism

The Agency for State Roads shall implement a Grievance Mechanism to ensure that it is responsive to any concerns, complaints particularly from affected stakeholders and communities. Grievance process outline is presented in the following figure.

Figure - Flowchart for processing of grievances



The following indicative timeframe will be used:

- Written acknowledgement of receipt of the grievance: within 5 days of receiving the grievance
- Proposed resolution: within 30 days of receiving the grievance.

In addition the active Grievance Procedure should be enlarged by following actions:

- The information on the avenues to lodge a grievance will be placed on the information boards and websites of local authorities.
- The Agency for State Roads will allocate responsibility of dealing with community grievances.

A workers' grievance mechanism will be established for the employees of construction companies as a part of general system or separately. Contractors of construction works will be informed by the Agency for State Roads about necessity of implementation grievance mechanism for their employees.

Environment and Social Action Plan

Overview

The project's Environment and Social Action Plan (ESAP) in standard EBRD format consisting of the set of mitigation and monitoring measures, criteria for their successful implementation and institutional measures to be taken during project implementation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels has been developed as part of the planning process.

The plan also includes the actions needed to implement these measures. The ESAP is an essential element of the environmental assessment process. It has been developed based on (i) identification of the set of mitigation measures to potentially adverse impacts, (ii) determination of requirements for ensuring that those measures are made effectively and in a timely manner, and (iii) description of the means / resources for meeting those requirements.

The ESAP provides an essential link between the impacts predicted and mitigation measures specified within the EIA and implementation and operational activities. It outlines the anticipated environmental and social impacts of the project, the measures to be undertaken to mitigate these impacts, institutional responsibilities for mitigation and the time frame.

The ESAP has been formulated in such a way that it is easy to use. The following aspects are addressed within the ESAP:

- *Description of mitigation measures.* The ESAP identifies feasible and cost effective measures to reduce impacts to acceptable levels. Each mitigation measure is briefly described with reference to the impact to which it relates and timeline under which it is required.
- *Description of monitoring program:* Environmental performance monitoring has been designed to ensure that mitigation measures are implemented and have the intended result. The monitoring program clearly indicates the linkages between impacts identified during the EIA process, parameters to be measured, methods to be used, monitoring locations, and frequency of measurements and timeline of the monitoring activities.
- *Institutional arrangements:* Responsibilities for mitigation are defined. The ESAP identifies arrangements for coordination between the various actors responsible for mitigation.

The ESAP will be implemented during the construction and operaton of the planned highway E-75, section Demir Kapija - Smokvica.

It will be task of the appointed contractors to further detail the issues addressed in this EIA report, depending on the progress of the project planning, until construction (establishment of construction zones, temporary facilities for work force, details for storing the construction and other materials, the access roads for transport, waste management and waste water management issues, etc).

It is recommended to the Agency for State Roads that environmental issues addressed in the EIA are used for detailing of the environmental specifications in the tender documentation for selection of the construction contractor(s).

Furthermore, each requirement that will result from the process of obtaining decision by the municipalities of Demir Kapija and Gevgelija and other competent bodies, will have to be included in the final documentation for construction.

The detailed design and construction provisions for environmental protection and mitigation will be agreed by the Agency for State Roads with competent authorities.

The defined requirements for protection of the environment will be an obligatory part of the contracting conditions for the construction contractor who will be also obliged to adopt and follow the good management and environmental practices during construction activities and maintain the minimum possible impact on the vegetation, soil, ground and surface waters, air, wild life and landscape, including the impact on the inhabited places and local communities.

With the aim of ensuring effective implementation of the ESAP, the Agency for State Roads will appoint staff to undertake environmental supervision and monitoring during the construction phase. Key responsibilities of this staff will be to ensure that measures and control as defined in the works contract and issued permits and decisions are applied in an appropriate manner. This also includes coordination with Adminsitration for Environment Protection within the MEPP and the Cultural Heritage Protection Office (CHPO) within the Ministry of Culture.

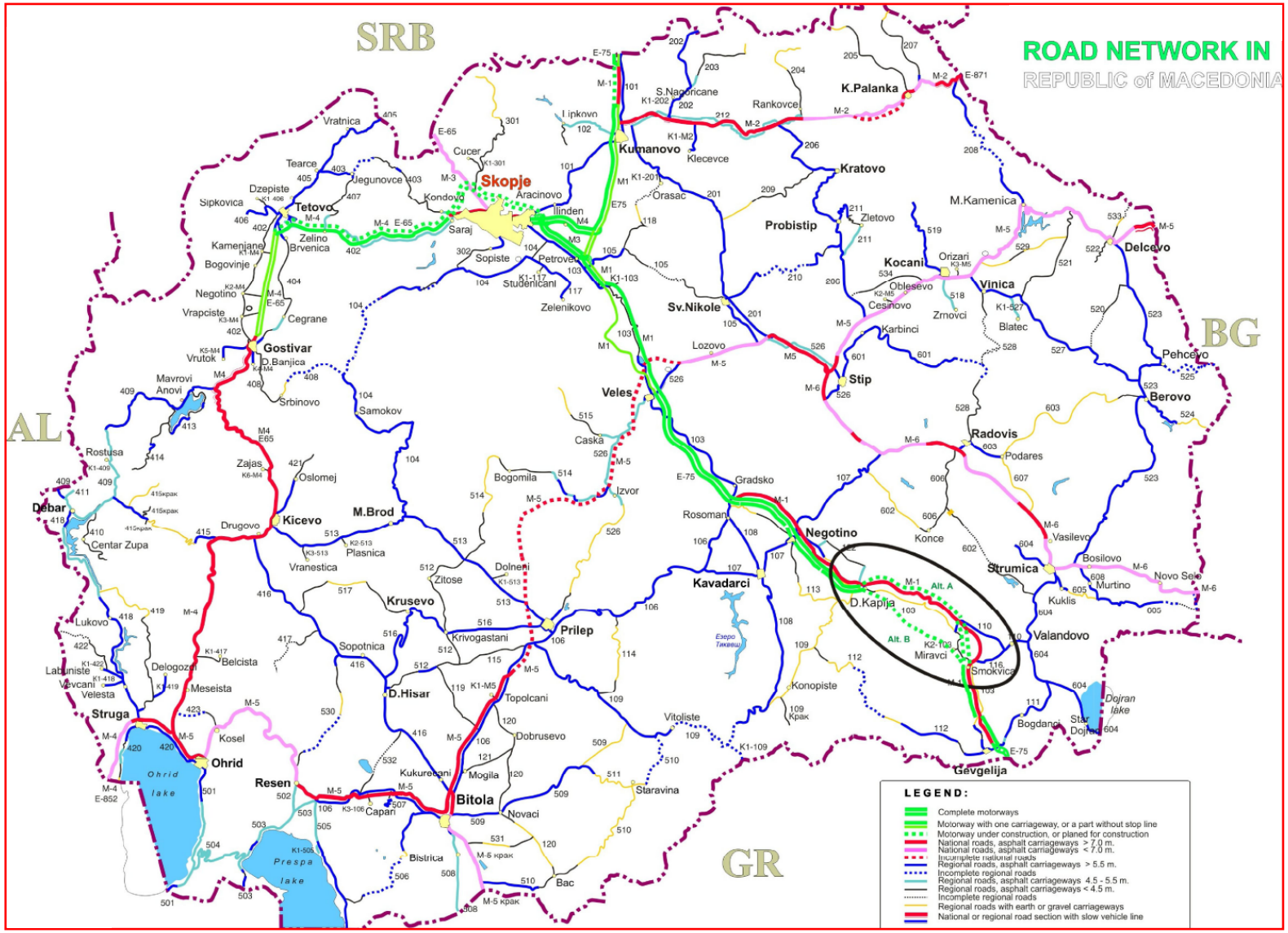
Environmental management during the operational phase of the highway will generally consists of monitoring the efficiency of measures incorporated during the design and monitoring the operational performance. The operation management and monitoring will be organized and conducted by the Agency for State Roads.

Full ESAP is presented in the Appendix 3 to this Non-Technical Summary.

ESAP Review and Amendment

The Agency for State Roads will regularly review the ESAP and identified management action plans to reflect any changes in the project implementation and organisation. Upon any amendment, the amended ESAP will be communicated to all relevant parties and stakeholders.

Appendix 1 – Map of the Road Network in Macedonia



Appendix 2 – Map of the Project Area and Selected Alternative of the Highway Route

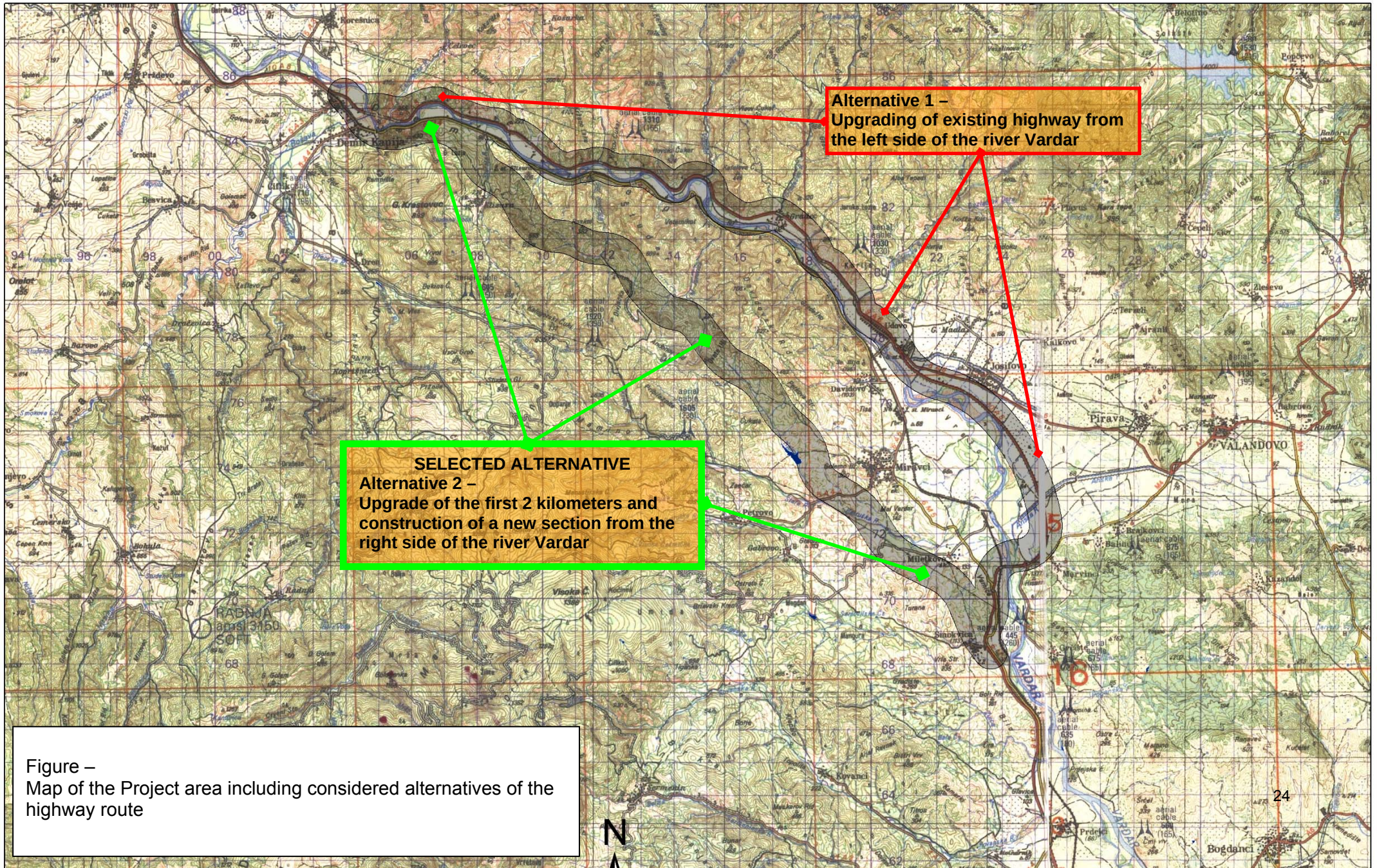


Figure –
Map of the Project area including considered alternatives of the highway route

Appendix 3 – Full Environment and Social Action Plan

Management Action Plans under the Environment and Social Action Plan

In addition to the suggested mitigation measures, following management action plans will be developed and implemented during the project life cycle:

a) For implementation during construction phase:
   - Transport (Traffic) Management Plan
   - Waste Management Plan
   - Emergency Response Plan
   - Construction Demobilization Plan

b) For implementation during the operational phase:
   - Emergency Response Plan
   - Waste Management Plan

The above plans will be developed as part of the further planning stages of the project. A brief description of the scope and the elements of mentioned plans are given in the following text.

Transport (Traffic) Management Plan

It is expected that there will be increase of traffic for construction related activities of the project. This would likely cause disturbance to local population in the project area, thus requiring Transport / Traffic Management Plan to minimise eventual adverse impacts. This plan will include the following elements:

- Transport management planning
- Access roads, alternative routes and diversions
- Access road maintenance
- Vehicle management and maintenance, and
- Community liaison and safety.

The traffic management action plan covers the following aspects:

- hours of driving and rest periods
- driver, vehicle and load security arrangements
- driver communication with control point and vehicle equipment
- source of suitable vehicles
- vehicle quality and specification
- vehicle management and preventative maintenance
- vehicle routes, route planning and alternative routes
- vehicle parking locations – to minimise impact of vehicles on local community, village, roads, and
- inspection and audit of the project traffic.

Waste Management Plans

Waste management plans for construction activities and for operational phase will be prepared and implemented.

The plan for construction activities will include management of all different types and fractions of waste, including municipal waste, packaging waste and waste from construction activities, as well as hazardous wastes and specific waste streams generated during construction.

The plan related to the operational activities will include details for collection and management of waste generated from: (i) the highway itself, (ii) rest / parking areas and (iii) highway maintenance activities.

Provision of waste collection, separation and disposal services will be included in the plans.

Construction Demobilization Plan

The construction demobilization will involve following main activities:

- Demobilization of construction activities (removal of construction equipment), and
- Restoration of the project area.

Before demobilization and area restoration, the Agency for State Roads will undertake a due diligence survey of the project area to identify environmental actions required for restoration / rehabilitation of sites related to the project activities. Based on this survey, the Agency for State Roads will plan necessary actions required for demobilization and restoration / rehabilitation of the project area.

The Agency for State Roads will ensure that removal of construction equipment is taken up along with removal of all empty containers and wastes in accordance with the Waste Management Plan.

The Agency for State Roads will ensure the following elements are considered for rehabilitation of the project area:

- Landscape restoration
- Soil restoration to addressing soil erosion related issues through appropriate control measures
- Restoration of access roads
- Infrastructure and other utilities or buildings restoration, if they were disrupted during the construction activities
- Other restoration elements as agreed between land owner(s), local communities and the Agency for State Roads, and
- Comply with all conditions included in previously issued permits, approvals, etc.

While restoring the site, the Agency for State Roads will ensure that there is no leaching of contaminants into the waters and soils.

Emergency Response Plans (ERP)

The project requires detailed Emergency Response Plan both for probable hazards likely to occur during construction and operation phases.

The ERP will address hazards associated with handling of heavy machinery required for construction and excavation activities. Following natural / accidental hazards may occur during construction phase of the project:

- activation of the eventual landslide areas along the highway route
- slope failure at the different project locations, including access roads
- accident due to heavy equipment / machinery,
- accidental spillage of fuel, oil, lubricants
- accidents due to rock fall during explosion works / mining activities / excavations / drilling.

In order to take care of above hazards, suitable safety and control measures and action plan, along with reporting requirements would need to be prepared.

For the operational phase and prior to commissioning of the highway, the Agency for State Roads will prepare and elaborate a detailed emergency response plan to address any event like earthquake, landslides, forest or other fires, spillage of fuel / oil, risk of traffic accidents, etc. The plan will include reporting mechanism; will define roles of an emergency preparedness team and identify necessary communication issues with local administration.

Environment and Social Action Plan

Table – Environment and Social Action Plan

No.	Action	Environmental Risks / Benefits	Legislative requirement / Best practice	Investment Needs / Resources / Responsibility	Timetable / Project Phase	Target and Evaluation Criteria For Successful Implementation	Comment
I.	**Project preparation / designing / acquiring decisions, consents, permits**						
I.1	Elaboration of project documentation for the highway, including mutually harmonized studies, designs, assessments, analyses, expertizes, and other documentation that will define the technical solution of the highway, the conditions and the manners of construction are detailed and its operational function, specified durability and conditions for use are secured.	Sound establishment of transport-traffic routes, construction zones, locations for temporary buildings for the purposes of the construction, locations for storage of construction and other materials, volume and type of construction vehicles and machinery.	• Law on Spatial and Urban Planning (Official Gazette of RM no. 51/05, 37/07 and 24/08) • Law on Construction (Official Gazette RM no. 130/09 and 124/10)	Responsibility: Designer / Agency for State Roads (ASR)	Process of designing and prior to construction commencement	Submitted project documentation of different type to the competent authorities.	
I.2	Integrated process of designing, including documentation for: • Noise protection measures / noise abatement barriers • Anti-erosive measures • Measures for sustainable use of mineral resources for construction purposes	Benefit: Achievement of high level of protection of people, environmental media and natural resources.	Compliance with the relevant Macedonian legislation	Responsibility: Designer / Agency for State Roads (ASR)	Process of designing and prior to construction commencement	Submitted project documentation of different type to the competent authorities.	
I.3	Obtaining licenses to the explosion works to be carried out for construction purposes	Safety protection goals fulfilled.	Compliance with the relevant Macedonian legislation	Responsibility: Designer / Agency for State Roads (ASR)	Process of designing and prior to construction commencement	License obtained.	

Table – Environment and Social Action Plan (*continued*)

No.	Action	Environmental Risks / Benefits	Legislative requirement / Best practice	Investment Needs / Resources / Responsibility	Timetable / Project Phase	Target and Evaluation Criteria For Successful Implementation	Comment
II.	**Construction phase**						
II.1	Safety aspects						
II.1.1	Fire prevention	Protection of people, property and natural resources	Compliance with the relevant Macedonian legislation	Responsibility: Contractor of construction	During construction phase	Elimination of risk of fire	
II.1.2	Prevention of hazards associated with construction activities (Emergency Response Plan(s))	Protection of people, property and natural resources	Compliance with the relevant Macedonian legislation	Responsibility: Contractor of construction	During construction phase	Minimization of risk of hazards	
II.2	Biological diversity						
II.2.1	Measures for good construction practice						
	• Use of existing access roads / minimization of construction of new access roads. • Prohibition and prevention of activities preventing spontaneous development of indigenous flora and fauna • Fencing of construction zones	Disruption of habitats and landscape, negative impacts on the components of biological diversity	Compliance with the relevant Macedonian legislation	Responsibility: Contractor of construction	During construction phase	Elimination / reduced impacts on habitats / species / landscape	
II.2.2	Habitats / species						
	• Implementation of measures to protect habitats as per the proposals in the EIA Report and, subsequently, in the Environmental Decision issued by the competent authority • Good construction and waste management practice to mitigate the impact on the habitats / species.	Negative impact on the habitats and species	Law on Nature Protection (Official Gazette RM no. 67/04, 14/06 and 84/07)	Responsibility: Contractor of construction	During construction phase	Preserved habitats and species	
II.2.3	Forests						
	• Elaborate on the specification of the scope and the level of damage • Compensation measures - Aforestation of 120 ha in Demir Kapija and Kozhuf forestry units	Conversion of forest land, loss of increment and premature removal	Law on Forests (Official Gazette RM no. 64/09)	Responsibility: ASR/Contactor	Prior and during construction phase	Compensation for damages	

Table – Environment and Social Action Plan (*continued*)

No.	Action	Environmental Risks / Benefits	Legislative requirement / Best practice	Investment Needs / Resources / Responsibility	Timetable / Project Phase	Target and Evaluation Criteria For Successful Implementation	Comment
II.3	Geology and soils						
	• Good construction and waste management practice • Compliance to the restriction for mineral resources exploitation imposed for identified sites in the EIA Report and, subsequently, in the Environmental Decision issued by the competent authority • Implement planned anti-erosive measures • Restoration measures to soils	Disruption and soil erosion	Compliance with the relevant Macedonian legislation	Responsibility: Contractor of construction	Prior and during construction phase	Protection against erosion and poor management of mineral resources	
II.4	Air quality						
	Good construction practice	• Fugitive dust emission • Fugitive emission due to poor storage and handling of construction material or waste material	Law on Ambient Air Quality (Official Gazette RM no. 67/04 and 92/07)	Responsibility: Contractor of construction	Prior and during construction phase	Ensuring reduction of negative effects on the quality of air	
II.5	Water quality						
	Good construction practice	Pollution of waters through leakage of fuel, oil, lubricants or discharge of fecal waste waters by construction personnel	Compliance with the relevant Macedonian legislation	Responsibility: Contractor of construction	Prior and during construction phase	Ensuring reduction of negative effects on the quality of waters	
II.6	Waste management						
	• Plan for waste management • Good construction practice	Pollution of environmental media with different waste types generated during construction activities.	Law on Waste Management (Official Gazette RM no. 68/04, 71/04 and 107/07) and Law on Construction (Official Gazette RM no. 130/09 and 24/10)	Responsibility: Contractor of construction	Prior and during construction phase	• Agree the Plan with competent authority • Sustainable waste management • Implemented Plan for waste management	

Table – Environment and Social Action Plan (*continued*)

No.	Action	Environmental Risks / Benefits	Legislative requirement / Best practice	Investment Needs / Resources / Responsibility	Timetable / Project Phase	Target and Evaluation Criteria For Successful Implementation	Comment
II.7	Noise						
	• Compliance with the European Directive EC/2000/14 on noise emission by equipment for outdoor use • Good construction practice • Noise control methodologies during explosion activities • Noise emission monitoring	Emission of harmful and annoying noise above limit values	Compliance with the relevant Macedonian legislation	Responsibility: Contractor of construction	During construction phase	Protection from noise in sensitive areas / settlements	
II.8	Landscape and visual aspects						
	• Good construction practice • Restoration measures to natural vegetation • Compliance to the restriction for mineral resources exploitation imposed for identified sites in the EIA Report and, subsequently, in the Environmental Decision issued by the competent authority	Disruption of landscape values	• Good construction practice • Environmental Decision issued by the competent authority	Responsibility: Contractor of construction	During construction phase	Ensuring landscape protection	
II.9	Transport and traffic aspects						
	Plan for traffic / transport	Reduction of the impacts of intensified transport	Good construction practice	Responsibility: Contractor of construction	During construction phase	• Agree the Plan with local authorities • Implemented Plan for transport	
II.10	Cultural heritage						
	• Implement archeological supervision measures • Protection of archeological heritage in case of incidental archeological discovery	Disruption of values of archeological site	Law on Cultural Heritage Conservation (Official Gazette RM no. 20/04 and 115/07)	Responsibility: Contractor of construction	During construction phase	Ensuring protection of a newly discovered site.	

Table – Environment and Social Action Plan (*continued*)

No.	Action	Environmental Risks / Benefits	Legislative requirement / Best practice	Investment Needs / Resources / Responsibility	Timetable / Project Phase	Target and Evaluation Criteria For Successful Implementation	Comment
II.11	Social Management						
	Land acquisition for the project facilities and infrastructure: • Compensation for land and assets negotiated on the basis of current legal requirements • No physical and economical displacement of people	Minimizing negative social impacts (loss of land and assets, etc.)	Compliance with the relevant Macedonian legislation / Best Practice	Responsibility: ASR	During construction phase	Limited amount of loss of land and assets	No Resettlement Action Plan (RAP) is required
	Rehabilitation assistance • employment opportunities for local population • opportunities for local firms to sub-contract services • opportunities for local firms to supply services and goods	Socio-economic benefits to local community	Best Practice	Responsibility: Contractor of construction / ASR	Prior and during construction phase	Achievement of socio-economic benefits to local community	
	Setting up and operating grievance mechanism (processes and procedures)	People can communicate the eventual negative impacts from the highway construction. Solutions are to be found in timely manner.	Best Practice	Responsibility: ASR	Prior and during construction phase	• Public Grievance Form published • Reports on the operation of grievance mechanism	In accordance to the SEP
	Communication of time schedule of the project construction activities through different media	Local population introduced with project activities	Best Practice	Responsibility: ASR	Prior and during construction phase	Information published (news, website, local announcements, etc.)	In accordance to the SEP
	Communication with local communities of time schedule and location of explosion works	Local population prepared for nuisance	Best Practice	Responsibility: ASR	Prior and during construction phase	Information published (news, website, local announcements, etc.)	In accordance to the SEP
	Work force safety / Community safety	Safety of community / population from different hazards / accidents (geological, fire, construction hazards)	Compliance with the relevant Macedonian legislation / Best Practice	Responsibility: Contractor of construction / ASR	During construction phase	Safety conditions achieved	
	Transport / Traffic issues • Transport / Traffic Management Plan	Disturbance of local traffic	Compliance with the relevant Macedonian legislation / Best practice	Responsibility: Contractor of construction / ASR	Prior and during construction phase	Traffic Management Plan implemented	

Table – Environment and Social Action Plan (*continued*)

No.	Action	Environmental Risks / Benefits	Legislative requirement / Best practice	Investment Needs / Resources / Responsibility	Timetable / Project Phase	Target and Evaluation Criteria For Successful Implementation	Comment
III.	**Operational phase**						
III.1	Safety aspects						
I	Prevention of natural and man-made hazards associated with highway operation (Emergency Response Plan(s))	Protection of people, property and natural resources	Compliance with the relevant Macedonian legislation	Responsibility: ASR	During operational phase	Minimization of risk of hazards	
III.2	Biological diversity						
	• Protective panels for bird protection • Culverts and direction barriers to prevent animal movements • Monitoring activities for eventual animal casualties	Risk related to biological diversity	Compliance with the relevant Macedonian legislation	Responsibility: ASR	During operational phase	Limitted direct effect on species	
III.3	Air quality						
	• Air quality monitoring activities • Revitalization of vegetation along the highway as a buffer / sanitation zone	Risk related to public health due to air pollution	• Law on Ambient Air Quality (Official Gazette RM no. 67/04 and 92/07)	Responsibility: ASR / MEPP	During operational phase	Air quality protection achieved	
III.4	Water quality						
	• Surface water quality monitoring activities • Collection of runoff water / installment of oil separators • Good management and maintenance practice • Sound waste management measures	Prevention of eventual surface and ground water and soil pollution.	Compliance with the relevant Macedonian legislation	Responsibility: ASR / MEPP	During operational phase	Water quality protection achieved	
III.5	Waste management						
	• Plan for waste management • Good management practice	Pollution of environmental media with wastes generated during the highway operation.	Law on Waste Management (Official Gazette RM no. 68/04, 71/04 and 107/07)	Responsibility: ASR	During operational phase	• Sustainable waste managementoт • Implemented Plan for waste management	
III.6	Noise						
	• Control of the noise abatement barriers / measures • Restrictive car speed limits on sections near settlements • Noise emission monitoring	Emission of harmful and annoying noise above limit values	Compliance with the relevant Macedonian legislation	Responsibility: ASR	During operational phase		

Table – Environment and Social Action Plan (*continued*)

No.	Action	Environmental Risks / Benefits	Legislative requirement / Best practice	Investment Needs / Resources / Responsibility	Timetable / Project Phase	Target and Evaluation Criteria For Successful Implementation	Comment
III.7	Social Management						
	Rehabilitation assistance • employment opportunities for local population • possibilities to support projects of local / regional significance	Socio-economic benefits to local community	Best Practice / Social Responsibility	Responsibility: ASR	During operational phase	Achievement of socio-economic benefits to local / regional community	
	Setting up and operating grievance mechanism (processes and procedures)	People can communicate the eventual negative impacts from the highway operations. Solutions are to be found in timely manner.	Best Practice	Responsibility: ASR	During operational phase	• Public Grievance Form published • Reports on the operation of grievance mechanism	In accordance to the SEP
	General social benefits: • Time savings • Reduction of Vehicle Operating Costs (VOC) • Accident reduction • Better service level	The highway will allow significant benefit in running time reduction in comparison to the current running time. The benefits from the reduction of VOC are result of: ✓ Fuel savings, and ✓ Savings due to the fact that vehicles will spend fewer kilometers on the road network meaning that the vehicles will not lose their value as fast as in the past. The highway will improve traffic conditions thus contributing towards reduction of accidents. The highway will provide to the users better service level for their transit travel across the R. Macedonia.	/	Responsibility: ASR	During operational phase	/	For details please refer to the Project's Cost-Benefit Analysis (Ref 6, 7, 8 and 9)

Table – Environment and Social Action Plan (*continued*)

No.	Action	Environmental Risks / Benefits	Legislative requirement / Best practice	Investment Needs / Resources / Responsibility	Timetable / Project Phase	Target and Evaluation Criteria For Successful Implementation	Comment
	Regular toll revenues	Financial benefits	Compliance with the relevant Macedonian legislation	Responsibility: ASR	During operational phase	Toll revenues paid	
	Improvement of road Infrastructure	The highway includes two intersections: “Miravci” (at kilometer 21) and “Smokvica” (at kilometer 27). These intersections will allow easy access of the local residents in the project area to the highway, thus improving traffic conditions for local population.	Compliance with the relevant Macedonian legislation / Best practice	Responsibility: ASR	During operational phase	Improving general welfare of the local population	