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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF EURO 52 MILLION (US\$70.98 MILLION EQUIVALENT)

TO THE

PUBLIC ENTERPRISE FOR STATE ROADS

AND

A PROPOSED GUARANTEE FROM THE GOVERNMENT OF FYR MACEDONIA

IN THE AMOUNT OF EURO 52 MILLION (US\$70.98 MILLION EQUIVALENT)

TO THE

PUBLIC ENTERPRISE FOR STATE ROADS

FOR A

NATIONAL AND REGIONAL ROADS REHABILITATION PROJECT

July 30, 2014

Transport and ICT Global Practice
South East Europe Country Unit
Europe and Central Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective June 30, 2014)

Currency Unit = Macedonian Denar (MKD)

EUR1 = US\$1.365

US\$1 = MKD45.16

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

BoQs	Bill of Quantities	iRAP	International Road Assessment Programme
CPS	Country Partnership Strategy	LCS	Least Cost Selection
CFAA	Country Financial Accountability Assessment	MKD	Macedonian Denar
DA	Designated Account	MOTC	Ministry of Transport and Communication
EA	Environmental Assessment	MOE	Ministry of Economy
EAMF	Environmental Assessment and Management Framework	MOEPP	Ministry of Environment and Physical Planning
EBRD	European Bank for Reconstruction and Development	MOF	Ministry of Finance
ECA	Europe and Central Asia	M&E	Monitoring and Evaluation
EIB	European Investment Bank	NTS	National Transport Strategy
EU	European Union	PESR	Public Enterprise for State Roads
EMF	Environment Management Framework	PMT	Project Management Team
ERP	Enterprise Resource Planning	POM	Project Operational Manual
FDI	Foreign Direct Investment	QCBS	Quality and Cost Based Selection
GDP	Gross Domestic Product	RAMS	Road Asset Management System
GOM	Government of FYR Macedonia	RAP	Resettlement Action Plan
HDM	Highway Design and Maintenance Standards Model	RED	Roads Economic Decision Model
IBRD	International Bank for Reconstruction and Development	RFP	Request for Proposal
ICB	International Competitive Bidding	RLRPSP	Regional and Local Roads Program Support Project
ICR	Implementation Completion and Results Reports	SBD	Standard Bidding Document
IFI	International Financial Institution	TA	Technical Assistance
IFR	Interim Un-audited Financial Report	TOR	Terms of Reference
IPA	Instrument Pre-Accession Assistance	VAT	Value Added Tax
		WB	World Bank
		WG	Working Group

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Task Team Leader:	Liljana Sekerinska

MACEDONIA, FORMER YUGOSLAV REPUBLIC OF

National and Regional Roads Rehabilitation (P148023)

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PAD DATA SHEET

*Macedonia, former Yugoslav Republic of
National and Regional Roads Rehabilitation (P148023)*

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

Report No.: PAD908

Basic Information			
Project ID P148023	EA Category B - Partial Assessment	Team Leader Liljana Sekerinska	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints []		
	Financial Intermediaries []		
	Series of Projects []		
Project Implementation Start Date 24-Sep-2014	Project Implementation End Date 30-Sep-2019		
Expected Effectiveness Date 01-Nov-2014	Expected Closing Date 30-Sep-2019		
Joint IFC No			
Practice Manager/Manager Juan Gaviria	Senior Global Practice Director Pierre Guislain	Country Director Ellen A. Goldstein	Regional Vice President Laura Tuck
Borrower: Public Enterprise for State Roads			
Responsible Agency: Public Enterprise for State Roads			
Contact: Telephone No.:	Aleksandar Stojanov 389-2-3118-044	Title: Email:	Assistant Director a.stojanov@roads.org.mk
Project Financing Data(in USD Million)			
[X] Loan	[] IDA Grant	[] Guarantee	
[] Credit	[] Grant	[] Other	
Total Project Cost:	83.72	Total Bank Financing:	70.98
Financing Gap:	0.00		
Financing Source		Amount	
Borrower		12.74	

International Bank for Reconstruction and Development	70.98
Total	83.72

Expected Disbursements (in USD Million)

Fiscal Year	2015	2016	2017	2018	2019	2020			
Annual	10.00	10.00	18.00	18.00	14.98	0.00			
Cumulative	10.00	20.00	38.00	56.00	70.98	70.98			

Proposed Development Objective(s)

The Project Development Objectives are to enhance the connectivity of selected national and regional roads, primarily to Corridors X and VIII, and to improve Public Enterprise for State Roads' capacity for road safety and climate resilience.

Components

Component Name	Cost (USD Millions)
Component 1: Road Civil Works	78.84
Component 2: Institutional Strengthening and Project Management	4.70

Institutional Data

Practice Area / Cross Cutting Solution Area

Transport & ICT

Cross Cutting Areas

- Climate Change
- Fragile, Conflict & Violence
- Gender
- Jobs
- Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Transportation	Rural and Inter-Urban Roads and Highways	90		
Public Administration, Law, and Justice	General public administration sector	10		
Total		100		

I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes			
Theme (Maximum 5 and total % must equal 100)			
Major theme	Theme	%	
Trade and integration	Regional integration	50	
Trade and integration	Trade facilitation and market access	50	
Total		100	
Compliance			
Policy			
Does the project depart from the CAS in content or in other significant respects?		Yes []	No [X]
Does the project require any waivers of Bank policies?		Yes []	No [X]
Have these been approved by Bank management?		Yes []	No [X]
Is approval for any policy waiver sought from the Board?		Yes []	No [X]
Does the project meet the Regional criteria for readiness for implementation?		Yes [X]	No []
Safeguard Policies Triggered by the Project		Yes	No
Environmental Assessment OP/BP 4.01		X	
Natural Habitats OP/BP 4.04			X
Forests OP/BP 4.36			X
Pest Management OP 4.09			X
Physical Cultural Resources OP/BP 4.11			X
Indigenous Peoples OP/BP 4.10			X
Involuntary Resettlement OP/BP 4.12		X	
Safety of Dams OP/BP 4.37			X
Projects on International Waterways OP/BP 7.50			X
Projects in Disputed Areas OP/BP 7.60			X
Legal Covenants			
Name	Recurrent	Due Date	Frequency
Loan Agreement, Schedule 2, Section I.A.	X		CONTINUOUS
Description of Covenant			
The Borrower shall maintain a Project Management Team (“PMT”) with adequate staff and resources, in a manner satisfactory to the Bank, with qualifications, terms of reference and a composition satisfactory to the Bank, including a Project director, at least three engineering specialists, a procurement specialist, a financial management specialist and an office administrator/translator.			
Name	Recurrent	Due Date	Frequency

Loan Agreement, Schedule 2, Section I.C.1	X		CONTINUOUS
Description of Covenant			
The Borrower shall: (a) take all necessary measures to implement the Project in accordance with the Project Operational Manual, the ESAMF, the RPF, the ESARs and EMPs; (b) not amend, suspend, abrogate, repeal or waive any provision of the Project Operational Manual, the ESAMF, the RPF, the ESARs, and the EMPs, without the prior approval of the Bank; and (c) ensure that adequate information on the implementation of the ESAMF, the RPF, the ESARs, and the EMPs is suitably included in the Project Reports referred to in Section II.A.1 and in the report referred to in Section II.A.2 (a) of this Schedule 2.			
Name	Recurrent	Due Date	Frequency
Loan Agreement, Schedule 2, Section I.D., 1.(a)	X		CONTINUOUS
Description of Covenant			
Except as the Bank shall otherwise agree, beginning December 31, 2014, the Borrower shall not incur any debt unless a reasonable forecast of the revenues and expenditures of the Borrower shows that the estimated net revenues of the Borrower for each fiscal year during the term of the debt to be incurred shall be at least 1.2 times the estimated debt service requirements of the Borrower in such year on all debt of the Borrower including the debt to be incurred.			
Name	Recurrent	Due Date	Frequency
Loan Agreement, Schedule 2, Section I.D., 2.(a)	X		Quarterly
Description of Covenant			
Except as the Bank shall otherwise agree, beginning December 31, 2014, the Borrower shall maintain a ratio of current assets to current liabilities of not less than 1.			
Name	Recurrent	Due Date	Frequency
Loan Agreement, Schedule 2, Section I.D., 2.(b)	X		Yearly
Description of Covenant			
Before June 30 in each of its fiscal years, the Borrower shall, on the basis of forecasts prepared by the Borrower and satisfactory to the Bank, review whether it would meet the requirements set forth in paragraph (a) in respect of such year and the next following fiscal year and shall furnish to the Bank the results of such review upon its completion.			
Name	Recurrent	Due Date	Frequency
Loan Agreement, Schedule 2, Section II.A., 1.	X		Yearly
Description of Covenant			
The Borrower shall monitor and evaluate the progress of the Project and prepare Project Reports in accordance with the provisions of Section 5.08 of the General Conditions and on the basis of indicators agreed with the Bank. Each Project Report shall cover the period of one calendar year, and shall be furnished to the Bank not later than one month after the end of the period covered by such report.			
Conditions			

Source Of Fund	Name	Type			
IBRD	Additional Conditions of Effectiveness	Effectiveness			
Description of Condition					
Consist of the following: (a) that the Borrower has adopted the Project Operational Manual in a manner satisfactory to the Bank; (b) that full-time, qualified and experienced procurement and financial management officers have been selected and hired to work in the PMT in a manner satisfactory to the Bank; and (c) that the Enterprise Resource Planning (ERP) system is operational.					
Team Composition					
Bank Staff					
Name	Title	Specialization	Unit		
Luan Aliu	Program Assistant	Program Assistant	ECCMK		
Fabiola Altimari Montiel	Senior Counsel	Senior Counsel	LEGLE		
Rodrigo Archondo-Callao	Sr Highway Engineer	Road design and road asset management	GTIDR		
Steven Farji Weiss	E T Consultant	Poverty advice	GTIDR		
Gulana Enar Hajiyeva	Senior Environmental Specialist	Environment safeguards	GENDR		
Bekim Imeri	Social Scientist	Social safeguards	GURDR		
Jose C. Janeiro	Senior Finance Officer	Senior Finance Officer	CTRLA		
Gentian Keri	Consultant	Procurement	GGODR		
Rocio Mariela Malpica Valera	Senior Counsel	Senior Counsel	LEGLE		
Jasna Mestnik	Finance Officer	Finance Officer	CTRLA		
Liljana Sekerinska	Sr Transport. Spec.	Team Lead	GTIDR		
Anneliese Viorela Voinea	Financial Management Analyst	Financial Management	GGODR		
Wei Wang	Young Professional	Transport Specialist	YPP		
Non Bank Staff					
Name	Title	City			
Locations					
Country	First Administrative Division	Location	Planned	Actual	Comments
Macedonia FYR	Macedonia FYR	Macedonia FYR			

I. STRATEGIC CONTEXT

A. Country Context

1. **FYR Macedonia is a small, trade-dependent economy in South East Europe (SEE) with a GDP of US\$10.2 billion in 2013 (current US\$).** The country has enjoyed relative macroeconomic and financial stability, market-oriented economic policy reforms, and openness to foreign trade and investment. As a result, despite the below regional average growth rates in the last decade, the country's growth gained pace in recent years. Growth is expected to further accelerate in the medium term, benefiting from improvements in the external environment and high public investment. Under the baseline projection, real GDP growth is expected to reach 2.9 percent in 2013 and is expected to accelerate to 3.0 and 3.5 percent in 2014 and 2015. In 2013, exports accounted for 54 percent of GDP. Currently, low value added products dominate the export mix; however, foreign direct investment (FDI) is expected to change the export composition. Industry and construction account for around 20 percent of GDP while the share of agriculture is around 10 percent of GDP in 2012. The economic recovery in the Eurozone, which is the key market for Macedonian goods, is expected to lead to a recovery of Macedonian exports. To promote its exports and FDIs, the country has continuously put efforts emphasizing the development of the transport infrastructure.

2. **As a landlocked country, FYR Macedonia is particularly dependent on a well-developed road and rail network for its economic and social development.** Key elements of this network are also part of the Trans-European transport network (Corridor X, which goes from Austria to Turkey, and Corridor VIII, which connects Albania with the Black Sea ports in Bulgaria). Since its independence, the main challenges facing the country have been to reduce the economic distance to markets and lower the costs of transportation arising from the poor road condition of Corridor X and major delays at key border crossing points. It is exactly the road transport network, which plays the critical role in the development of the economy, as it carries the bulk of the country's exports/goods (in the first two quarters of 2013, 93 percent of freight was carried on roads). An enhanced transport network would also contribute to poverty alleviation by providing better quality access to national and international markets of the rural population. A government priority is thus to upgrade and rehabilitate road infrastructure to improve future growth prospects.

3. **Despite experiencing moderate economic and employment expansion over the past decade, growth in the FYR Macedonia has not been particularly inclusive.** Absolute poverty between 2003 and 2008 increased from 8 to 9 percent using a regional poverty line of US\$2.5 a day, and from 33 percent to 37 percent, using a regional poverty line of US\$5 a day (World Bank, ECAPOV). Around 40 percent of the population in FYR Macedonia lives in rural areas of which two thirds are poor. Most rural households depend largely on crop and livestock production for their income. Rural poverty increased as a result of the economic transition because rural households are without adequate inputs and access to markets and they lacked financial resources for investment to improve their incomes and living conditions.

B. Sectoral and Institutional Context

4. **The road network is in line with EU averages, but its overall condition fares poorer.** Roads in the country are categorized as follows: (1) national roads (primarily connecting to

neighboring countries but also to the largest regional centers in the country), (2) regional roads (connecting two or more municipalities and securing critical in-country connectivity), and (3) local roads (serving municipal traffic). The current road network in FYR Macedonia includes a total mileage of 14,159 km. The road network is considered to have a reasonable density but it is in need of improvement, mostly a result of the age of existing infrastructure and irregular and insufficient maintenance. The national roads, relative to other road categories, are in a better condition, but due to the higher traffic they carry, are in need of more frequent rehabilitation to ensure their longevity and decrease transport costs for freight and passengers. Regional roads are in a greater need of investment, due to past backlogs in investment in these lower-trafficked roads (see Table 1). As a result, the first wide investment program supported by the World Bank and EBRD focused on the regional roads, which led to a relative overall improvement in the condition, but not to a solution to the road condition deficiency.

Table 1: Main Roads Classification and Condition

Main Road Network	Length (km)	Paved (km)	Paved (%)	Good or Fair Condition (%)
National Roads and Motorways	1,112	945	85%	91%
Regional Roads	3,721	3,021	81%	75%
R1 Regional Roads	2,041	1,889	93%	82%
R2 Regional Roads	1,680	1,131	67%	68%
Total Main Road Network	4,833	3,966	82%	79%

Source: PESR, 2013.

5. **The country’s efforts to improve competitiveness and FDI depend on reliable and competitive transport costs; consequently, efficient transport networks are a priority for the country transport strategy.** The National Transport Strategy (NTS) 2007-17 cites: (1) the completion of motorway corridors, and (2) the efficient connection of the national road network to the corridors as the short term priorities¹. On the first target, activities involve motorway construction on Corridor X. These activities were successfully supported by the World Bank in the Tabanovce-Kumanovo motorway section of Corridor X; as to the remaining Demir Kapija-Smokvica section, construction started and is being financed by EBRD, EIB and EU grant assistance. These efforts will result in the completion of Corridor X, which is the backbone of the road transport network and key link to the ports in Greece and the markets in the EU.

6. **The next phase of road investment logically focuses on improving the road network linking to the corridors.** This includes both the national and regional roads and is a central element of the Government Public Investment Program. As shown in Table 1, their road quality is currently at a level where rehabilitation investments done today would not only reduce vehicle operating costs and travel times, but also save the Public Enterprise for State Roads (PESR) from dedicating greater full reconstruction investments a few years from now. Finally, preservation of these sections of the network improves mobility and also maximizes the effect of PESR’s investment plans.

7. **As of 2013, road management is entrusted to a managerially and financially independent PESR, which is a successor of the Agency for State Roads.** The Public Enterprise is mandated to plan, construct, reconstruct, and rehabilitate the national and regional roads and collect tolls. While the Ministry of Transport and Communications (MOTC) remains

¹ National Transport Strategy (2007-2017), page 16.

in charge of road sector strategic guidance and policy, it is with these policies in mind that PESR prepares the road development and financing plans. Presently, PESR has 320 employees, of which 260 are dedicated to the toll collection. Fifteen of the remaining 60 employees are civil engineers managing the road network.

8. **The Project is a new phase of the Bank’s long-term engagement in the country’s road sector and is building on the already close cooperation with the Public Enterprise aimed to strengthen its investment planning and financial management capacity.** Under the ongoing Regional and Local Roads Program Support Project (RLRPSP), PESR is introducing a road asset management system (RAMS), which will create a comprehensive road database for the country’s road network and allow PESR to manage its capital investment budgets in a sustainable manner, ensuring that these capital expenditures target sections in the network, which are in priority investment need and also expand sections, which have strong economic justification.

9. **Financial sustainability of PESR’s operations is regularly monitored by the Bank as an integral element of the ongoing RLRPSP project; and the financial covenant requirements have been met.** The transformation to public enterprise resulted in PESR’s assumption of all loan repayment liabilities. In order to safeguard the enterprise’s financial sustainability, during the ongoing RLRPSP project’s first level restructuring, the Bank, PESR and Ministry of Finance (MOF) agreed on minimum debt service ratio and current ratio to be maintained by PESR. For PESR’s first year of operation as a public enterprise the financial indicators are positive (Full details on PESR’s financial performance are presented in Annex 2).

10. **Recent years have seen a heightened institutional focus on road safety; however, this has not resulted in a reversal of road accident trends, which remain a concern, with more than 4,000 crashes annually and an annual total in injuries and deaths nearing 7,000 persons.** The National Council for Road Safety, appointed through consensus by the Parliament brings together all national authorities related to road safety. This has resulted in greater visibility of road safety concerns, better coordination between national agencies and also contributed to the continuous expert discussion on measures to improve the road safety track record in the country. However, road safety observations made in the course of implementation of the ongoing RLRPSP project suggest deficiencies regarding traffic signs and road markings, crash barriers and pedestrian traffic. Even though most often crashes are reported to be a result of poor driver behavior, good road safety practices prove that proper road safety measures included in road infrastructure can significantly decrease the number of crashes and their severity.

11. **The Project will work with PESR and the National Council for Road Safety to improve the safety elements² of road infrastructure, in line with the National Transport Strategy and recognized best practice.** In this effort, priority³ is placed on: introducing infrastructure safety management measures which are binding for contractors and road authorities in all stages of planning and execution; improving security standards on road-railways crossings; eliminating black spots; proper and efficient road maintenance; and ensuring visibility on roads by eliminating physical and illegal obstacles. Moreover, the NTS identifies the importance of considering safety in the management of the road network and suggests

² National Transport Strategy (2007-2017), page 18.

³ National Transport Strategy (2007-2017), page 19.

focusing on the following: road safety impact assessments, road safety audits, network safety management, and safety inspections by the competent authorities. All of these are reflected in the project design. Additionally, the Bank will work with the government towards carrying out a Road Safety Management Capacity Review to identify a detailed set of recommendations for all institutions to improve the discharge of their responsibilities in road safety.

12. **Road maintenance is carried out by the public enterprise Makedonija Pat that operates as PESR's direct contractor; efforts to restructure the institutional setup of road maintenance and introduce open competition in maintenance are ongoing.** The budget for regular, periodic and winter maintenance of the national and regional road network has remained almost constant during the past seven years and as a result led to under maintenance of roads, especially periodic maintenance. Steps toward the full commercialization of the maintenance sector are taken through the PESR financed rehabilitation programs since 2008, which include a wide rehabilitation of regional roads carried out by the private sector. This wide rehabilitation program is gearing up the construction industry for the expected private sector maintenance of the entire road network. Routine maintenance could be further improved to ensure timeliness and better quality. Under the ongoing RLRPSP project, activities to strengthen the practices regarding maintenance are carried out and will be continued under the technical assistance of the Project.

C. Higher Level Objectives to which the Project Contributes

13. **The Project is consistent with the *National Transport Strategy (2007-17)*, which sets out improved road connectivity to the Corridors as the national priority after the completion of Corridors X and VIII.** The strategy highlights the important role of roads in promoting the country's competitiveness and harmonious development through ensuring that the national road network is connected efficiently to the corridors and existing bottlenecks are eliminated. The Project also complements the ongoing efforts of the *National Strategy for Improvement of the Road Traffic Safety (2009-14)* that provides safe road environment by (i) identifying and repairing black spots that are more prone to traffic accidents; and (ii) strengthening road safety audits. Both of these activities have been identified as national priorities. The Project will target these issues with technical assistance for preparation of road safety audit guidelines, preparation of a safer roads investment plan, identification of black spots, and repair of priority black spots.

14. **The Project supports Pillar 1 of the new World Bank Group's Country Partnership Strategy⁴ FY15-18, Growth and Competitiveness.** To address this objective, one of the key actions is to improve infrastructure catalytic to economic growth by improving the quality of roads. The Project contributes to the overarching country goal of increasing economic growth and creating employment through an investment program, which will improve infrastructure critical for growth and exports by investing selectively in transport infrastructure providing access to the two trade corridors. Furthermore, the CPS also calls for improved fiscal and public financial management and strengthened road infrastructure management. This is reflected in the project activities supporting the improvement of the road asset management system in PESR. In order to address the vulnerability to climate change, this Project will incorporate climate

⁴ To be presented to the Board on September 23, 2014.

resilience measures into the technical design to help reduce risks of erosion and landslides due to sudden short heavy rainfalls.

15. **The Project will contribute to alleviating poverty and boosting shared prosperity, the two corporate goals under the World Bank Group strategy.** By removing transport bottlenecks in the national and regional road network, it is expected that poor and disadvantaged communities will enjoy higher connectivity allowing them to engage in regional value chains, thus creating possibilities for income generation. This is particularly the case for areas with notable agricultural production and areas close to already operating free economic zones. Additionally, improved transport links should contribute to improving the living standards of citizens by providing safer, cheaper and more reliable access to education and social services.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

16. The Project Development Objectives (PDO) are to enhance the connectivity of selected national and regional roads, primarily to Corridors X and VIII, and to improve Public Enterprise for State Roads' capacity for road safety and climate resilience.

B. Project Beneficiaries

17. The rehabilitation of national and regional roads will bring better connectivity and safer roads to a catchment area comprising the regions outside of Skopje, home to approximately 1.2 million inhabitants. Main project beneficiaries include road users who would have improved connectivity to public amenities and services, reduced travel time, reduced vehicle operating costs, and reduced road crash risks. Perhaps more importantly, benefits would accrue to local populations, who could experience positive outcomes in income, consumption, health and education resulting from the Project. The mobility and accessibility gains resulting from the Project can become a powerful tool for promoting growth, alleviating poverty, boosting the incomes of the bottom 40 percent, and enhancing social inclusion. Enhanced mobility and accessibility will ensure that the poor travel to work under more predictable conditions, enabling them to expand their income-generating opportunities beyond their villages and towns, and to contribute to better and more sustainable livelihoods. The Project will assess the impact of relevant transport interventions on improving the livelihood of the bottom 40 percent income group (see paragraph 31 and Annex 7 for details). Enhancing climate resilience in the road network would help ensure a more sustained ability to providing the desired transport services. The Project will create both direct and indirect job opportunities. During construction, the Project will provide jobs for hundreds of skilled and non-skilled men and women from the area, helping them learn or enhance their skills, increase their income, and help lower unemployment rate for a period of time. As a result of the affordable, safe, and reliable transportation, the poor and vulnerable groups will have better access to essential public facilities and services in education, health care, housing, and community life.

18. The Project will rehabilitate national and regional roads that connect to the main road Corridors X and VIII and to the 15 road border crossings of the landlocked country. The Project complements the government's Regional and Local Roads Support Program that included rehabilitation of the regional and local road network. This program resulted in the improvement

of about 450 km of regional roads and 600 km of local roads. If the project roads are not rehabilitated soon, road user costs will increase by as much of 50 percent, increasing road transport passenger fares and freight tariffs. In addition, PESR will strengthen its capacity to manage road assets, better plan investments and maintenance activities, and better use of systems to support decision making.

C. PDO Level Results Indicators

19. The achievement of the PDO will be measured through the following Project Development Objectives indicators:
 - a) Reduction in travel time for passenger cars, in percentage, along the project road sections to be rehabilitated.
 - b) Reduction of vehicle operating costs for heavy trucks, in Euro per vehicle-km, along the project road sections to be rehabilitated.
 - c) Percentage of all PESR road projects that incorporate road safety audit recommendations.
 - d) Climate resilience design guidelines prepared and considered by PESR in their internal design process.
20. The Intermediate Results Indicators for the proposed project are:
 - a) Roads rehabilitated (km).
 - b) Roads in good and fair condition as a share of total classified roads (percentage).
 - c) Number of km of road network surveyed for road safety (iRAP).
 - d) Road safety design audit guidelines prepared.
 - e) Climate resilience road design guidelines prepared.
 - f) Five year rolling program for national and regional roads preservation works prepared using the RAMS.
 - g) Percentage of beneficiaries expressing satisfaction with condition of project roads
 - h) Direct project beneficiaries (number), of which female (percentage).
 - i) Annual performance report prepared and published by PESR.

III. PROJECT DESCRIPTION

A. Project Components

21. **Component 1: Road Civil Works** (estimated total cost of Euro 57.758 million, of which Euro 48.948 million will be financed by IBRD loan). This component consists of the following three sub-components, with detailed description provided in Annex 2:

- (a) **Sub-component 1.1: Road Rehabilitation and Black Spots Improvement** (estimated total cost of Euro 55.752 million, of which Euro 47.248 million will be financed by IBRD loan). This sub-component will finance the rehabilitation and spot improvements of an estimated 112 km of national and regional roads as well as a pilot road safety black spot improvements program. The first year program includes 36.7 km of roads in three road segments which have been identified for rehabilitation with a total estimated cost of around Euro 10.12 million. The remaining road sections eligible for financing under the rehabilitation component during years 2-5 will be from a long list of priority roads from PESR and will need

to meet eligibility criteria including minimum economic rate of return, as well as environmental and social screening.

- (b) **Sub-component 1.2: Technical Audits** (estimated total cost of Euro 0.236 million, of which Euro 0.2 million will be financed by IBRD loan). It will finance independent technical audits of civil works, which will be conducted about three times during the project implementation.
- (c) **Sub-component 1.3: Land Slide Remediation** (estimated total cost of Euro 1.77 million, of which Euro 1.5 million will be financed by IBRD loan). This sub-component will build on the design activities currently ongoing under the RLRPSP and will help PESR to implement the remediation activities on a selected number of land slide locations.

22. **Component 2: Institutional Strengthening and Project Management** (estimated total cost of Euro 3.44 million, of which Euro 2.922 million will be financed by IBRD loan). This component aims at helping strengthening PESR's capabilities on issues related to road safety, climate resilience and road asset management. It will finance technical assistance, equipment, and operational costs associated with the implementation of the project. This component includes the following four sub-components, with detailed descriptions provided in Annex 2:

- (a) **Sub-component 2.1: Project Management and Implementation, including audits** (estimated total cost of Euro 0.431 million, of which Euro 0.366 million will be financed by IBRD loan). This sub-component aims at strengthening the technical capacity of the PMT through the provision of technical assistance; and carrying out the annual financial audits of the Project.
- (b) **Sub-component 2.2: Road Safety Technical Assistance** (estimated total cost of Euro 0.826 million, of which Euro 0.7 million will be financed by IBRD loan). This sub-component will support road safety activities, including: (i) the development of a nation-wide road safety program including the identification of black spots and their improvement; (ii) preparation of road safety audits guidelines and manuals; (iii) training, and (iv) carrying out of an iRAP survey of the national and regional roads network.
- (c) **Sub-component 2.3: Road Asset Management Equipment and Data Collection and Preparation of a Five-year Strategic Program** (estimated total cost of Euro 1.947 million, of which Euro 1.65 million will be financed by IBRD loan). This sub-component will finance the equipment and the network data collection to be undertaken by PESR for surveying road condition and collecting traffic data for three years. It also includes technical assistance for the preparation of a Five-year Strategic Program (including program for periodic maintenance and rehabilitation works) based on the network data from Road Asset Management System.
- (d) **Sub-component 2.4: Technical Assistance and Impact Analysis** (estimated total cost of Euro 0.243 million, of which Euro 0.206 million will be financed by IBRD loan). This sub-component will finance technical assistance for the preparation of potential future investments in PESR's road sector, including: (i) the preparation of best practice manuals; (ii) training for PESR staff and local contractors; (iii) conducting an economic evaluation of road investments, road safety audits, and climate resilience measures; (iv) review of current maintenance practices and standards and provision of recommendations for improvement; and (v) monitoring

activities, beneficiary satisfaction activities, as well as mid-term and impact evaluation surveys.

B. Project Financing

23. The Bank will finance the Project through an IBRD Investment Project Financing Loan with the total amount of Euro 52 million. The Project will be implemented over a five year period from September 2014 to September 2019.

C. Project Cost and Financing

24. The total project financing requirements including VAT are estimated at Euro 61.33 million. Table 2 shows the financing provided by the World Bank for each component.

Table 2: Project Cost (including VAT) and Financing (Euro million)

	Project Cost (Including Contingencies)	IBRD Financing	% Financing
Component 1: Road Civil Works	57.758	48.948	85
Component 2: Institutional Strengthening and Project Management	3.44	2.922	85
Front End Fee (0.25%)	0.13	0.13	100
Total Costs	61.33	52.00	85

25. All contracts to be financed under the Project will be subject to VAT of presently 18 percent. PESR has agreed to finance the VAT portion of all invoices to be paid under the Project from its own resources and will provide budgetary resources accordingly. VAT is expected to amount to approximately Euro 9.33 million. The World Bank financing will cover 100 percent of the pre-VAT amounts.

D. Lessons Learned and Reflected in the Project Design

26. **Implementation Arrangements.** The implementation experience from past projects confirms that project implementation by regular PESR staff continues to represent the most adequate arrangement because it allows palpable capacity-building for the institution. This mechanism further strengthens the long term technical capacity within PESR that is also critical for the EU accession process and the IPA absorption capacity. However, in order to ensure a quick project start up and smooth implementation, this internal capacity will be strengthened with technical experts through a Project Management Team. Additionally, PESR staff will receive periodic targeted procurement and contract management training to ensure strong implementation.

27. **Rehabilitation designs.** An important lesson from the ongoing RLRPSP Project is that often rehabilitation designs do not consider road safety aspects sufficiently. This lesson is incorporated in the project preparation phases which require road safety audits before the preparation of rehabilitation designs and appropriate inclusion of road signs and markings in the Bill of Quantities (BoQ). Additionally, the Project is focusing on a separate sub-component to integrate road safety in PESR's internal approach to road planning.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

28. The Project will be implemented over a five-year period by PESR, who is the Borrower. PESR has long-term experience in implementing Bank funded projects. Recently, PESR finished the implementation of the Second Trade and Transport Facilitation Project, which involved the construction of a new motorway section. It was completed satisfactorily. In addition, PESR is implementing the Regional and Local Roads Program Support Project, involving significant investments in the regional and local road infrastructure. Throughout the implementation of these projects, the capacity within PESR to prepare, implement and supervise road contracts has been further strengthened.

29. A dedicated Project Management Team (PMT) is established consisting of PESR staff (a Project Director, three engineering specialists, a Procurement specialist, a Financial Management specialist, and an office administrator/translator). It will also be strengthened with consultants specialized in procurement and financial management as needed. The PMT will undertake all roles and tasks required for project administration and implementation. Before and after project effectiveness, the PMT staff will receive targeted training on procurement and contract management.

B. Results Monitoring and Evaluation

30. Monitoring and evaluation of results will be the responsibility of PESR and will include: (i) monitoring of the Project's physical progress (i.e. lengths of rehabilitated roads), (ii) evaluation of the Project's socio-economic impacts (i.e., benefits to local population and communities), and (iii) evaluation of institutional capacity improvements. In order to identify the channels through which the project can accelerate real income growth of the poor and the bottom 40 percent, adequately measuring the relevant transport-induced effect on their livelihoods, baseline data collection will take place on selected roads, which are to be rehabilitated under the project. Mid-term and end of project survey data would also be collected and compared against a control group in an effort to capture project-related impacts on selected welfare and accessibility indicators. To allow for possible differences in demands and experiences from women and men, the surveys will consult with women and men separately, ask gender specific questions and will allow disaggregation of data by gender. The methodological framework of analysis, scope for the study, and data collection techniques will be further refined during project implementation through Bank-funded technical assistance and in close consultation with PESR. More details are provided in Annex 7.

C. Sustainability

31. The sustainability of the Project benefits depends on the institutional and financial capacity in the long term to provide adequate and regular maintenance of road infrastructure. The Road Asset Management System will provide PESR with a detailed understanding of the road assets, their condition and maintenance needs. Even more importantly, it will guide PESR in the maintenance planning process and help ensure that regular maintenance on the network is carried out, so as to ensure its longevity. Overall, the technical assistance related to road asset management is expected to support PESR toward better investment planning and also financial

sustainability. Additionally, consideration of climate adaptation in the design of road works will ensure the construction of proper drainage systems on the roads therefore increasing their resistance to flooding. Lastly, technical assistance to improve timeliness and quality of routine maintenance would be included in Component 2. In coordination with MOTC and other developing partners, activities under Component 2 could further include specific activities supporting the commercialization of road maintenance.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary

Table 3: Risk Ratings Summary

Risk Category	Rating
Stakeholder Risk	Moderate
Implementing Agency Risk	Moderate
- Capacity	Moderate
- Governance	Moderate
Project Risk	
- Design	High
- Social and Environmental	Low
- Program and Donor	Low
- Delivery Monitoring and Sustainability	Moderate
- Other (Optional) Financial sustainability	Moderate
- Other (Optional)	
Overall Implementation Risk	Moderate

B. Overall Risk Rating Explanation

32. The overall risk rating for this Project is considered moderate due to the successful implementation of several road projects with the Bank by the MOTC and PESR and the strong government interest to carry out road infrastructure investments. The implementation capacity of PESR is stretched by the numerous investments carried out in parallel, and this is identified as a risk to the implementation pace and procurement. However, the implementation of the ongoing RLRPSP project and the closed Second Trade and Transport Facilitation project both showed steady implementation. Still, the project puts particular emphasis on the capacity of the Project Management Team and training in order to overcome the risks. To mitigate against the high project design risk associated with a possible focus on civil works while not taking into consideration the potential road safety implications of increased vehicle traffic on the rehabilitated road sections several activities have been agreed, including: (a) preparation of road designs to be carried up following feasibility studies based on ToRs approved by the Bank and that clearly address road safety considerations; (b) road safety measures to be integrated in the

design of the Project and to require consultations with communities located along the Project roads; and (c) road safety audits to be conducted during engineering design and after construction.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

33. PESR selected two national roads and one regional road to be included in the first year program based on their poor condition, high traffic volume and importance in connecting the west and south-west parts of the country to Corridors X and VIII. To assess the economic justification of these investments, a traditional cost benefit analysis was applied using the Highway Development and Management Model (HDM-4), which computes annual cost for the road agency and for users (vehicle operating plus travel time costs) over the evaluation period for a series of project alternatives as well as the present value of net benefits of each project alternative.

34. It is anticipated that the rehabilitation of the roads to be financed under the Project will have positive impacts on the economy of regions where the project roads are located. The rehabilitation of the project roads, together with the ongoing and planned rehabilitation of other road sections in the targeted routes would strengthen economic ties between less and more developed centers of economic activity, contributing to a reduction of poverty and higher incomes of the population along the corridors of impact. The project roads serve as the main arterial connection for the regional and local transportation. The direct project impacts will be the reduction in vehicle operating costs, travel times, and accident rates on the roads to be rehabilitated. The Project will have positive indirect impacts on reduction of transport costs, improved human health and socio-economic environment through cleaning up of roadside drains, reduced risk of soil pollution and erosion, and reduced water pollution resulting from the rehabilitation of drainage system, reduced risk of landslides due to slope stabilization. Other distributional impacts include better access to settlements, health facilities and markets, more competitive product and labor markets, and development of new business opportunities.

35. The three roads selected are asphalt concrete roads in poor condition. The current Average Annual Daily Traffic (AADT) varies between 2,003 to 3,431 vehicles per day, consisting of an average of 30 percent trucks and buses, and 70 percent passenger cars. The total financial capital cost of the first year program is estimated to be Euro 10.12 million, without VAT, at an average rehabilitation cost of Euro 276,000 per km.

36. The economic analysis considers an evaluation period of 20 years, at a discount rate of 10 percent and a conversion factor of 0.80 to compute economic costs. The overall Economic Internal Rate of Return (EIRR) of the first year program is 30.9 percent and the Net Present Value (NPV) is Euro 9.7 million. All roads have an EIRR above 10 percent, ranging from 23.7 percent to 35.2 percent. If construction costs were 15 percent higher and if road user benefits were 15 percent lower, the overall EIRR would reduce to 21.3 percent. Switching values analysis shows that construction costs would have to increase by 120 percent for the overall EIRR to reach 10 percent. The outcomes of the economic evaluation are summarized below in Table 4, with more details provided in Annex 6.

Table 4: Economic Evaluation Summary

Section Code	Start Location	End Location	Length (km)	2013 Traffic (vehicles per day)	Financial Cost (M Euro)	EIRR (%)	NPV (M Euro)
RD1	Bitola	Makazi	18.1	3,431	4.70	35.2%	5.3
RD2	Resen	Bukovo	11.1	2,733	3.03	30.3%	2.8
RD3	Boskov Bridge	Debar	7.5	2,003	2.39	23.7%	1.6
Total			36.7	2,898	10.12	30.9%	9.7

Source: World Bank.

37. **Rationale for public sector financing.** With few exceptions, roads are a public good that are provided and often managed by the public sector. In the case of the proposed project roads, public sector financing is the appropriate vehicle for financing the rehabilitation of the project roads. This is because while the road sections are economically viable, traffic is not high enough to generate sufficient financial receipts to justify a concession to the private sector for their rehabilitation and management. In addition, public investment and management of road infrastructure provides the government a better handle to exercise control over key activities such as the enforcement of axle weight control, and road safety regulations.

38. **Value added of Bank's support.** The World Bank is well positioned to support the country in the sustainable investment and management of its road network with modern road asset management practices and the incorporation of road safety considerations and audits in project designs. In addition, the Bank's international experience and expertise in the road sector will help ensure the use of reliable procurement processes, sound social and environmental management practices, the application of modern technical standards, and the execution of work with proper quality control. Last but not least, the continued Bank engagement in the road sector and support to PESR's capacity development regarding asset management and road safety could leverage the use of IPA2 funds for road infrastructure. According to the draft EU Country Partnership Strategy 2014-20, investments in the road network connecting to the main corridors could in principle be financed through IPA2. This is, however, dependent on PESR's capacity to adequately plan road sector investments and timely prepare mature projects. The proposed project activities contribute directly to such capacity enhancement as the TA regarding road safety and road asset management will equip PESR to prepare investment pipelines and projects, which will satisfy economic, technical and road safety standards necessary for EU financing.

B. Technical

39. The roads to be included in the Project include sections in fair to poor condition in need of pavement rehabilitation or periodic maintenance. Road deterioration is mostly due to cracks, potholes and patches, and longitudinal and transversal deformations. The Project will repair the pavement on the existing alignment (without the need for widening), including repair and/or upgrade of drainage facilities within the alignment, as well as small bridges/culverts if needed. The design will include provision of safety features such as guardrails, pavement markings, and speed reduction measures in urban/residential areas. The design will follow Macedonian design standards incorporating actual and forecasted traffic volumes and local conditions. In addition, if the project roads pass through villages, the design will include sidewalks, relocation of bus stops and safer access to schools, hospitals and other public amenities as appropriate.

40. Engineering designs for the first year program roads with a total length of 36.7 km were completed in mid-May 2014 and bidding documents prepared in parallel. Some sections have weak structural strength and require milling, a leveling layer and asphalt concrete replacement, while other road sections require one or two layers of asphalt concrete overlays. The current average road roughness was estimated to be around 6.0 IRI, m/km and the roads are on hilly and mountainous terrain with adequate geometric standards. The engineering design of the remaining road sections will be financed with PESR funds.

C. Financial Management

41. An assessment of the financial management (FM) arrangements of the Project has been carried out in terms of staffing, budgeting, accounting, internal controls, flow of funds, financial reporting and external audit. The assessment concluded that the FM arrangements are acceptable subject that the following conditions are met by Loan effectiveness: (i) an additional Financial Officer is hired on a full-time basis; and (ii) the existing financial management manual, part of the Project Operational Manual (POM) of RLRPSP, is updated with the specifics of the Project and that (iii) the Enterprise Resource Planning (ERP) system to accommodate the entity and analytical project records is implemented and fully operational. The overall financial management risk is assessed as moderate after application of mitigation measures, as described in Annex 3. The assessment has been updated prior to Board presentation.

42. The FM performance rating of the ongoing RLRPSP Project is satisfactory, as substantial progress has been achieved in terms of improvement of the comprehensiveness of project analytical records through installation of a new ERP system. A Loans management module has been designed and installed in PESR to capture project information to the required level of details and its full implementation and functionality will be tested and confirmed by the Bank during the next on-site review.

43. There are no outstanding or unsatisfactory Interim un-audited Financial Reports (IFRs) or audit reports under the ongoing RLRPSP project. The appointed auditors (Moore Stephens, Macedonia), acceptable to the Bank, have carried out the audit in accordance with acceptable auditing standards, i.e. International Standards on Auditing, and have issued an unmodified (clean) opinion on the project financial statements, respectively a modified qualified "except for" opinion on the entity financial statements as of December 31, 2013. The project management letter mentioned no accounting or internal controls deficiencies identified during the audit. As confirmed by the auditors, PESR complied with the financial covenants to maintain a debt service coverage ratio of not less than 1.2 and a current ratio of not less than 1. The same ratios will also be monitored as covenants in this Project.

44. It was agreed that the FM team would be expanded with an additional Financial Officer to be recruited by effectiveness, considering the current capacity and the fact that the Project Financial Officer who recently took over the role of PESR Financial Manager also works on several other sources of international financing.

45. The Project will use the traditional disbursement mechanism. A new Designated Account (DA) in the loan currency (Euro), with a mirror account in local currency will be opened for the loan proceeds in a commercial bank acceptable to the Bank. Loan funds will be withdrawn to the respective DA up to the account's ceiling (as defined in the disbursement letter of the project) by

means of signed withdrawal applications, and disbursed for eligible payments defined by the project.

46. The accounting for the Project will be kept to an adequate level of details in a new ERP system, financed under the ongoing RLRPSP project, which should be fully operational by the loan effectiveness.

47. The internal controls framework instituted for the previous projects is considered reliable and will continue to be used for the upcoming Loan. There is a Project Operational Manual (POM) in place, which was last updated when the current RLRPSP was restructured and endorsed by PESR Board of Directors on July 25, 2013. The financial section of the manual will be updated by effectiveness with the latest FM and disbursement arrangements to be implemented for the Project.

48. Quarterly cash-based Interim-un-audited Financial Reports (IFRs) will be submitted to the Bank in 45 days after each quarter end. The format of the IFRs has been agreed at negotiations and would be attached to the POM.

49. The entity and project financial statements will be audited by independent auditors acceptable to the Bank as per terms of reference agreed with the Bank. The audit reports will be due for submission to the Bank in six months from the year end. The audit terms of reference have been agreed at negotiations and would be attached to the POM.

D. Procurement

50. Procurement arrangements at the project level were reviewed as part of project preparation. PESR will be the implementing agency undertaking the procurement tasks for project administration and implementation. A procurement assessment was conducted, the procurement risks were identified and mitigation measures were agreed. The overall risk identified during the procurement capacity review is substantial. Measures to mitigate the risks identified are outlined under the relevant section in Annex 3.

51. PESR has experience in implementing Bank funded projects and is currently implementing the Regional and Local Roads Program Support Project, which involves significant investments in regional and local road infrastructure. Nevertheless, implementation of several other projects financed by international donors in addition to the Project, may strain the technical and procurement capacity of the enterprise.

52. A Project Management Team (PMT) has been established, which is staffed with three technical specialists from the International Project Implementation Unit included in the Investment Department of PESR and will form the core of the PMT. Deputy Director of PESR will be vested with the role of the Project Director for the Project. The PMT will be strengthened with one full time procurement consultant to be recruited on a competitive basis. Also a financial management consultant, monitoring and evaluation staff and a translator/office administrator will be added to the team.

53. The procurement process under the Project will be carried out in accordance with the World Bank “Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers” dated January 2011; and “Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers” dated January 2011 and the provisions stipulated in the Legal

Agreement. The World Bank Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credit and Grants dated October 15, 2006 and revised on January 2011, would also apply. The Bank Standard Bidding Documents, including evaluation for procurement of works and goods will be used, as well as the Bank's Standard Request for Proposal for selection of consultants, including the standard evaluation report.

54. A preliminary procurement plan for the Project was prepared. Details on procurement arrangements are presented in Annex 3.

E. Social (including Safeguards)

55. The Project builds on the achievements of the ongoing RLRPSP Project, which had mostly positive social impacts on the living standards of those using the roads. It is expected that this Project will also have mostly positive impacts on the living standards of Macedonia's population through its direct effects on employment and economic growth. The residents in the project affected areas will benefit from a reduction in transport costs and travel times. Likely improvements also include the quality of roads for passenger and cargo transport and employment generations. It is expected that the Project will create employment opportunities, mostly in the road construction industry. As the majority of employees in the construction industry are traditionally men, equal opportunities will be observed and female employment opportunities will be encouraged by sensitizing construction companies to these issues. Improvement of the condition of the selected regional roads will improve public transport service thus benefiting the users of public transport, the poorest segment in the Macedonian society. As women typically use public transport to a greater extent than men, it is expected that the Project will be of particular benefit to them. This will contribute to sharing the benefits from the Project to all segments of the society but substantially to its poorer segments. Road safety will in addition be improved through inclusion of safety standards into project design, thus contributing additional positive social impacts from the Project.

56. Because the Project focuses on road rehabilitation and maintenance, the resulting physical works will be implemented within the existing right-of-way of the roads. There will most likely not be any need for land or asset acquisition. However, because of the programmatic nature of the Project, though types of the works are defined as rehabilitation, the implementing agency will adopt a Resettlement Policy Framework (RPF) for the potential land acquisition needs. Based on the first year program's road-specific Environmental and Social Assessment Reports and Environmental Management Plans there was no need for any land acquisition and thus site specific Land Acquisition Plans (LAPs) were not prepared. The RPF determines implementation arrangements and responsibilities for the land acquisition if needed and this satisfies the requirements of World Bank Operation Policies for Social Safeguards and Macedonian laws. During the implementation of the Project, potential subsequent needs for the Land Acquisition Plans will be determined on a case-by-case basis. Future LAPs will pay attention to the different needs of women and men, particularly in terms of loss of livelihood opportunities as well as patterns of land ownership where formal land titles tend to be registered to men to ensure women benefit equally from any compensation.

F. Environment (including Safeguards)

57. For the purposes of the environmental assessment, the Project has been assigned an environmental category B, as per the World Bank Safeguard Policy OP/BO 4.01. This implies that the Project is not expected to have any significant or irreversible environmental impacts, and those anticipated are minimized through adequate implementation of environmental mitigation measures.

58. **The World Bank OP/BP 4.01 ‘Environmental Assessment’** is triggered because civil works to be implemented under the Project represent certain environmental risks. The potential environmental impacts have been analyzed by environmental studies carried out by PESR and mainly include: (i) generation of solid and liquid construction and domestic wastes; (ii) dust, noise and vibration due to the use of construction machinery (construction phase), and due to increased traffic flow (operation phase). For the first year of the Project covering three roads, the anticipated locations of the implementation of those measures are villages of Izbishte and Kazhani, which are in the immediate vicinity of the project area. The exact location, type and design of noise mitigation measures will be defined by noise study to be performed as part of the detailed design; (iii) air pollution by exhaust gases and dust; (iv) soil damage due to excavation works and use of construction machinery; (v) soil contamination due to accidental spills of fuel and lubricants; and (vi) water pollution due to improper waste management and accidental fuel and lubricant spills. Out of the three roads proposed for the first year of the Project, the risk of water pollution is anticipated only in the case of the road Boshkov Most - Debar, which passes over the Lake Debar and goes by the River Radika (no bridge rehabilitation is envisaged though); and (vii) issues related to traffic safety and human health during the construction phase. The above impacts will be minimized or mitigated by the implementation of measures envisaged by the respective Environmental Mitigation Plans and monitored by PESR as provided for by respective Environmental Monitoring Plans.

59. In order to accommodate the programmatic nature of the Project, with the three roads identified for the first year of the project implementation, and the other roads to be identified during project implementation, the preferred environmental safeguard instruments prepared by the client include: (i) an Environmental and Social Assessment and Management Framework underlining the main environmental and social risks associated with the implementation of the road rehabilitation projects, and defining the procedures, institutional responsibilities and implementation arrangements for the preparation of road-specific Environmental and Social Assessment Reports (ESAR) and Environmental Management Plans (EMPs) for the roads to be identified later during program preparation and implementation; and (ii) separate and specific Environmental and Social Assessment Reports and Environmental Management Plans for each of the road sections already identified for the first year of the Project, which determined site-specific impacts likely to occur due to the program implementation, proposed adequate mitigation measures, defined responsibilities and arrangements for the implementation of those measures, and outlined the monitoring and grievance redress mechanism.

60. All the documents have been disclosed to public at the public consultation meetings held in the project area in Bitola, Resen and Debar on March 6-7, 2014. The documents were also duly posted through the Bank’s InfoShop on March 18, 2014. The Minutes of the public consultations are enclosed to the respective ESAR reports and/or EMPs.

Annex 1: Results Framework and Monitoring
FYR MACEDONIA: National and Regional Roads Rehabilitation Project

Results Framework

Project Development Objectives

PDO Statement

The Project Development Objectives are to enhance the connectivity of selected national and regional roads, primarily to Corridors X and VIII, and to improve the Public Enterprise for State Roads' capacity for road safety and climate resilience.

These results are at | Project Level

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	End Target
Reduction in travel time for passenger cars, in percentage, along the project roads sections to be rehabilitated	0.00	4.00	6.00	8.00	10.00	10.00
Reduction of vehicle operating costs for heavy trucks, in Euro per vehicle-km, along the project road sections to be rehabilitated	0.79	0.75	0.73	0.71	0.69	0.69
Percentage of all PESR road projects that incorporate road safety audit recommendations	0.00	0.00	10.00	50.00	100.00	100.00
Climate resilience design guidelines prepared and integrated by PESR in their internal design process	No	No	No	Yes	Yes	Yes

Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	End Target
Roads rehabilitated (km)	0.00	37.00	61.00	86.00	112.00	112.00
Roads in good and fair condition as a share of total classified roads (percentage)	79.00	80.00	80.00	81.00	81.00	81.00
Road safety design audit guidelines prepared	No	No	No	Yes	Yes	Yes
Climate resilience design guidelines prepared	No	No	No	Yes	Yes	Yes
Number of kilometers of road network surveyed for road safety (iRAP)	500.00	500.00	3000.00	3000.00	4000.00	4000.00
Five year rolling program for national and regional roads preservation works prepared based on the RAMS	No	No	Yes	Yes	Yes	Yes
Percentage of beneficiaries expressing satisfaction with condition of the project roads	N/A (to be defined during the 1 st year program)	N/A (to be defined during the 1 st year program)	N/A (to be defined during the 1 st year program)	N/A (to be defined during the 1 st year program)	N/A (to be defined during the 1 st year program)	N/A (to be defined during the 1 st year program)
Direct project beneficiaries (number), of which female (percentage).	N/A (to be defined during the 1 st year program)	N/A (to be defined during the 1 st year program)	N/A (to be defined during the 1 st year program)	N/A (to be defined during the 1 st year program)	N/A (to be defined during the 1 st year program)	N/A (to be defined during the 1 st year program)

Annual performance report prepared and published by PESR	No	No	Yes	Yes	Yes	Yes
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Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Reduction in travel time for passenger cars, in percentage, along the project roads sections to be rehabilitated	This indicator measures the average travel times of passenger cars along the roads to be rehabilitated under the project. The travel time reduction is expressed in percent relative to the baseline that is a zero reduction. This indicator will be measured at the end of the project and will be monitored annually for the roads rehabilitated under the project.	Annual	Project Progress Reports	PESR
Reduction of vehicle operating costs for heavy trucks, in Euro per vehicle-km, along the project road sections to be rehabilitated	This indicator measures the vehicle operating costs for trucks along the roads to be rehabilitated under the project. Vehicle operating costs are expressed in Euro per vehicle-kilometer. This indicator will be measured at the end of the project and will be monitored annually for roads rehabilitated under the project.	Annual	Project Progress Reports	PESR
Percentage of all PESR road projects that incorporate road safety audit recommendations	This indicator measures if PESR requires that all PESR projects have road safety design audits included and its recommendations implemented. This indicator will be measured annually and at the end of the project.	Annual	Project Progress Reports	PESR
Climate resilience design	This indicator measures if PESR requires	Annual	Project Progress	PESR

guidelines prepared and integrated by PESR in their internal design process	that all PESR projects have climate resilience measures included. This indicator will be measured annually and at the end of the project.		Reports	
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Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Roads rehabilitated (km)	Kilometers of national and regional roads rehabilitated under the project.	Annual	Project Progress Reports	PESR
Roads in good and fair condition as a share of total classified roads (percentage).	Percentage of the total national and regional road network that is in good or fair condition depending on the road surface and the level of roughness. The total classified roads are considered the state roads as defined by national legislation.	Annual	Road Asset Management System	PESR
Road safety design audit guidelines prepared	This indicator measures the actual preparation of guidelines for road safety design audits for inclusion in all PESR road projects.	Annual	Project Progress Reports	PESR
Climate resilience design guidelines prepared	This indicator measures the actual preparation of guidelines for climate resilience design for inclusion in all PESR projects.	Annual	Project Progress Reports	PESR
Number of km of road network surveyed for road safety (iRAP)	Kilometers of national and regional roads surveyed with iRAP or similar methodology.	Annual	project Progress Reports	PESR
Five year rolling program for national and regional roads preservation works prepared based on the RAMS	This indicator measures the actual preparation of a five year rolling program for national and regional roads preservation works prepared based on the RAMS road network database and a life cycle economic evaluation of project alternatives.	Annual	Project Progress Reports	PESR
Percentage of beneficiaries expressing satisfaction with condition of the project	This indicator measures the satisfaction of local communities and other road users with the condition and safety of the project roads.	Annual	Project Progress Reports	PESR

roads				
Direct project beneficiaries (number), of which female (percentage).	This indicator measures the number of direct project beneficiaries and percentage of female beneficiaries among them.	Annual	Project Progress Reports	PESR
Annual performance report prepared and published by PESR	This indicator measures the improved transparency and accountability of PESR through annual performance report to be done and published by PESR.	Annual	PESR website	PESR

Annex 2: Detailed Project Description

FYR MACEDONIA: National and Regional Roads Rehabilitation Project (P148023)

1. The **Project Development Objectives** (PDO) are to enhance the connectivity of selected national and regional roads, primarily to Corridors X and VIII, and to improve Public Enterprise for State Roads' capacity for road safety and climate resilience.
2. **The significant increase in private vehicle ownership, coupled with stronger economic activity across the different parts of the country as well as greater personal mobility requires a regularity of investments on the national and regional road network.** Since 2008, the number of registered vehicles has increased from 278,707 to 332,022. At the same time, the decline of the traditional heavy industries which customarily used rail transport, has been substituted by medium sized production facilities near different urban areas, which now use road transport to send goods to EU markets. Together, these factors have resulted in a gradual increase in road traffic volumes with greater congestion, higher vehicle operating costs and longer trip times.
3. **The Project aims to strengthen PESR's investment planning and financial management capacity.** The Road Asset Management System (RAMS) is expected to be fully operational by end of 2014, with a simpler excel database listing the characteristics (length, Annual Average Daily Traffic, roughness and road condition) for all road sections in the network already ready, thereby allowing its use in the second to fourth year implementation of the Project. At the same time, PESR is introducing an enterprise resource planning system (ERP), to manage its finances regularly and through an automated system. Both of these activities are a core element of the independent management position of the enterprise and are to be implemented in the next several years. The Project will ensure that they are further developed, but also support PESR in establishing new practices regarding road safety and climate resilience in their technical operations.
4. **Financial sustainability of PESR's operations is regularly monitored by the Bank as part of the RLRPSP projects supervision and financial covenant compliance requirements have been met.** The enterprise's financing comes from the central budget, through a transfer of 20 percent of the fuel excise tax; annual motor vehicle registration fees; motorway tolls, and loan financing from International Financial Institutions. PESR has showed a constant increase in the collection of own revenues (tolls and road tax), which is a good indicator of good financial management. Since a large portion of the budget comes from the excise tax, it continues to be important that MOF continues to transfer at least 20 percent of the collected excise tax. As per the projections of the Annual Program, the first two sources of revenues for PESR will continue to be: (i) no less than 20 percent of the excise tax on oil derivatives to be transferred from the State Budget at least on a quarterly basis; and (ii) road tolls. As shown in Table 5, for PESR's first year of operation as a public enterprise the financial indicators are positive.

Table 5: PESR financial performance in year 2013

	Year 2013 (in Macedonian Denars)	RLRPSP Financial covenant requirement
Current assets	2,678,342,000	
Current liabilities	2,057,546,000,	
Current ratio for 2013	1.30	Current ratio of no less than 1
Net revenue	2,832,969,000	
Debt service (principal repayments + interest)	1,204,212,000	
Debt service coverage ratio for 2013	2.35	Debt service coverage ratio of no less than 1.2
Net revenue (est.)	2,483,000,000	
Debt service (principal repayments+ interest) (est.)	1,483,000,000	
Debt service coverage ratio for 2014 (est.)	1.67	Debt service coverage ratio of no less than 1.2
Tax revenues		
Excise tax received	1,909,728,195	
Excise tax collected	9,576,725,096	
% of excise tax transferred to PESR	19.94	Minimum 20%
Toll revenue collected	1,378,520,997	
Vehicle registration fee	969,756,147	

Source: PESR and 2013 audited entity financial statements.

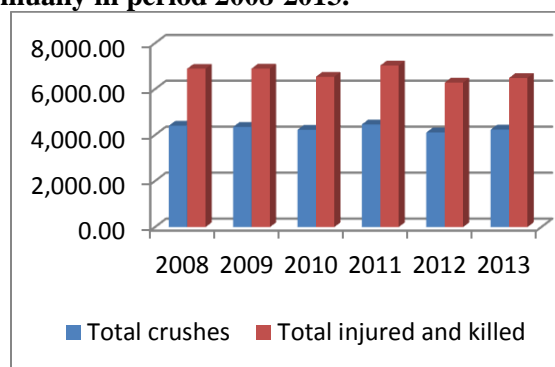
5. **Road safety observations made in the course of the ongoing RLRPSP project implementation suggest deficiencies regarding traffic signs and road markings; crash barriers and pedestrian traffic.** Most frequent ones include: poor condition of signs, confusing signs, or even lack of signs; lack of crash barriers on bridges; crash barriers without proper anchorage and reflectorized chevron hazard markers. Even though most often crashes are reported to be the result of poor driver behavior, good road safety practices prove that proper road safety measures included in road infrastructure can significantly decrease the number of crashes and their severity. Figure 1 and Figure 2 below show the road safety trends in the country.

Figure 1: Number of killed persons in road crashes annually in period 2008-2013.



Source: Ministry of Interior/National Road Safety Council.

Figure 2: Number of road crashes and total injured and killed persons in road crashes annually in period 2008-2013.



Source: Ministry of Interior/National Road Safety Council.

6. **Road maintenance is carried out by the public enterprise Makedonija Pat that operates as PESR's direct contractor under an almost constant budget.** It is responsible for the regular, periodic and winter maintenance of the national and regional road network; installation and maintenance of road signalization; traffic counting; and roads and bridges cadaster. The budget allocated to Makedonija Pat for regular and winter road maintenance of the state roads in 2013 was about US\$14 million or US\$2,850 per km. The winter maintenance accounts for 40 to 50 percent; while the routine maintenance represents between 30 and 40 percent of the total of the maintenance budget and periodic maintenance (including bridges) attains the rest (10 to 30 percent). Under maintenance of roads, especially in the part of periodic maintenance is evident as well as issues of quality and timeliness. In 2013 the toll collection branch of Makedonija Pat was merged with PESR, allowing Makedonija Pat to focus only on the maintenance. PESR has shown a much better management of the toll collection and achieved an increase of 20 percent in annual toll collected during 2013. Annual maintenance contracts are established between Makedonija Pat and PESR to cover routine and winter maintenance. Steps toward the full commercialization of the maintenance sector are taken through the PESR financed rehabilitation programs since 2008, which include a wide rehabilitation of regional roads carried out by the private sector.

7. **Component 1: Road Civil Works** (estimated total cost of Euro 57.758 million, of which Euro 48.948 million will be financed by IBRD loan). This component will finance the rehabilitation and spot improvements of an estimated 112 km of national and regional roads as well as a pilot road safety black spot improvements program. The first year program includes about 36.7 km in three road segments which have been identified for rehabilitation with a total estimated cost of around Euro 10.12 million. The remaining 75.3 km will be identified during implementation. Detailed designs for those roads and supervision of civil works will be financed by PESR funds, while independent technical audits will be financed under this Component. In addition, this Component will finance a pilot road safety black spot improvement program to improve road safety, and a land slide remediation program to improve climate resilience. Detailed descriptions for the three sub-components are provided below:

- (a) **Sub-component 1.1: Road Rehabilitation and Black Spots Improvement** (estimated total cost of Euro 55.752 million, of which Euro 47.248 million will be financed by IBRD loan). This sub-component covers the rehabilitation of national and regional roads and black spot improvements. The first package of works includes 36.7 km of roads. The remaining road sections eligible for financing under the rehabilitation component during years 2-5 will be from a long list of priority roads from PESR and will need to meet eligibility criteria including minimum economic rate of return, as well as environmental and social screening. More specifically, the criteria include the following:

	Action/processing step
1.	For each proposed road, several engineering designs and project alternatives as relevant and needed for the specific proposed road section (such as different pavement, geometric designs, number of lanes, and/or alignment alternatives) will be considered.
2.	A cost-benefit feasibility analysis will be carried out comparing the different project alternatives considered, in terms of Net Present Value (NPV) and Economic Internal Rate of Return (EIRR) following the Bank's guidelines to identify the economically and socially optimal interventions.
3.	The alternative project designs and corresponding costs will be determined based on detailed visual inspection and core tests for critical sections as required. The analysis will include: (i) the current condition of the road, (ii) traffic flows and levels, (iii) the results of the core testing when carried out and (iv) the appropriate level of works interventions. Feasibility analysis should utilize current traffic volumes and traffic composition, and the projection of traffic volumes over the evaluation period.
4.	EIRR for a specific road will be evaluated based on Bank guidelines.
5.	Regional benefits and social considerations (cost of upgrading a road link / population served by the link; percentage of affected population being the bottom 40% of the society; single all weather road access and/or access to geographically more isolated communities) will be considered in the identification of the appropriate level of intervention for the specific roads.
6.	The analysis will be shared with the Bank for review and comments.
7.	Following the satisfactory review by the Bank, PESR will finalize the designs and cost estimate.

In addition to safeguards, the final designs for all rehabilitation works will incorporate all road safety elements appropriate to the specific road sections, including consideration about road signs, markings, road geometry, pedestrian traffic and crush barriers. In residential areas, the design will include proper sidewalks, bus stop locations, safer access to schools, hospitals and other public amenities as appropriate. Additionally, this sub-component will help initiate a long-term program for black spots improvement in the country, by piloting the improvement of selected priority black spots on national and regional roads at locations identified by PESR in cooperation with the National Road Safety Council. The three sections that have been identified with PESR for the first year program are: (i) national road Bitola to Makazi (18.1 km); (ii) national road from Resen to Bukovo (11.1 km), and (iii) regional road from Boskov Bridge to Debar (7.5 km).

- (i) Rehabilitation of national road Bitola to Makazi (18.1 km) – about Euro 4.7 million without VAT. The road section Bitola - Makazi is part of the National road A3 and part of Route 8 of the South-East Europe Transport Observatory network (SEETO). The section starts at km 46+883.00 on the state road A3 (former M-5) interchange. The section ends at the petrol station “Luk Oil”. The road was constructed in the period between 1982-85, generally following the existing old road alignment and in compliance with the necessary geometry elements according to the category of the road. Since the road was put in to use 30 years ago, neither reconstruction nor rehabilitation was made on the same, except patching of potholes and ongoing regular maintenance. The existing pavement is in unsatisfactory conditions with damages. The appearance of longitudinal and transverse cracks, potholes, crocodile skin cracking and rutting are visible.

- (ii) Rehabilitation of national road from Resen to Bukovo (11.1 km) – about Euro 3.03 million without VAT. The road section Resen – Bukovo is a part of the National road A3 and part of Route 8 of the South-East Europe Transport Observatory network (SEETO). The section starts at km 28+903 on the state road A3 (former M-5). The section ends at the entry of the village Jankovec, near Resen. The road was constructed in the period between 1982-85, generally following the existing old road alignment and in compliance with the necessary geometry elements according to the rank of the road. Since the road was put in to use 30 years ago, neither reconstruction nor rehabilitation was made on this section, except patching of potholes and ongoing maintenance. The existing pavement is in unsatisfactory condition with damages. On the pavement there are different damages, such as longitudinal and transverse cracks, potholes, block cracklings, and rutting.
 - (iii) Rehabilitation of regional road from Boskov Bridge to Debar (7.5 km) – about Euro 2.39 million without VAT. The road section Boskov Bridge – Debar is a part of the Regional road R1202 (Mavrovo – Debar). The rehabilitation process on this section will be done on length of about 7.5 km. The section begins on the junction from the road R1202 with R2246 (km 45 + 475) and ends at the entrance of city of Debar. The road was constructed in the period between 1975-80, generally following the existing old road alignment, and in compliance with the necessary geometry elements according to the category of the road. The road was put in to exploitation 35 years ago; neither reconstruction nor rehabilitation was made on the road, except patching of potholes and ongoing maintenance. The existing pavement is in unsatisfactory condition with damages. On the pavement there are different damages such as longitudinal and transverse cracks, potholes, block cracklings, and rutting.
- (b) **Sub-component 1.2: Technical Audits** (estimated total cost of Euro 0.236 million, of which Euro 0.2 million will be financed by IBRD loan). This sub-component will finance independent technical audits of civil works, which will be conducted about three times during the project implementation, tentatively for the second, third and fourth year of the Project.
 - (c) **Sub-component 1.3: Land Slide Remediation** (estimated total cost of Euro 1.77 million, of which Euro 1.5 million will be financed by IBRD loan). This sub-component will build on the design activities currently ongoing under the RLRPSP and will help PESR to implement the remediation activities on a selected number of land slide locations. These will be identified on the national and regional roads by PESR.

8. **Component 2: Institutional Strengthening and Project Management** (estimated total cost of Euro 3.44 million, of which Euro 2.922 million will be financed by IBRD loan). This component aims at helping strengthening PESR's capabilities on issues related to road safety, climate resilience and road asset management. It will finance technical assistance, equipment, and operational costs associated with the implementation of the Project. This component includes four sub-components, with detailed descriptions provided below:

- (a) **Sub-component 2.1: Project Management and Implementation, including audits** (estimated total cost of Euro 0.431 million, of which Euro 0.366 million will be

- financed by IBRD loan). This sub-component will finance costs associated with strengthening the technical capacity of the PESR Project Management Team (PMT), financing the hiring of four individual consultants to work with the PMT and provide “on the job” training (financial management, procurement, technical and contract management, and office administration specialists). It also includes annual financial audits of the project accounts, to be submitted to the Bank.
- (b) **Sub-component 2.2: Road Safety Technical Assistance** (estimated total cost of Euro 0.826 million, of which Euro 0.7 million will be financed by IBRD loan). This sub-component will support PESR’s efforts to introduce a road safety unit in its internal organization and to develop a nation-wide road safety program. This would specifically include the identification of black spots on the road network and designs for their improvement. Additionally, this component will include activities preparation of road safety audits guidelines and manuals, training for the road safety unit staff, and an iRAP survey of the network for the preparation of a road safety investment plan.
- (c) **Sub-component 2.3: Road Asset Management Equipment and Data Collection and Preparation of a Five-year Strategic Program** (estimated total cost of Euro 1.947 million, of which Euro 1.65 million will be financed by IBRD loan). This sub-component will finance the equipment and the network data collection to be undertaken by PESR for surveying road condition and beneficiary satisfaction survey, and collecting traffic data for three years. It also includes technical assistance for the preparation of a Five-year Strategic Program (including periodic maintenance and rehabilitation works) based on the network data from Road Asset Management System.
- (d) **Sub-component 2.4: Technical Assistance and Impact Analysis** (estimated total cost of Euro 0.243 million, of which Euro 0.206 million will be financed by IBRD loan). This sub-component will prepare best practice manuals and training for the PESR staff and local contractors in FIDIC contracts, economic evaluation of road investments, road safety audits. This sub-component will also support PESR to identify climate resilience remedies on road network and prepare climate resilience guidelines. The sub-component will also review the current maintenance practices and standards of PESR and provide inputs for improvement. In addition, this sub-component will support monitoring activities as well as mid-term and impact evaluation surveys in order to evaluate the project’s impacts, including social impacts and livelihood improvements for low-income groups, women, people with disabilities and other vulnerable segments of society.

Table 6: Proposed Project Financing by Component

Component	Total Cost (Euro million)	Bank Finance (Euro million)	Percentage of Financing
Component 1: Road Civil Works			
Road Rehabilitation and Black Spots Improvement	55.752	47.248	85%
Technical Audits	0.236	0.2	85%
Land Slide Remediation	1.77	1.5	85%
Subtotal Component 1	57.758	48.948	85%
Component 2: Institutional Strengthening and Project Management			
Project Management and Implementation, including audits	0.431	0.366	85%
Road Safety Technical Assistance	0.826	0.7	85%
Road Asset Management Equipment and Data Collection and Preparation of a 5 Year Rolling Program of Preservation Works	1.947	1.65	85%
Technical Assistance & Impact Analysis	0.243	0.206	85%
Subtotal Component 2	3.447	2.922	85%
Front End Fee (0.25%)		0.13	100%
TOTAL	61.336	52	85%

Annex 3: Implementation Arrangements

FYR MACEDONIA: National and Regional Roads Rehabilitation Project (P148023)

Project Institutional and Implementation Arrangements

Project administration mechanisms

1. The Project will be implemented by the Public Enterprise for State Roads (PESR). PESR is already the Borrower and implementing agency for another World Bank financed project and has successfully implemented earlier Bank projects. Currently, PESR has 60 professional employees, serving full time (engineers, procurement specialists, financial management and environmental/social and legal specialist). These are supported by 24 technical staff. PESR will carry out all project activities, including procurement and financial management, for both of which PESR has a long experience carrying out. PESR will prepare a Project Operational Manual (POM), of which a draft will be provided to the Bank for concurrence by Effectiveness deadline.
2. A Project Management Team will be established in PESR to implement the Project. The PMT will consist mainly of PESR staff (engineers, environmental and social scientist, FM), but also strengthened with expert consultants to ensure timely implementation in a construction intensive environment. The Bank and PESR have agreed on the expertise necessary to strengthen the PMT and agreed on the Terms of Reference for these experts. The Bank assesses the PMT as adequate and acceptable.

Financial Management, Disbursements and Procurement

Financial Management

3. **Risk Analysis.** The overall financial management risk for the project is substantial before mitigation measures, and with adequate mitigation measures agreed, the financial management residual risk is rated moderate. Following the latest on-site FM supervision, the performance of the ongoing RLRPSP project has been upgraded from moderately satisfactory to satisfactory, due to the substantial progress achieved in terms of implementation of an application that would improve the comprehensiveness of project analytical records. A Loans management module (part of the entity ERP system) has been installed to enhance the transparency and reliability of project information. The ERP system implementation is expected to be finalized by September 30, 2014 and the implementation and functionality of the ERP and the adequacy of the project records will be confirmed by the Bank. There are no outstanding Interim un-audited Financial Reports (IFRs) or audit reports under the ongoing RLRPSP project. The appointed auditors (Moore Stephens, Macedonia), acceptable to the Bank, have carried out the audit in accordance with acceptable auditing standards, i.e. International Standards on Auditing and have issued an unmodified (clean) opinion on the project financial statements, respectively a modified qualified "except for" opinion on the entity financial statements as of December 31, 2013. The project management letter mentioned no accounting or internal controls deficiencies identified during the audit.

4. PESR financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS) as accepted and published in FYR Macedonia. There were two qualifications issued by the auditors, which related to revaluation method for plant, property and equipment (PPE) and presentation of constructions in progress. The entity management letter contained recommendations for improvement in several areas of PESR accounting and internal controls framework, namely estimation of PPE, presentation of constructions in progress, provisions for court procedures, and provisions for retirement benefits, excise revenue recognition, vehicle registration tax collection, and property deeds. PESR management acknowledged the findings, provided responses and clarifications as needed and is taking actions to address them accordingly. The implications of the matters raised by the auditors have little or no effect on the reliability of financial arrangements for the ongoing RLRPSP project.

5. **Staffing.** The Project will continue to use the core PESR designated staff within the PMT, which was established for the Project implementation and which will be supplemented by consultants where additional capacity is needed. There is a Financial Officer assigned with financial management responsibilities for the ongoing RLRPSP project. It is a permanent employee of PESR, possessing appropriate experience and expertise in accounting and financial management and being well-familiarized with the Bank procedures and requirements in this area. Given the increased responsibilities of the project Financial Officer who has recently taken over the role of PESR Financial Manager and who works on several other sources of international financing, it is considered that the project FM team should be strengthened with an additional Financial Officer to be recruited by the Loan effectiveness. The PESR Financial Manager will continue to work on the ongoing RLRPSP project as before and will also coordinate and oversee the work done by the additional Financial Officer.

6. **Planning and Budgeting.** PESR has adequate planning and budgeting capacity in terms of availability of quality information and monitoring. The Project budget will be included in the entity annual budget that is drafted in line with the Annual Program that is endorsed by the Government and Ministry of Finance. A single budget will be prepared for all project components based on Procurement Plan, and complemented by best estimates of actual outflows with respect to signed contracts. Significant variances of actual versus budgeted figures will be monitored on a regular basis and appropriately analyzed and followed up.

7. **Accounting System and Procedures.** Appropriate analytical accounting records will be maintained for the Project. The transformation of the implementing entity into a public enterprise triggered a significant change in the accounting treatment applied by the entity, from budgetary cash basis accounting to accrual method, in accordance with the International Financial Reporting Standards (IFRS), as required by law for trade companies. It is envisaged that the accounting for the Project will continue to be kept on cash basis in both Loan and local currencies in a new Enterprise Resource Planning Program (ERP), financed under the ongoing RLRPSP project. The system, an Oracle database, has five modules: (i) Financial, Material and Accounting Management System, (ii) Funds Management System; (iii) Financial Management System-Loans Management, (iv) HR Management and Payroll System, and (v) Legal Services. The procurement process was finalized at the end of 2013 and a local company was selected to implement the application. The new software application will allow (i) automatic generation of the quarterly IFRs and Statement of Expenditures (SOEs), and (ii) contract monitoring. The Loans and Funds management modules have been finalized and are operational. Their functionality will be confirmed during the next on-site FM review. According to the contract

with the software provider, all ERP modules should be completed by the end of September 2014. Following the transformation of the implementing entity in January 2013 from a governmental agency to a public enterprise, two new financial covenants have been agreed with the counterparts for the ongoing RLRPSP project in order to monitor and enhance the financial status and sustainability of the entity:

- (a) Entity audit, starting 2013;
- (b) Two financial ratios, beginning December 31, 2013:
 - (i) Debt service coverage ratio of not less than 1.2. This ratio is defined as the ratio of net revenue to debt service for the year (principal and interest);
 - (ii) Current ratio of not less than 1. Given the operating profile of the entity which finances non-current assets through current liabilities, this ratio is defined as the ratio of current assets including estimated net revenues for the next year to current liabilities.

8. Such covenants are considered beneficial to contribute toward building capacity within the newly-founded PESR, and have been incorporated in the Project. As presented in Annex 2 Table 5: PESR financial performance in year 2013, PESR met the financial covenants during the first year these were evaluated.

9. **Financial Reporting.** Project management-oriented Interim un-audited Financial reports (IFRs) will be used for project monitoring and supervision. The format of the IFRs has been agreed with the Bank at negotiations and would be attached to the updated Financial Manual, which will be part of the Project Operational Manual (POM) and Minutes of Negotiations. PESR will produce a full set of IFRs for each calendar quarter throughout the life of the Project. First set of reports to be prepared will cover the calendar quarter period in which disbursement has started. Such reports will be prepared on IPSAS cash-basis in the Loan currency and will be due 45 days after each quarter end. The IFRs will comprise the following reports presented in the agreed format: (i) Statement of Cash Receipts and Payments; (ii) Uses of Funds by Activity; (iii) Designated Account Statement, (iv) Units of Outputs by Activity, and (v) Accounting policies and explanatory notes. Annual entity financial statements will be prepared in accordance with the International Financial Reporting Standards (IFRS) as required by law. Such financial statements will be audited by independent auditors acceptable to the Bank as per the provisions of agreed terms of reference.

10. **Internal Controls.** An adequate system of internal controls and procedures was instituted for the ongoing RLRPSP project implementation. Such system is assessed as reliable and will continue to be applied to the Project as well. The current management control framework is described in a Financial Manual, as part of the POM for RLRPSP, which was last updated when the ongoing RLRPSP project was restructured and endorsed by the entity Board of Directors on July 25, 2013. The current Financial Manual will serve as the basis and will be updated with any specifics of the Project by the Loan effectiveness. Key internal controls to be applied for the Project include:

- a) appropriate authorizations and approvals;
- b) segregation of duties;
- c) different persons being responsible for different phases of transaction;

- d) reconciliations between records and actual balances, as well as with third parties should be performed on regular basis; and
- e) complete original documentation should exist to support project transactions.

11. PESR publishes tenders and signs the contracts under the Project. All contracts are signed by the Director of PESR. Received invoices are verified against contracts and delivered goods or services by technical staff that checks the invoiced amount against the contract ceiling. After the technical staff has approved the invoice in terms of quality and quantity of the work/services delivered, the invoice is forwarded to the PMT within PESR, where it is registered in the archives and forwarded to the Project Director. The invoice is handed to the project accountant, who checks the calculations and registers the invoice in a simple log file with name of supplier, amount, and date of payment. The procurement staff also checks the invoice against the clauses of the relevant contract, if necessary attaches a copy of the relevant paragraph on which the invoice is based from the contract. Invoices are verified and signed off also by independent supervising engineers and Assistant Director for investments and then are forwarded for payment. Payment order and the invoice with all designated approvals and signatories as described above are submitted for payment, indicating the Denar account that will serve as transit account for executing the payment. Payment orders are signed by the Director, and withdrawal applications by either Director or Assistant Director. Original and complete documentation relating to the above-described process is available. The internal controls framework will be maintained as such.

12. Contract management will be carried out through the new ERP to be implemented by Loan effectiveness, by keeping an individual fiche for each contract. These fiches will be updated every time an invoice is received or a payment is made on each contract. These fiches will show key data for each contract as the contract value, schedule of payments, date, reference and amount of invoices received, date and amount of payments made and the contract value remaining to be paid. The quarterly IFRs will provide financial information on the actual expenditures incurred under each ongoing contract during the analyzed quarter, and on a yearly and cumulative basis.

13. **External Audit.** PESR is responsible for the timely compilation of the annual project financial statements for the independent external audit. Project and entity financial statements will be audited by an independent auditor acceptable to the Bank. The entity audit will provide information on the financial viability of the company and will contribute towards strengthening its financial environment. The audits will be conducted in accordance with the International Standards on Auditing (ISA) as issued by the IFAC. The terms of reference for the audit have been agreed with the Bank, and attached to the Minutes of Negotiations and would be attached to the POM. In addition, the auditors are expected to deliver management letters in relation to the project and entity. Each management letter will identify internal control deficiencies and accounting issues, if any. The audit reports, audited financial statements and management letters will be delivered to the Bank within six months of the end of each fiscal year. The audited project and entity financial statements will be made publicly available in a timely fashion and in a manner acceptable to the Bank. The audit fee for project and entity financial statements will be financed from the Loan proceeds.

14. The following chart identifies the types of audit reports that will be required to be submitted to the Bank and the respective due dates for submission.

<i>Audit Report</i>	<i>Due Date</i>
(i) Project financial statements (PFS), including SOEs and Designated Account. The PFSs include Statement of Cash Receipts and Payments by category, by components and by financing source; SOE statements, Statement of Designated Account, notes to financial statements, and reconciliation statement.	Within six months of the end of each fiscal year and also at the closing of the Project
(ii) Entity financial statements	Within six months of the end of each fiscal year

15. **Flow of funds and disbursement arrangements.** The transaction-based disbursement method will be used for the Project. A Designated Account (DA) will be opened in a commercial bank acceptable to the World Bank. It will be an account denominated in the Loan currency. A mirror account will be opened in Macedonian Denars for payments to local suppliers. The mirror account will be a transit account with zero balance.

16. Project funds will flow from the World Bank - *either* as an advance, via a DA to be opened in an acceptable commercial bank, which will be replenished under transaction-based disbursement method, and managed as described in the section, *or* by direct payment on the basis of direct payment withdrawal applications.

17. The procedures relating to the flow of funds, including paths for authorization and approval of payments will be described in detail in the updated Financial Management section of the POM. The procedures should clearly describe all steps of the process, as well as authorized signatories for administering the account funds. Bank Statements indicating turnover and balance on the denar sub-account will be submitted on daily basis. The PMT will include balances on all project related accounts in the quarterly IFRs.

18. The Ceiling for the Designated Account is indicated in the Disbursement Letter agreed on at negotiations. Applications for replenishment of the Designated Account will be submitted at least quarterly or when one-third of the amount has been withdrawn, whichever occurs earlier. Documentation requirements for replenishment would follow standard Bank procedures as described in Disbursement Handbook. Bank statements of the Designated Account, which have been reconciled, would accompany all replenishment requests.

19. **Financial Management Conditions and Action Plans.** PESR will continue to maintain a project financial management system acceptable to the Bank. Adequate staffing should be dedicated to the Project and proper analytical accounting records should be developed to allow an appropriate level of transparency and reliability of financial information. The Project and entity financial statements will be audited by independent auditors acceptable to the Bank and on terms of reference acceptable to the Bank. The annual audited statements and audit reports will be provided to the Bank within six months of the end of each fiscal year. Quarterly IFRs will be forwarded to the Bank no later than 45 days after the end of each quarter.

20. There are three conditions for effectiveness which have to be implemented by PESR as indicated:

Condition	Due Date
Update the existing financial management manual, a separate section of the Project Operational Manual, with the specific financial and disbursement procedures instituted for the Project	Effectiveness
Hire a new Financial Officer	Effectiveness
Finalize implementation of the new ERP system to accommodate the entity and project financial records	Effectiveness

Procurement

A. General

21. Procurement for the Project will be carried out in accordance with the World Bank’s “Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers” dated January 2011; and “Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers” dated January 2011 and the provisions stipulated in the Legal Agreement.

22. The various procurement actions under different expenditure categories are described in general below. For each contract to be financed under the Loan Agreement, the various procurement or consultant selection methods, estimated costs, prior review requirements, and time frame were agreed during the negotiations between the Borrower and the Bank in the Procurement Plan (PP). The PP will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. A General Procurement Notice (GPN) will be published online in UNDB and in its printed version. Specific Procurement Notices (SPN) will be published for all ICB procurement and Consulting contracts as per Guidelines as the corresponding bidding documents and RFPs become ready and available.

B. Assessment of the Agency’s capacity to implement procurement

23. The overall fiduciary risk for FYR Macedonia is considered to be significant (Country Fiduciary Assessment Update, 2007), but since the last assessment, the government has made considerable progress setting up a modern procurement function. Considerable progress has been made since the previous assessment in setting up the central elements of a sound public financial management and procurement system. The government reforms represent a major change in organizational and political culture. Lack of compliance with existing public procurement law and administrative regulations poses significant risk to the government. Significantly improved compliance should become a government priority.

24. An assessment of the implementing agency, Public Enterprise of State Roads (PESR)’s capacity to implement project procurement has been conducted. The overall risk identified during the procurement capacity review till now is substantial. Summary of the main findings are:

- Implementation at the same time of several other projects financed by IFIs in addition to the Project, may strain the technical and procurement capacity of the enterprise;
- Limited procurement capacity of the PMT and insufficient knowledge of Bank's procurement and consultant guidelines may delay selection/bidding process and contract management;
- The public officials/technical staff, who will be involved in project procurement through tender committees, are not familiar with procurement procedures, and may slow the procurement process;
- PMT might be initially overwhelmed with the number or size of the new road contract to procure and implement;
- Design studies do not provide all data to permit early drafting of bidding documents and unsatisfactory quality of technical designs/ToRs may lead to delays in contract implementation and to contract amendments.

25. The mitigation measures which have been agreed are as follows:

- PESR will hire a procurement consultant on or before project effectiveness as part of the PMT, with vast experience in World Bank financed projects/international procurement;
- Preparation of draft technical specifications/terms of reference before project effectiveness, at least for the contracts for which the selection process is to take place in the first 12 months of the project implementation;
- Close involvement of Bank technical expert in the review of the TOR/ TS and designs;
- Technical staff from relevant departments within PESR will be trained on their specific role and general principles of Bank procurement rules;
- Operations Manual will set out the service standards, responsibilities and accountability of PMT staff, technical staff management for carrying out the activities. Furthermore, the Bank team will help the project coordinator identify suitable training courses for the PESR existing team;
- The order for appointment of evaluation committees shall specify the timeframe by which the evaluation committee would make its recommendation to award;
- PMT staff, and especially the Procurement staff would attend procurement training organized by the Bank;
- The Bank's Procurement Specialist assigned to the Project provided the PMT with a full set of the relevant, most recent procurement documents, including but not limited to standard and sample bidding documents, proposal formats, evaluation report documents, etc.

C. Procurement implementation and arrangements

26. Procurement activities will be carried out by PESR. Before and after project effectiveness, the PMT staff will receive targeted training on procurement and contract management. A similar training is planned under the ongoing RLRPS project, which should be delivered before effectiveness of the Project. In addition, technical staff from relevant

departments within PESR which might be called on sitting in evaluation committee will also receive training on their specific role and general principles of Bank procurement rules.

27. A draft training plan will need to be prepared for all PESR's staff training needs before project effectiveness.

D. Procurement Methods

28. The following methods may be used for procurement of goods, works and non-consulting services as agreed in the procurement plan: International Competitive Bidding (ICB), National Competitive Bidding (NCB), Shopping (S), and Direct Contracting (DC).

E. Procurement of Goods, Works and non-consulting services

29. Goods, Works and non-consulting services procured will include rehabilitation of roads, road safety black spot improvement, land slopes improvement and purchase of traffic counters. Procurement for all ICB procedures will be done using the Bank's Standard Bidding Documents (SBD). Smaller value contracts as needed will be procured using harmonized NCB documents for Goods and Works or shopping using ITQ (May 2011) for works and (June 2011) for goods, depending on the cost estimate for the package. The bidding documents for the first ICB package for rehabilitation of first year roads will be ready before negotiations.

F. Selection of Consultants

30. Consultant services will include independent technical audit, design of road safety black spot improvement, financial auditing, road safety consultancy, beneficiary survey and impact evaluation, review of maintenance practices and standards, and training. The following methods may be used for the selection of consultants: Quality and Cost-Based Selection (QCBS), Quality-Based Selection (QBS), Least-Cost Selection (LCS), Fixed Budget Selection (FBS), Selection based on Consultants Qualifications (CQ), Individual Consultant Selection (IC), and Single Source Selection (SSS). The World Bank's Standard Request for Proposals will be used. All Terms of Reference, irrespective of prior/post review status, are subject to Bank's review and no objection.

G. Training and Training Plan

31. The institutions providing standard training, conducting seminars and organization of study tours would be selected on the basis of analysis of the most suitable program of training offered by the institutions, availability of services, the period of training and the reasonableness of cost. However, consultants hired to deliver training under the Project shall be selected in accordance to the selection methods as stipulated in the *Consultant Guidelines* applicable to the Project. An annual training plan shall be prepared and agreed with the Bank. It will include information on the title of training, institution that shall provide it, timeline, cost, number, position and names of relevant people to be trained. The training plan shall be updated in agreement with the Bank through the duration of the Project at least annually or as required to reflect the actual project implementation needs.

H. Operating Cost

32. The activities to be financed by the Project (as defined in the Legal Agreement) will be procured using the implementing agency's administrative procedures, which were reviewed and found acceptable to the Bank. Operating cost will not include salaries of civil servants.

I. Procurement Plan

33. The Procurement Plan (PP) for the first 18 months of the Project was agreed between the Borrower and the Bank during negotiations. This PP is consistent with the implementation plan and provides information on procurement packages, methods and Bank review method. Since this covers the entire project completion period it is tentative. The PP will be available at the implementing agency's project database and on the Bank's external website after Board approval. The PP will be updated in agreement with the Bank project team annually or as required to reflect the actual project implementation needs and improvements in the implementing agency institutional capacity.

J. Frequency of Procurement Supervision

34. In addition to the prior review supervision to be carried out by the Bank team, the capacity assessment of the Implementing Agency recommends post reviews to be carried on at least 20 percent of the contracts subject to post review. It is expected that a supervision mission in the field will be conducted every six months during which post reviews will be conducted. As a minimum one post review report, which will include physical inspection of sample contracts including those subject to prior review will be prepared each year. Not less than 10 percent of the contracts will be physically inspected.

Procurement Plan - Dated July 14, 2014

a) Works and Goods

Table A. Procurement Arrangements and Schedule for Goods and Works

Packages	Project Title and Scope	Procurement Method	(Prior/Post)	Expected Bid Opening date
1	Rehabilitation of roads for three lots as below (Y1): LOT I - Bitola to Makazi LOT II - Resen to Bukovo LOT III - Boskov Bridge to Debar	ICB	Prior	05-Nov-14
2	Rehabilitation of roads for Y2-Y5 and Road Safety black spot improvement	ICB	Prior	05-May-15
3	Land Slopes improvement	ICB	Prior	12-Mar-15
4	Road Asset Management System Implementation	ICB	Prior	27-May-15

b) Consultants' Services

Table B. Procurement Arrangement and Schedule for Selection of Consultants

Package	Description	Selection method	Prior/ Post	Expected Proposal Opening Date
1	Independent technical audit of Y1, Y2, Y3, Y4 and Y5)	QCBS	Prior	31-Jan-15
2	Financial audit of project & entity (Y1-Y5)	LCS	Prior	13-Jan-15
3	Road Safety Design of Black Spot Improvement	QCBS	Prior	25-Aug-15
4	iRAP road network survey and identification of black spots	LCS	Prior	13-Jan-15
5	Road Safety Consultant (guidelines, manual, audits, on the job training)	MIC	Prior	25-Oct-14
6	Beneficiary Survey and impact evaluation	CQ	Prior	13-Jan-15
7	Review maintenance practices and standards	IC	Post	13-May-15
8	Identification of climate resilience remedies on road network and preparation of climate resilience guidelines	CQ	Post	13-Dec-14

Environmental and Social (including safeguards)

35. The potential environmental impacts have been analyzed by environmental studies carried out by the implementing agency (PESR) and mainly include:

- generation of solid and liquid construction and domestic wastes;
- dust, noise and vibration due to the use of construction machinery (construction phase), and due to increased traffic flow (operation phase). For the first year of the Project covering three roads, the anticipated locations of the implementation of those measures are villages of Izbishte and Kazhani, which are in the immediate vicinity of the project area. The exact location, type and design of noise mitigation measures will be defined by noise study to be performed as part of the detailed design;
- air pollution by exhaust gases and dust;
- soil damage due to excavation works and use of construction machinery;
- soil contamination due to accidental spills of fuel and lubricants;
- water pollution due to improper waste management and accidental fuel and lubricant spills. Out of the three roads proposed for the first year of the project, the risk of water pollution is anticipated only in the case of the road Boshkov Most - Debar, which passes over the Lake Debar and goes by the River Radica (no bridge rehabilitation is envisaged though);
- issues related to traffic safety and human health during the construction phase

36. In order to accommodate the programmatic nature of the Project, with the three roads identified only for the first year of the project implementation, and the other roads to be identified in the course of project implementation, the preferred environmental safeguard instruments prepared by the client include: (i) an Environmental and Social Assessment and Management Framework underlining the main environmental risks associated with the implementation of the road rehabilitation projects, and defining the procedures, institutional responsibilities and implementation arrangements for the preparation of road-specific Environmental and Social Assessment Reports (ESAR) and Environmental Management Plans (EMPs) for the roads to be identified later in the course of program preparation and implementation; and (ii) separate and specific Environmental and Social Assessment Reports (ESAR) and Environmental Management Plans (EMPs) for each of the road sections already identified for the first year of the Project, which determined site-specific impacts likely to occur due to the project implementation, proposed adequate mitigation measures, defined responsibilities and arrangements for the implementation of those measures, and outlined the monitoring mechanism. The ESAR and EMPs have also proposed specific studies, such as noise study, to be performed as part of the detailed design in order to identify specific noise mitigation measures.

37. The PESR will be responsible for the implementation of the Project ESAR and EMPs. The PESR (earlier ASR) has been involved in the implementation in similar projects for several years. Since 2010, the ASR employed a full time Environmental Specialist who has been responsible for the project environmental management and trained at the World Bank organized safeguard training. After the institutional restructuring and establishing the PESR, a specialized Environmental and Social Unit has been set up within PESR. The unit was reinforced by the second Environmental Specialist and a Social Specialist. The staff of the unit is knowledgeable in the environmental management practices and the requirements under the World Bank policies, and is able to carry out proper supervision of the implementation of environmental mitigation measures

38. Because the Project focuses on road rehabilitation and maintenance, the resulting physical works will be implemented within the existing right-of-way of the roads. There will most likely not be any need for land or asset acquisition. However, because of the programmatic nature of the Project, though types of the works are defined as rehabilitation, the implementing agency will adopt a Resettlement Policy Framework (RPF) for the potential land acquisition needs. Based on the first year program road-specific ESAR and EMPs there was no need for any land acquisition and thus site specific Land Acquisition Plans (LAPs) are not prepared. The RPF determines implementation arrangements and responsibilities for the land acquisition if needed and this satisfies the requirements of World Bank Operation Policies for Social Safeguards and Macedonian laws. During the implementation of the Project, potential subsequent needs for the Land Acquisition Plans will be determined on a case-by-case basis. Future LAPs will pay attention to the different needs of women and men, particularly in terms of loss of livelihood opportunities as well as patterns of land ownership where formal land titles tend to be registered to men to ensure women benefit equally from any compensation.

39. All the documents have been disclosed to public at the public consultation meetings held in the project area in Bitola, Resen and Debar on March 6-7, 2014. The documents were also duly posted through the Bank's InfoShop on March 18, 2014. The Minutes of the public consultations are enclosed to the respective ESAR report and/or EMPs.

Monitoring & Evaluation

40. Monitoring and evaluation of results will be the responsibility of PESR and will include: (i) monitoring of project physical progress (i.e. lengths of rehabilitated roads), (ii) evaluation of project socio-economic impacts (i.e., benefits to local population and communities), and (iii) evaluation of institutional capacity. In order to identify the channels through which the Project can accelerate real income growth of the poor and the bottom 40 percent, adequately measuring the relevant transport-induced effect on their livelihoods, baseline data collection will take place on selected roads, which are to be rehabilitated under the Project. Mid-term and end of project survey data would also be collected and compared against a proper comparison group in an effort to capture project-related impacts on selected welfare and accessibility indicators. The methodological framework of analysis, scope for the study, and data collection techniques will be further refined during project implementation through Bank-funded technical assistance and in close consultation with PESR. To allow for possible differences in demands and experiences from women and men, the surveys will consult with women and men separately, ask gender specific questions and will allow disaggregation of data by gender. Independent quantitative assessments will also be conducted to measure road improvement impacts on a number of transport-related and socio-economic variables through the use of household and community-level data to be collected at the beginning and end of the Project.

Annex 4: Operational Risk Assessment Framework (ORAF)

FYR MACEDONIA: National and Regional Roads Rehabilitation (P148023)

Project Stakeholder Risks						
Stakeholder Risk	Rating	Moderate				
<p>Risk Description:</p> <p>Borrower: the risk is that not enough attention is paid to road safety for non-motorized traffic.</p> <p>Beneficiaries: support at the community level may be eroded due to perceived lack of attention to non-motorized traffic around road sections passing urbanized areas.</p>	<p>Risk Management:</p> <p>Borrower: the Bank will facilitate dialogue between the Public Enterprise for State Roads (PESR) and related municipalities for proper cooperation and capacity building in this respect.</p> <p>Beneficiaries: regular implementation support missions with mandatory field visits to project sites and discussions with local communities will be conducted to ensure quality of works.</p> <p>The project team will work with the government to ensure full disclosure of proposed designs and implementation plans, and consultations, by PESR to local communities with strict adherence to Bank safeguards policies. Resettlement action plans will be disclosed separately following full-fledge consultations with stakeholders.</p>					
	Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
	Both	In Progress	Both	<input checked="" type="checkbox"/>		Yearly
Implementing Agency (IA) Risks (including Fiduciary Risks)						
Capacity	Rating	Moderate				
<p>Risk Description:</p> <p>The Public Enterprise for State Roads has previous and ongoing experiences with Bank financed projects. However, a capacity risk remains due to the parallel implementation of many other projects financed by IFIs in addition to the Project, because this may strain the technical and procurement capacity of the enterprise.</p> <p>Procurement processes could be slowed down due to limited procurement capacity of the PMT and/or public officials/technical staff, who will be involved in project</p>	<p>Risk Management:</p> <p>PESR will nominate the PESR staff to form the project PMT and ensure the appointees have sufficient experience and knowledge. In addition, before project effectiveness this team will receive targeted training on contract management under the ongoing RLRPSP project.</p> <p>PESR will hire a procurement consultant before project effectiveness as part of the PMT, with vast experience in World Bank financed projects/international procurement.</p> <p>Technical staff from relevant departments within PESR will be trained on their specific role and general principles of Bank procurement rules.</p> <p>Operations Manual will set out the service standards, responsibilities and accountability</p>					

<p>procurement through tender committees and insufficient knowledge of Bank's procurement and consultant guidelines.</p>	<p>of PMT staff, technical staff management for carrying out the activities. Furthermore, the Bank team will help the project coordinator identify suitable training courses for the PESR existing team.</p>					
	<p>Resp: Both</p>	<p>Status: In Progress</p>	<p>Stage: Both</p>	<p>Recurrent: <input checked="" type="checkbox"/></p>	<p>Due Date:</p>	<p>Frequency: CONTINUOUS</p>
<p>Governance</p>	<p>Rating</p>	<p>Moderate</p>				
<p>Risk Description: Potential leadership change in any of the institutions involved may halt project activities for an undetermined period of time. The governance of the proposed project may be subject to political interference in road sections selection and management.</p>	<p>Risk Management: Close monitoring of the project performance. Bringing issues to attention of the government's leadership. This has been proven an effective measure in the past. Selection criteria related to economic viability for roads to be rehabilitated in years 2, 3, 4 and 5 were agreed during negotiations.</p>					
	<p>Resp: Both</p>	<p>Status: Not Yet Due</p>	<p>Stage: Implementation</p>	<p>Recurrent: <input checked="" type="checkbox"/></p>	<p>Due Date:</p>	<p>Frequency: CONTINUOUS</p>
	<p>Risk Management: Vigilance in supervision, monitoring of procurement and timeliness and quality of the financial audits. There are no substantial or high risks in the latest archived PRAMS assessment.</p>					
	<p>Resp: Both</p>	<p>Status: Not Yet Due</p>	<p>Stage: Implementation</p>	<p>Recurrent: <input checked="" type="checkbox"/></p>	<p>Due Date:</p>	<p>Frequency: CONTINUOUS</p>
<p>Project Risks</p>						
<p>Design</p>	<p>Rating</p>	<p>High</p>				
<p>Risk Description: There is a risk that quality of construction may suffer from poor execution. Detailed technical designs may not be appropriate and over-dimensioned in addition to improper packaging of contracts. There is another risk that the project may only focus on</p>	<p>Risk Management: The Bank will provide significant technical assistance to ensure proper construction quality through technical audits. Proper packaging of contracts will ensure contract size is appropriate and promotes highest competition. Preparation of designs will be done following feasibility studies done based on ToRs approved by the Bank. Road safety measures will be integrated in the design of the project and will require</p>					

<p>civil works and not take into consideration risks related to increased vehicle traffic on the rehabilitated road sections, which may lead to increased number of accidents. Road safety on the rehabilitated road sections should be one of the priorities treated seriously by the MOTC.</p>	<p>consultations with communities located along the road side. Road safety audits will be done during the engineering designs and after construction.</p>					
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: CONTINUOUS
Social and Environmental	Rating Low					
<p>Risk Description: Although the project will mainly cover rehabilitation works of existing road and the social and environmental impacts will be predictable, localized and readily mitigated, there could be some very limited land acquisition and resettlement. This may raise issues associated with social and environmental impacts that need to be addressed. The limited monitoring, enforcement and reporting of implementation of Social and Environmental aspects of the project may affect project implementation.</p>	<p>Risk Management: Bank team will expedite due diligence to review the performance by the contractors and ensure adherence to the Bank safeguards policies and procedures. The grievance address mechanism will be used to make sure affected people can voice concerns.</p>					
	Resp: Both	Status: Not Yet Due	Stage: Implementation	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: CONTINUOUS
Program and Donor	Rating Low					
<p>Risk Description: There are no perceived risks associated with other Donors for the proposed project.</p>	<p>Risk Management:</p>					
	Resp:	Status:	Stage:	Recurrent: <input type="checkbox"/>	Due Date:	Frequency:
Delivery Monitoring and Sustainability	Rating Moderate					
<p>Risk Description: Given the project will have indicators designed to measure vehicle operating costs for road users, travel time for road users, road safety design audits, percentage of state roads in good or fair condition, the MOTC and PESR (the implementing agency) may not have capacity to monitor results and impacts of the project beyond supervision of the contracts. There may be a risk of poor sustainability of benefits of</p>	<p>Risk Management: The project will finance yearly road condition and traffic surveys on national and regional roads. In addition, the capacity of PESR to evaluate the network data will be enhanced with technical assistance. The project will develop a road database and design a Road Asset Management System, which will contain a set of evaluation tools to evaluate the network data at project or network level for monitoring, planning and programming purposes. The road asset management system will serve the needs of PESR and will be used for informed decision making on prioritizing maintenance works given limited capacity and resources</p>					

the project intervention due to inadequate capacity and budget allocated to MOTC and PESR for maintenance works.	of MOTC and PESR.					
Other (Optional)	Resp: Both	Status: Not Yet Due	Stage: Implementation	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: CONTINUOUS
Risk Description: The planned investment program in the road sector could potentially stretch PESR's financial capacity to repay loans.	Risk Management: Close monitoring of financial performance of PESR in cooperation with MOF. Continued work with PESR on financial management.					
Other (Optional)	Resp: Both	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Yearly
Risk Description:	Risk Management:					
Overall Risk	Resp:	Status:	Stage:	Recurrent: <input type="checkbox"/>	Due Date:	Frequency:
Overall Implementation Risk:	Rating Moderate					
Risk Description: The overall implementation risk is rated as moderate given the direct implementation agency - PESR has worked with the Bank for several roads projects recently.						

Annex 5: Implementation Support Plan

FYR MACEDONIA: National and Regional Roads Rehabilitation Project (P148023)

Strategy and Approach for Implementation Support

1. The implementation support will focus on implementation of risk mitigation measures defined in the Operational Risk Assessment Framework (ORAF), namely the design and delivery quality, which are rated as high and moderate respectively, as well as the traditional supervision focus areas including safeguards and fiduciary aspects. Implementation support missions, including field visits will be carried out semi-annually, and will focus on: (a) technical aspects of works, (b) institutional strengthening; and (c) financial management in PESR.

- (a) **Technical aspects of works.** Close cooperation and review of planned rehabilitation works will be carried out from the design phase until completion of works. Engineering inputs will be provided to all designs to ensure proper technical specifications, and appropriate consideration of road safety and drainage. During bid evaluation, the review will ensure fair assessment of the technical aspects of bids. During rehabilitation and commissioning, technical supervision will be provided to ensure technical, environmental and social contractual obligations are met. The team's engineer will conduct site visits on a semi-annual basis throughout project implementation.
- (b) **Institutional strengthening.** As a part of the PDO, institutional strengthening will receive substantial focus during implementation and related supervision. This will include a regular dialogue on the progress related to widening of the road asset management system, integration of road safety in PESR design practices and also consideration of climate resilience in designs.
- (c) **Financial management in PESR.** Supervision of financial management arrangements will be carried out on a risk-basis, at appropriate intervals, as part of the Project supervision plan and support will be provided on a timely basis to respond to client needs. During project implementation, the World Bank will supervise the project's financial management arrangements in the following ways: (i) review the project's quarterly IFRs as well as the project's and entity's annual audited financial statements and the auditor's management letters and remedial actions recommended in the auditor's management letters, if any; and (ii) during the World Bank's on-site missions, review the following key areas: (a) project accounting and internal control systems; (b) budgeting and financial planning arrangements; (c) disbursement arrangements and financial flows, including counterpart funds, as applicable; and (d) any incidences of corrupt practices involving project resources. A sample of transactions review will be also conducted. A World Bank Financial Management Specialist will participate in the implementation support and supervision process.

Implementation Support Plan

2. The Project supervision missions will coincide with the missions on the ongoing RLRPSP project. The supervision missions will involve engineering, procurement and safeguards specialists and at least once annually also financial management specialist. Particular focus will be put on supervising the implementation of the road safety measures.

3. Bank guidance will be particularly focused on the activities related to the operationalization of road asset management. As to the financial management, it is expected that the Bank will also provide guidance as appropriate in relation with the operationalization of the enterprise resource planning system.

4. Capacity regarding environmental and social safeguards will be continuously monitored by the World Bank environmental and social specialists, who will participate regularly in implementation support missions and provide input directly to the client in the course of EMP preparation and works supervision.

5. The Mid-term review of the Project, expected to take place in the first quarter of 2016, will include technical workshops to discuss road safety, RAMS and design challenges.

Table 7: What would be the main focus in terms of support to implementation during the Project

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First twelve months	Completion of works procurement for first year roads. Putting Road Asset Management System in operation and establishing regularity of road condition measurements.	Procurement Safeguards Project Management skills Road Asset Management		
12-48 months	Implementation of works contracts. Timely procurement of works for consecutive years. Start implementation of road safety activities.	Road Engineering Procurement Safeguards Project Management skills Road Asset Management Road safety		

Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
TTL	8 /year	2 /year	
Transport Economist/Specialist	6 /year	2/year	
Road Engineer	4/year	2 / year	
Procurement Specialist	8/year	2 / year	
Financial management specialist	4/year	2 / year	
Environmental specialist	2.5/year	2/year	
Social development specialist	1.5/year	1 / year	
Road Asset Management Specialist	3/year	1 / year	

Annex 6: Economic Analysis

FYR MACEDONIA: National and Regional Roads Rehabilitation (P148023)

1. The economic analysis was conducted using the Highway Development and Management Tool (HDM-4), which simulates life-cycle predictions of road deterioration, road works effects and their costs and road user costs, and provides economic decision criteria for road construction and maintenance works. The HDM-4 analyses projects by computing costs and benefits of different investment options in terms of savings in road maintenance costs, vehicle operating costs and travel time costs. The comparison is done between the “do something” scenario (project case) and the “do minimum” scenario (without project case) over the analysis period. The “do minimum” scenario incorporates an assessment of what would happen if the Project was not undertaken; therefore consists of the recurrent maintenance practice and reconstruction when the road reaches very poor condition. The project scenario consists of the rehabilitation followed by proper recurrent maintenance and periodic maintenance works over the analysis period consisting of 6 cm overlays triggered at 4.5 IRI, m/km.

2. The economic analysis was conducted for the three roads comprising the first year program of the Project. The roads are in poor condition with an estimated average roughness of 6 IRI, m/km. The pavement of the roads will be rehabilitated without changing the alignment. The table below presents the roads basic characteristics.

Table 8: Roads Characteristics

Section Code	Start Location	End Location	Terrain	Length (km)	Width (m)	Number Lanes	Potholes per km	Cracks Area (%)
RD1	Bitola	Makazi	Hilly	18.1	10.5	3	7	40
RD2	Resen	Bukovo	Hilly	11.1	6.5-11.0	3	12	45
RD3	Boskov Bridge	Debar	Mountainous	7.5	6.5-7.0	2	8	45
Total				36.7				

3. The table below presents the estimated financial investment costs, without VAT, and current traffic. The average traffic of the project roads is 2,898 vehicles per day. The average rehabilitation cost is Euro 276,000 per km.

Table 9: Rehabilitation Costs and Current Traffic

Section Code	Financial Cost (M Euro)	Financial Cost (M Euro/km)	2013 Traffic (vpd)	Percent Trucks (%)
RD1	4.70	0.260	3,431	6%
RD2	3.03	0.273	2,733	3%
RD3	2.39	0.319	2,003	29%
Total	10.12	0.276	2,898	10%

4. Growth is driven by economic development best represented by growth in real Gross Domestic Product (GDP). The IMF’s GDP growth forecast for the country from 2014 to 2017 (on average 3.8 percent per year) has been used as a starting point for the development of the best estimate growth forecasts. The strong relationship between economic growth and traffic growth is widely recognized and cars and other light passenger vehicle traffic are generally considered to grow slightly faster than GDP, while the growth of goods vehicle traffic, being

driven directly by the economy, is commonly in line with GDP growth. Accordingly, an elasticity of 1.05 for cars and buses has been adopted together with a conventional value of 1.0 for trucks.

5. Table 10 presents the vehicle fleet characteristics and economic unit costs adopted on the analysis, in 2013 Euro prices, for six vehicle types. Unit costs were calculated net of taxes and transfer payments to arrive at economic values.

Table 10: Vehicle Fleet Economic Unit Costs and Basic Characteristics

	Car	Bus	Small Truck	Medium Truck	Heavy Truck	Artic. Truck
Economic Unit Costs	16,65					
New Vehicle Cost (Euro/vehicle)	0	97,942	13,712	22,527	68,559	78,354
New Tire Cost (Euro/tire)	50.93	215.47	44.07	97.94	254.65	254.65
Fuel Cost (Euro/liter)	1.16	1.13	1.13	1.13	1.13	1.13
Lubricant Cost (Euro/liter)	6.37	4.90	3.43	3.72	2.45	2.45
Maintenance Cost (Euro/hour)	7.64	11.75	7.64	10.77	13.71	15.67
Crew Cost (Euro/hour)	1.96	3.92	1.96	3.43	5.88	6.86
Overhead (Euro/year)	22	196	49	98	147	196
Interest Rate (%)	10	10	10	10	10	10
Working Passenger Time (Euro/hour)	1.96	0.39	0	0	0	0
Non-working Passenger Time (Euro/hour)	0.49	0.10	0	0	0	0
Cargo Delay (Euro/hour)	0.0	0.0	0.0	0.0	0.0	0.0
Basic Characteristics	20,00					
Kilometers Driven per Year (km)	0	71,000	34,000	71,000	94,000	100,000
Hours Driven per Year (hr)	350	1,300	860	1,300	1,890	2,000
Service Life (years)	10	8	8	8	8	8
Percent Private Use (%)	100	0	0	0	0	0
Number of Passengers (#)	1	40	0	0	0	0
Work Related Passenger-Trips (%)	75	75	0	0	0	0
Gross Vehicle Weight (tons)	1.5	15	1.8	5	13	25
Equivalent Standard Axels (ESA)	0	1.5	0	1.85	4.55	4.63
Typical Traffic Composition (%)	70%	2%	1%	4%	2%	3%

6. Table 11 presents the estimated unit road user costs (vehicle operating costs plus travel time costs), in Euro per vehicle-km, for different roughness levels. A road with roughness equal to 2 IRI, m/km, is in good condition, from 4 to 6 IRI, m/km, is in fair condition and from 6 to 12 IRI, m/km, is in poor condition. On average, unit road user costs decrease by 11 percent if the roughness decreases from 6 to 2 IRI, m/km, after the rehabilitation works.

Table 11: Unit Road User Costs (Euro per vehicle-km)

Roughness (IRI, m/km)			Small Truck	Medium Truck	Heavy Truck	Artic. Truck
	Car	Bus				
2	0.21	0.71	0.21	0.32	0.69	0.89
4	0.21	0.73	0.22	0.33	0.72	0.93
6	0.22	0.80	0.23	0.36	0.79	1.01
8	0.23	0.85	0.24	0.37	0.83	1.06
10	0.24	0.93	0.26	0.39	0.89	1.14

7. The proposed investments were evaluated over the period from 2015 to 2034, accounting for 20 years of project benefits, and adopting a 10 percent discount rate⁵. No generated traffic or road safety benefits were considered in the analysis. The return on the investments of the overall program is satisfactory with an overall Economic Internal Rate of Return (EIRR) of 30.9 percent, Net Present Value (NPV) of Euro 9.7 million at a discount rate of 10 percent, and Benefit Cost Ratio (B/C) of 2.2. The EIRR of individual road sections varies from 23.7 to 35.2 percent. The table below presents the results of the economic analysis.

Table 12: Economic Analysis Results

Section Code	EIRR (%)	NPV (M Euro)	PV Cost (M Euro)	PV Benefits (M Euro)	B/C Ratio
RD1	35.2%	5.3	3.8	9.1	2.4
RD2	30.3%	2.8	2.4	5.2	2.1
RD3	23.7%	1.6	1.9	3.5	1.8
Total	30.9%	9.7	8.1	17.8	2.2

8. A sensitivity analysis was carried out to assess the robustness of the results to possible variations in key project parameters, which in this case were identified as construction costs and road user costs benefits. A severe worst case scenario with construction costs increased by 15 percent and benefits decreased by 15 percent still shows a reasonable return for the program with an EIRR of 21.3 percent. Switching values analysis shows that construction costs would have to increase by 120 percent for the overall EIRR to be reduced to 10 percent. Table 13 presents the results of the sensitivity analysis.

Table 13: Sensitivity Analysis Results

Section Code	Base ERR (%)	A: Cost + 15% (%)	B: Benefits -15% (%)	C: A & B (%)
RD1	35.2%	29.4%	29.4%	24.4%
RD2	30.3%	25.2%	25.2%	20.8%
RD3	23.7%	19.7%	19.7%	16.3%
Total	30.9%	25.7%	25.7%	21.3%

⁵ A discount rate of 12 percent is considered high for FYR Macedonia and most other European countries. The European Union recommends a discount rate of 5.5 percent for Cohesion and IPA countries. A discount rate of 10 percent was adopted as a conservative reduction on the discount rate for FYR Macedonia from the traditional 12 percent used on less developed countries.

Annex 7: Potential Distributive Impact on Low-Income and Vulnerable Groups

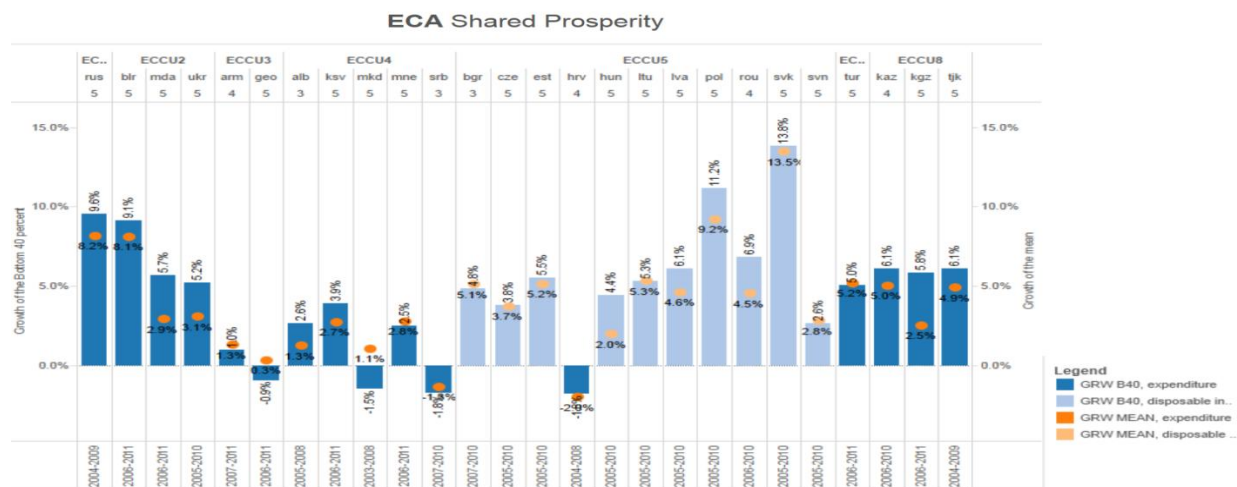
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1. This section summarizes key demographic and socio-economic trends in the country focusing on the country’s record in reducing poverty and promoting shared prosperity. The section further discusses how inhabitants in the direct area of influence are likely to benefit from road rehabilitation works. While intended to have a positive impact on jobs, markets, and public services in the areas of influence, this section acknowledges that the rehabilitation of the project roads alone will play a complementary and indirect role in poverty reduction and shared prosperity as much as the Project will improve accessibility to markets, jobs, and other basic services such as health care and education. The section further assesses relevant transport investments, policies and their likely distributive impacts on the poor and the bottom 40 percent of the income distribution. This section ends by presenting the methodological framework that will guide the future analysis on the project’s distributive impact.

Poverty and Shared Prosperity

2. Despite experiencing moderate economic and employment expansion over the past decade, growth in FYR Macedonia has not been particularly inclusive. Evidence shows that consumption-based absolute poverty between 2003 and 2008⁶ increased from 8 to 9 percent using a regional poverty line of US\$2.5 a day, and from 33 percent to 37 percent, using a regional poverty line of US\$5 a day (World Bank, 2013). Similarly, as shown in Figure 3, the country has consistently lagged behind its ECA counterparts in boosting shared prosperity. While average income grew slightly between 2003 and 2008, the income of the bottom 40 percent contracted by 1.5 percent in the same period. Finally, in contrast to most countries in South East Europe, inequality, as measured by the Gini coefficient, increased between 2003 and 2008 in FYR Macedonia from 37 to 40, placing FYR Macedonia as the most unequal country by this measure in the sub-region (Figure 4). The country’s somewhat regressive economic outcomes put in evidence the lower ability of the poor and the less well-off to benefit from emerging opportunities.

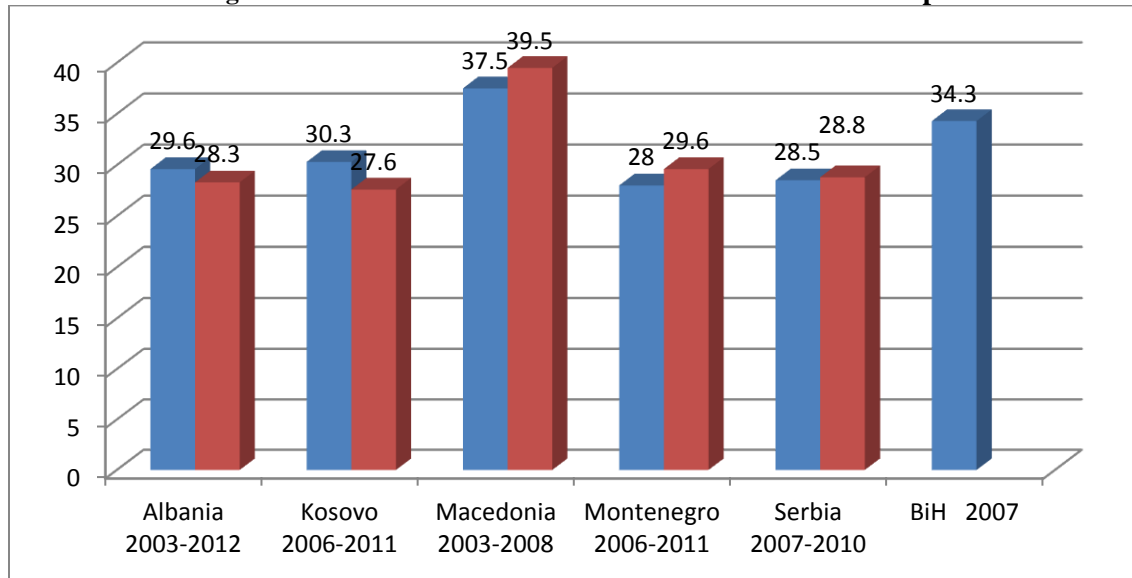
Figure 3: Growth of Income of the Bottom 40 percent against Mean Income in Selected Countries in ECA



⁶ Household Budget Survey (HBS), the State Statistical Office.

Source: ECAPOV, World Bank

Figure 4: Evolution of Gini Coefficient in South East Europe



Source: World Bank ECAPOV

3. Inequalities in terms of accessibility and affordability of transport services are also presented in FYR Macedonia. While data on access to transport infrastructure are relatively scarce, data from the HBS suggest that the financial burden of transport expenditures has somewhat increased in recent years. In terms of other services such as education, health services, sanitation, the data shows that, in general, the bottom 40 percent has limited access compared with the top 60 percent of the income distribution. For instance, as much as 22.4 percent of the bottom 40 percent has trouble meeting their medical needs compared to 15.7 of those at the top. In addition, while 93 percent of households in the top 60 percent have a flushing toilet, only 75.4 percent of those in the bottom 40 percent do⁷. While this converging outcomes cannot be attributed solely to inadequate transportation, the fact that a higher concentration of less well-off households are located in rural areas, where accessibility constraints tend to be more pronounced and where almost a half of the population in rural areas live on less than US\$5 a day, does give an indication that relative isolation from economic activity and basic service could be a factor explaining the relative impoverishment.

4. From a regional perspective, poverty in FYR Macedonia tends to be concentrated outside of Skopje and the South-Western region, where most of the project road rehabilitation works will take place. For example, findings from the 2008 HBS show how the poverty headcount in parts of Tetovo Region doubles the national poverty rate and almost triples the rate in Skopje. A comparable pattern is observed in Kumanovo Region where the absolute poverty headcount doubles the national rate. While the causes of these regional economic disparities are multiple, proximity to markets and micro-accessibility partially underpin the observed socio-spatial divide in FYR Macedonia. By reducing the time and costs associated with transportation and shortening the distance to markets, jobs, schools, and hospitals in the underserved peripheries, the road

⁷ Shared Prosperity Report on South East Europe, 2014 (Forthcoming).

quality improvements envisaged under the project could have a significant effect in regional economic development and the welfare outcomes of the poor and the bottom 40 percent.

Expected transport-related impacts on low-income groups

5. Adequate connectivity and accessibility are both a critical requirements for poverty reduction and shared prosperity. While transport alone cannot reduce poverty, the construction of roads, railways, and inland waterways or the improvement of existing infrastructure, serve a pervasive role in boosting household incomes and reducing income inequality (Booth et. al, 2001). From a distributional perspective, the economic and transportation literature in general supports the hypothesis that investment in road infrastructure may have a significant impact on the poorest sectors of society, by enhancing their chances to access employment and investment opportunities, markets, and basic services in education and health, and other livelihood outcomes.

6. Road investments in particular, can unambiguously boost economic activity within a specific locality, potentially closing the income divide that is often observed in lagged regions. Improving the quality of a road has both direct and indirect effects on the livelihoods of the poor. At the most direct (and measurable) level, road rehabilitation projects reduce the time and costs associated with transportation. The increased demand for transportation may ensure that more trips are made along the improved road, that transport fares fall and commodities are transported cheaply and more conveniently. Indirect impacts would then be observed at the household level, as real consumption increases by virtue of both lower prices for consumer goods as well as increased earnings from employment and business opportunities created during project execution (e.g. short-term labor intensive works and associated forward linkages) and after the Project is completed (e.g. added investment and jobs throughout the catchment area). Finally, another indirect effect would stem from enhanced access to health, education and other services, thereby strengthening capabilities and enabling the poor to accumulate human capital. In sum, road investments are relevant in reducing poverty because of their effect in the general conditions that enable pro-poor economic growth to occur.

Framework of analysis, data collection, and methodology

7. An underlying priority under the Project will be to identify design parameters and implementation arrangements, which could potentially yield the biggest pro-poor impacts outlined above and optimize the Project's distributional implications. Hence, there will be a critical need to conduct rigorous analysis of how vulnerable individuals and groups would be positively or negatively affected. As part of Sub-component 2.4, the Project will finance innovative assessments and evaluations to better articulate the benefits of the planned road rehabilitation works at the community and household levels. The analysis should also provide some guidance on how the proposed interventions can interact with investments in other sectors to optimize the impact on the bottom 40 percent, social equity and inclusion; particularly in the most socio-economically depressed areas in FYR Macedonia.

8. The impact analysis will be geared towards examining project outcomes in the following three dimensions:

- (a) **Transport related outcomes, namely connectivity, mobility and accessibility.** These include traffic counts, vehicle speeds, travel time, travel costs, availability

and fare of public transport, and distance to specific localities (schools, hospitals, district capitals, etc.);

- (b) **Local market development, investment, and employment** including commodity prices, agricultural productivity, frequency of local market opening, small business development, and land use patterns in areas of influence;
- (c) **Household welfare** including income, consumption, asset ownership, and access to education, healthcare and community life.

9. The study will emphasize project outcomes on the poor, the bottom 40 percent and other vulnerable groups (single headed households, elder, disabled). Contingent on resource availability and timing of data collection, the impact assessment would generate quantitative and qualitative analysis with the use of traffic surveys as well as household and community level surveys emphasizing the following:

- (a) Major mobility/transport constraints faced by households in the immediate catchment area of the selected road segments for their inter-regional transport needs and their livelihood strategies.
- (b) Perceptions of poor and vulnerable households, small-scale farmers, and other groups on the affordability, adequacy, and reliability of existing inter-regional transport choices.
- (c) Theoretical and empirical channels, through which these road links taken together with other investments could directly influence local economic development, improve the functioning of product and labor markets, and enhance opportunities and welfare of the poor and the bottom 40 percent.
- (d) Provide ideas where associated investment or infrastructure could be designed to leverage the development impact in the area of influence.

10. While the specific methodologies, survey instruments, measurements, and scope will be further defined and developed during project implementation, at the most basic level, main activities of the impact analysis will include collection and analysis of relevant qualitative and quantitative data, conducting an assessment of potential poverty and social impacts through the rehabilitation roads with recommendations for enhancement, and examining induced effects on local and regional economies including changes in agricultural and off farm employment, investment and business development, and market access.

Annex 8: Map

FYR MACEDONIA: National and Regional Roads Rehabilitation Project

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