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Report No: PAD5557

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT PAPER

ON A PROPOSED RESTRUCTURING

AND

ADDITIONAL LOAN

IN THE AMOUNT OF EUR 31 MILLION
(US$33.8 MILLION EQUIVALENT)

TO THE

PUBLIC ENTERPRISE FOR STATE ROADS

AND
A PROPOSED GUARANTEE FROM THE GOVERNMENT OF REPUBLIC OF NORTH MACEDONIA

IN THE AMOUNT OF EUR 31 MILLION

TO THE

PUBLIC ENTERPRISE FOR STATE ROADS

FOR THE

ROAD UPGRADING AND DEVELOPMENT PROJECT

December 19, 2023

Transport Global Practice
Western Balkans Country Unit
Europe And Central Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective November 30, 2023)

Currency Unit =	EUR
EUR 0.92 =	US$1
US$1.09 =	EUR 1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Antonella Bassani
Country Director:	Xiaoqing Yu
Regional Director:	Charles Joseph Cormier
Practice Manager:	Shomik Raj Mehndiratta
Task Team Leader(s):	Nadia Badea

ABBREVIATIONS AND ACRONYMS

AIS	Activity Initiation Summary
AF	Additional Financing
AM	Accountability Mechanism
BMS	Bridge Management System
CERC	Contingency Emergency Response Component
CPF	Country Partnership Framework
DO	Development Objectives
EIRR	Economic Internal Rate of Return
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GRS	Grievance Redress Service
HDM	Highway Development and Management
IBRD	International Bank for Reconstruction and Development
IDA	International Development Agency
IFI	International Financial Institutions
IP	Implementation Progress
ISM	Implementation Support Mission
MS	Moderately Satisfactory
NPV	Net Present Value
PDO	Project Development Objective
PESR	Public Enterprise for State Roads
PMT	Project Management Team
RAMS	Road Asset Management System
RAP	Resettlement Action Plan
RUDP	Road Upgrade Development Project
SCD	Systematic Country Diagnostic
STEP	Systematic Tracking of Exchanges in Procurement
WBIF	Western Balkans Investment Facility

North Macedonia

Road Upgrading and Development Project

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BASIC INFORMATION – PARENT (Road Upgrading and Development Project - P149955)

Country	Product Line	Team Leader(s)		
North Macedonia	IBRD/IDA	Nadia Badea		
Project ID	Financing Instrument	Resp CC	Req CC	Practice Area (Lead)
P149955	Investment Project Financing	IECT1 (9382)	ECCWB (7001)	Transport

Implementing Agency: Public Enterprise for State Roads

Is this a regionally tagged project?
No

Bank/IFC Collaboration
No

Approval Date	Closing Date	Expected Guarantee Expiration Date	Original Environmental Assessment Category	Current EA Category
30-Sep-2015	30-Sep-2025		Full Assessment (A)	Full Assessment (A)

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach [MPA]	[ ] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a Non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made disaster
[ ] Alternate Procurement Arrangements (APA)	[ ] Hands-on Expanded Implementation Support (HEIS)

Development Objective(s)

The Project Development Objectives are to improve transport connectivity for road users along Corridor VIII between Skopje and DeveBair, and to improve the asset management and planning functions of Public Enterprise for State Roads.

Ratings (from Parent ISR)

	Implementation					Latest ISR
	22-Jun-2021	12-Aug-2021	01-Mar-2022	21-Sep-2022	28-Mar-2023	27-Jul-2023
Progress towards achievement of PDO	MU	MS	MU	MU	MU	MS
Overall Implementation Progress (IP)	MU	MS	MU	MU	MU	MS
Overall Safeguards Rating	MS	MS	MS	MS	MS	MS
Overall Risk	M	M	S	S	S	M
Financial Management	S	S	S	S	S	S
Project Management	MU	MU	MU	MU	MS	S
Procurement	MU	MU	MU	MU	MS	MS
Monitoring and Evaluation	S	S	S	S	S	S

BASIC INFORMATION – ADDITIONAL FINANCING (Road Upgrading and Development Project - P181422)

Project ID	Project Name	Additional Financing Type	Urgent Need or Capacity Constraints
P181422	Road Upgrading and	Cost Overrun/Financing Gap	No

	Development Project		
Financing instrument Investment Project Financing	Product line IBRD/IDA	Approval Date 18-Jan-2024	
Projected Date of Full Disbursement 30-Jan-2026	Bank/IFC Collaboration No		Expected Guarantee Expiration Date 30-Sep-2025
Is this a regionally tagged project? No			

Financing & Implementation Modalities

[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a Non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made disaster
[ ] Alternate Procurement Arrangements (APA)	[ ] Hands-on Expanded Implementation Support (HEIS)
[ ] Contingent Emergency Response Component (CERC)	

Disbursement Summary (from Parent ISR)

Source of Funds	Net Commitments	Total Disbursed	Remaining Balance	Disbursed
IBRD	79.99	63.19	18.07	78 %
IDA				%
Grants				%

PROJECT FINANCING DATA – ADDITIONAL FINANCING (Road Upgrading and Development Project - P181422)

FINANCING DATA (US$, Millions)

SUMMARY (Total Financing)

	Current Financing	Proposed Additional Financing	Total Proposed Financing
Total Project Cost	90.95	48.80	139.75
Total Financing	90.95	48.80	139.75
of which IBRD/IDA	90.95	33.80	124.75
Financing Gap	0.00	0.00	0.00

DETAILS - Additional Financing

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	33.80

Non-World Bank Group Financing

Trust Funds	15.00
Trust Funds	15.00

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any other Policy waiver(s)?

[ ] Yes [✓] No

INSTITUTIONAL DATA

Practice Area (Lead)

Transport

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

PROJECT TEAM

Bank Staff

Name	Role	Specialization	Unit
Nadia Badea	Team Leader (ADM Responsible)		IECT1
Antonia G. Viyachka	Procurement Specialist (ADM Responsible)	Procurement	EECRU
Carlos Lago Bouza	Procurement Specialist		EECRU
Tural Jamalov	Financial Management Specialist (ADM Responsible)	Financial Management	EECG1
Bekim Imeri	Social Specialist (ADM Responsible)		SCASO
Gulana Enar Hajiyeva	Environmental Specialist (ADM Responsible)		SCAEN
Jyldyz Beknazarova	Team Member	Paris Alignment Advisor	ECADE
Luan Aliu	Team Member	Team Assistant	ECCMK
Marinos Skempas	Team Member		IECT1
Miriam Privarova	Team Member	Alternate Paris Alignment Advisor	SCAEN
Mohammad Ilyas Butt	Procurement Team		EAERU
Rahmoune Essalhi	Procurement Team		EECRU
Ruxandra Costache	Counsel		LEGLE
Sudeshna Mitra	Team Member		IECT1
Tamara Mihaljcic	Team Member		IECT1

Extended Team

Name	Title	Organization	Location

I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

1. **This project paper seeks the approval of the Executive Directors to provide an additional financing (AF) in the amount of EUR 31 million (US$33.8 million equivalent) to the North Macedonia Road Upgrading and Development Project (P149955) (RUDP).** The proposed AF would address the finance gap that materialized from the redesign of the civil works needed to address geological and technical issues in road construction with appropriate consideration for climate resilience measures, as well as the increased cost of construction materials and works. The project development objectives (PDO) which are to improve: (a) transport connectivity for road users along Corridor VIII between Skopje and Deve Bair, and (b) the Borrower's asset management and planning function remain relevant and achievable, the overall scope has not changed, and despite the increased costs, the project continues to be economically justifiable. The closing date remains the same and the project complies with all relevant fiduciary, safeguards, and key legal covenants. Nevertheless, the AF introduces a change in the Results Framework and Monitoring to ensure climate considerations are fully incorporated into the project.

A. Country and Sector Context

2. **Since independence, the Republic of North Macedonia has made tangible progress in terms of social, economic, and institutional development.** Income per capita doubled, and the economy moved from lower middle-income to upper middle-income status. Due to its strategic location at the heart of the Western Balkans, a relatively cheap labor force, and generous tax credits, the Republic of North Macedonia has attracted considerable foreign direct investments, as evidenced by the more than doubling of the trade openness indicator in the past two decades (from 70 percent in 2003 to 170 percent in 2022),[1] currently the highest in the region. On the social side, living standards have improved, and extreme poverty and inequality have decreased, as a result of the implementation of important social protection reforms, which have endowed the country with functioning systems to protect the most vulnerable, especially during recent crises.

3. **Recent geopolitical fragmentation could potentially reverse the gains in per-capita income and poverty reduction that have been precipitated by trade deepening in recent years**. Integration of trade, finance, and technological know-how have fostered an unprecedented income convergence in North Macedonia and narrowed the gap in living standards with the countries of the EU. However, the ongoing geopolitical fragmentation, exacerbated by Russia's invasion of Ukraine may trigger cross-border capital outflows, technological decoupling, sustained rise in prices, and erode overall allocative efficiency gains that can disproportionately affect the growth of economies that rely on trade and external financing, such as that of North Macedonia. At the same time, the reconfiguration of supply chains in the form of nearshoring given the geographical and cultural proximity of North Macedonia to EU countries provides an alternative path and can strengthen the resilience of growth going forward.

4. **Anti-crisis measures have stretched public finances**. General government deficit (with the Public Enterprise for State Roads finances included) increased to 8.6 percent of GDP and public debt[2] increased to 59.7 percent of GDP in 2020. Strong revenue performance helped to reduce the deficit in 2021 and 2022, which however will remain at around 5 percent of GDP on average in 2021-23, as a result of spending pressures to mitigate the costs of the energy crisis and advanced payments for the Corridors VIII and X highway construction

[1] https://www.theglobaleconomy.com/rankings/trade_openness/
[2] Includes guaranteed and non-guaranteed debt.

project. By mid-2023, public debt decreased significantly to 55.3 percent of GDP, while government arrears reached 3.2 percent of GDP. The country has been accessing the external capital market regularly but the five-fold increase in the cost of financing (with interest rates well above 6 percent) has shifted the focus to international finance institutions.

5. **North Macedonia is highly vulnerable to climate change.** The country is exposed to increasing intensity and frequency to both onset hazards (such as increases in temperature and changes in rainfall) and sudden hazards (such as more extreme weather events), placing the country at high risk of urban and river flooding, landslides, and wildfires, in a context of water scarcity and overall geological vulnerability.[3] Disaster events recorded over the past two decades led to more than US$409 million in direct damage, excluding the loss of human lives. The Systematic Country Diagnostic (SCD) notes that average annual damage to critical infrastructure from climate-related hazards could quintuple by 2080, with a major flood or other natural disaster potentially derailing economic growth, damaging agricultural incomes, and destroying critical infrastructure. The implementation of climate-change adaptation measures needs to be accelerated, including the implementation of a more robust national adaptation planning framework and the modernization of the existing infrastructure to make it more climate-resilient. Inadequate and poorly maintained road and rail networks continue to hinder economic development and slow regional economic integration.

6. **Inadequate modernization and poor maintenance of the road, rail, energy, and digital networks, as well as increased vulnerability to natural disasters and extreme weather hinder economic development and slow regional economic integration.** At least one-fifth of firms regard the quality of transportation and digital infrastructure as subpar, with logistics and connectivity problems contributing to high trade costs. The implementation of climate adaptation and decarbonization measures, as well as mitigation efforts made in the EU will be crucial to enhance North Macedonia's trade and competitiveness levels, as well as the influx of foreign direct investment (FDI).

7. **North Macedonia is crisscrossed by two main international corridors critically important for its connectivity and trade.** Corridor X, over 1,500 km long (of which 176 km are in the country), runs north-south and connects the country to the Port of Thessaloniki in Greece in the south and to Austria and Hungary in the north, and Corridor VIII which is 660 km long (304 km in the country), runs east-west and connects the country to the seaports in Albania and Bulgaria. The 2013 European Union (EU) guidelines for the development of the trans-European transport network (TEN-T) confirmed that Corridors VIII and X would continue to be an extension of the comprehensive network providing linkages to the neighboring countries and better integration with the EU. As a result, these corridors have received a significant share of the country's effort and financing in the past.

8. **The development of the two main international corridors is however unbalanced.** On Corridor X, the completion of the construction works in 2019 on the Demir Kapija-Smokvica section (started in 2013 with EBRD, EIB and EU grant assistance) has resulted in a full Corridor X motorway. Corridor VIII is only 46 percent upgraded and needs further upgrading. This big imbalance in the development of these two main corridors in the country and the current reliance on Corridor X are of great economic and strategic concern. The western section of Corridor VIII (to Albania) is currently being expanded to a motorway standard with financial assistance from the Chinese Exim Bank and EBRD and with funds from the state budget. The EU is supporting the rehabilitation of the

[3] Global Facility for Disaster Reduction and Recovery Think Hazard platform: *https://thinkhazard.org/en/report/241-fyr-of-macedonia*

eastern Corridor VIII sections from the capital Skopje to Rankovce and EBRD is providing financial assistance for the section from Kriva Palanka to Deve Bair (border with Bulgaria), leaving the section from Rankovce to Kriva Palanka as the only single carriageway with a lane for each direction that has not been upgraded. This project is part of the government's phased approach to upgrade the entire corridor by 2028. All these investments in upgrading the infrastructure will need to be underpinned by comprehensive road asset management system and climate resilience considerations embedded in engineering practices.

9. **Upgraded road Corridor VIII will contribute to alleviating poverty and boosting shared prosperity for the local citizens**, particularly through enhanced access to employment opportunities and social services. By removing transport bottlenecks in the eastern Corridor VIII to the Bulgarian border, it is expected that poor and disadvantaged communities will enjoy higher connectivity, allowing them to engage in national and regional value chains, thus creating possibilities for income generation. This is of significant relevance considering that the north-east planning region where the project is located is the poorest region in the country.

B. Project Status

10. **The RUDP was approved on September 30, 2015, for EUR 83 million (US$90.9 million equivalent) with an original closing date of December 31, 2020.** The PDOs are to improve transport connectivity for road users along Corridor VIII between Skopje and Deve Bair, and to improve the asset management and planning functions of Public Enterprise for State Roads (PESR). The project consists of two components:

- **Component I**: **Construction of Corridor VIII**: Construction of the express road along the eastern section of the Corridor VIII between Rankovce and Kriva Palanka (originally EUR 78 million). The component finances the upgrade of the strategic eastern section of Corridor VIII, connecting North Macedonia to Bulgaria (and therefore to the Black Sea Ports). The works include the construction of 22.8 km of express road and bridges across two lots.
- **Component II: Establishment of Bridge Management System and Institutional Support** (originally EUR 5 million). The component finances (i) the strengthening of the Borrower's institutional capacity to manage and maintain the Guarantor's bridge assets through, inter alia, the creation of a BMS, including the development of a bridge maintenance and investment plan; and (ii) support to the Borrower's capacity development and Project implementations.

11. **Significant delays have hampered the implementation of Component 1, mainly due to technical, procurement, contract management, and project management challenges.** Consequently, the project has been restructured three times. The first was in December 2020 to (i) extend the loan closing date by 24 months to December 31, 2022, and to (ii) cancel EUR 10 million from Component 1, which at the time was seen as project savings. The restructuring was accompanied by an action plan with procurement, contractual, and technical measures, all of which were carried out and helped to address the initial implementation readiness challenges.

12. **Complex technical issues, however, emerged in the second half of 2021, necessitating a thorough re-design and resulting in a downgrading of the Progress toward achievement of the PDO and Implementation Progress (IP) ratings to Moderately Unsatisfactory.** These technical challenges took the form of unstable cut slopes and landslide issues across 43 distinct locations that are of higher risk due to climate change (shifts in rainfall pattern, greater precipitation leading to accelerated erosion, slope saturation and increased risk of instability). Disused mining tunnels also posed a risk of collapse under heavy traffic loading under one of the cut slopes. While some works related to structures and embankment continued, pavement works were delayed

significantly, pending the redesign of all 43 cut slopes, a process that required peer review and clearance by a third party and the issuance of variation orders for the revised technical designs and the additional time and costs needed. The re-design process to address the potential pavement collapse/settlement and cut slope instability caused by the disused mining tunnels also had to be undertaken. These processes took about two years to complete. Close cooperation among all the involved parties was required to ensure that the revised technical designs are sustainable from a climate resilience perspective.

13. **In parallel, the project had to contend with land acquisition, compensation, project management, and other issues critical to implementation.** A new action plan led to significant progress, provided the basis for a two-step closing date extension through project restructurings in December 2022 and June 2023, followed by an upgrading of PDO and IP to Moderately Satisfactory (MS) in July 2023.

14. **The project has overcome the initial implementation readiness challenges.** Revised technical designs have been approved for all 43 cut slopes. Variation orders to the existing civil works contracts have been approved and signed to reflect the revised technical designs, time, and cost requirements. The design process to address the instability caused by the disused mining tunnels has been recently finalized. All 349 privately owned parcels needed to stabilize the cut slopes were expropriated. The associated abbreviated resettlement action plans (RAPs) have been approved on June 1, 2023. Works on the cut slopes are ongoing and the overall physical progress stands at 65 percent. The status of Component 1 works is summarized in Table 1 below.

Table 1. Status of Component 1

	Lot 1	Lot 2
Km to be constructed	15.5 km	7.3 km
Key features of civil works	3 bridges, 2 viaducts, 9 overpasses + multiple culvert structures	11 major viaducts (92% complete)
Costs of original works	€32 million	€30 million
Status	• 30% was completed under original contract (terminated for poor performance) • New contract (Strabag) signed in January 2022 • About 51.6% from the remaining works physically completed since then	• 92% completed under original contract (Beton Granit JV) • Contract commenced April 2018

15. **Component 2 has also been progressing well.** The focus of this component is to further strengthen the asset management capabilities of PESR by building on the Road Asset Management System (RAMS) introduced in July 2017 and currently operational. Streamlining road safety and climate resilience into design practices was also one objective of this component. Key activities are on-going, including the development of a roadmap to introduce BMS as part of the RAMS; provision of BMS software and hardware (bridge database and evaluation tools); supporting the national bridges condition survey; evaluating the available bridge network data to compute monitoring indicators and statistics; undertaking a macro evaluation of the network to support planning and

programming purposes; preparation of a bridge maintenance and investment plan using BMS; and provision of training for technical and administrative staff. All the related activities will be completed by December 2023 and will serve as a catalyst for data-driven decisions for annual maintenance and investment plans. In addition, the contract for the technical audit consultancy is ongoing and will be completed once the civil works contracts are completed. Main tasks include audits of general management, road works and supervision, quality, and road safety.

16. **Overall, despite significant delays to Component 1, the project is now at a point of acceleration.** Progress towards the achievement of the PDO and Implementation Progress (IP) are both rated Moderately Satisfactory (MS). Other implementation-associated ratings (project management, financial management, procurement, environmental and social safeguards) are rated MS or above. The loan is fully committed and as of December 13, 2023, more than 77 percent of the loan has been disbursed, with the FY24 disbursement ratio standing at 33 percent. The Overall Risk is now considered Moderate, and financing is the only remaining challenge to completing the project and achieving the PDO. The costs associated with the works to stabilize the cut slopes and the increased cost of construction materials and works add up to a financing gap of EUR 45 million. Of this total, the proposed additional IBRD loan would cover EUR 31 million while the remaining EUR 14 million will be financed through a grant from the EU's Western Balkans Infrastructure Facility (WBIF) approved on June 30, 2023. The World Bank's commitment to support the project played a pivotal role in securing WBIF grant financing for Rankovce-Kriva Palanka.

C. Rationale for Additional Financing

17. **The proposed AF will help close the financing gap to meet the cost of the construction of the express road – the most critical and significant infrastructure investment linked to the PDO**. The AF will cover the financing gap of Component 1 - Construction along the eastern section of Corridor VIII between Rankovce and Kriva Palanka, connecting North Macedonia and Bulgaria, and maintain the transport connectivity for road users along the corridor and related infrastructure, E&S management, and project management. These activities were part of the original project scope but require additional financial resources to cover the costs of the civil works required to address the underlying geological and technical issues exacerbated by climate change and increased precipitation that pose a risk to the stability of the 43 cut slopes. The original designs, although well-intended and carefully prepared, proved to be insufficient for the complex, tectonically disturbed and highly weathered geology along the road project, in combination with experiencing unusually extreme weather effects. International experience shows that, in complex projects like this one, challenges during the implementation of civil works are common and, therefore, enhanced climate resilience design approach and disaster risk management practices are critical in addressing them. These works were not foreseen when the project was originally designed and are aimed at the stabilization and protection of the cut slopes and the remediation of the witnessed instabilities. The revised designs have been fully developed in line with relevant climate resilience considerations and envisaged measures to mitigate actual and potential climate-induced hazards such as landslides, rock falls and progressive failure of cut slopes. The pertaining works include additional excavations to reduce the cut slope inclination, drainage measures to mitigate the impact of greater rainfall, and slope protection (mesh and anchors). Increased cost of labor and material have also contributed to the financing gap. Although the available IBRD loan under the parent project is not yet fully disbursed, it is critical to provide the AF now to close the financing gap given that (i) the revised designs are approved for the construction stage; (ii) the contractors are mobilized and revised variation orders were agreed upon with no objection by the Bank; and (iii) that the WBIF has already committed EUR 14

million contingent on the additional financing from the Bank to meet the additional costs and ensure successful completion of the road construction work.

II. DESCRIPTION OF ADDITIONAL FINANCING

A. Scope of Additional Financing

18. **The AF is in line with the existing PDO, and the components included in the original Project's design.** The PDO will remain unchanged, and the proposed AF will provide EUR 31 million to close the financing gap for the construction of roads under Component 1. There is a clear understanding of the associated additional cost implications to stabilize 43 cut slopes, which amounts to EUR 45 million. Table 2 below shows the current and AF costs by component and the revised total project costs and financing. Aside from the addition of funds to Component 1, the results framework is amended to introduce a climate indicator. The PDO, implementation arrangements, and all other aspects of the Project will remain the same. Below is a brief description of the AF activities.

Table 1 - Summary of Total Project Costs and Financing (EUR million)*

Component Name	Current Loan	Proposed IBRD Loan AF	WBIF TF	Total Cost
Component 1: Construction of Corridor VIII : Rankovce - Kriva Palanka	68	31	14	113
Component 2: Institutional and Project Implementation Support	5	0	0	5
TOTAL	**73**	**31**	**14**	**118**

*NB: Project financing is in EUR. Any change in associated USD equivalents reflects exchange rate fluctuations.

19. **Component 1 - Construction of Corridor VIII: Rankovce - Kriva Palanka.** The total financing gap is EUR 45 million equivalent, out of which EUR 14 million equivalent will be covered under a WBIF grant. In requesting the gap-financing from the EU's WBIF, the Government nominated the World Bank as the Lead IFI. The application for WBIF financing was approved on June 30, 2023, and the approved grant amount is EUR 14 million. The proposed additional IBRD loan of EUR 31 million is aimed at fully closing the financing gap.

20. The breakdown of additional costs is summarized below.

Item	Amount EUR million
Lot 1	
Cut slopes for which revised design was approved	8.1
PAC related costs	5.7
Additional envisaged works	2.7
Contingencies 10%	1.6
Total Lot 1	***18.1***
Lot 2	
Cut slopes for which revised design was approved	18
PAC related costs	4.5
Additional envisaged costs	2
Contingencies 10%	2.4
Total Lot 1	***26.9***
Total Lot 1 and Lot 2	**45.0**

21. The increase in the overall cost, and consequently in the amount requested from the Bank, has been triggered by:

- The additional works required to address the mine access tunnels and the mine compartments under Cut 9 on Lot 1.
- The additional works to address the technical issues on a cut slope (cut 21) on Lot 2, which was not included in the previous design prepared by the Contractor.
- Some adjustments that were made while implementing the slope protection and reinforcement measures, as per the recommendations of the Geotechnical Consultant advising PESR.
- Implementation of nature-based mitigation measures against the anticipated environmental impacts of the slope stabilization works (topsoiling, hydroseeding, grassing).
- The increase in the amount to cover the costs associated with the price adjustment clauses in both contracts.
- The increase in the contingencies allocations for both contracts to secure the funds for additional unforeseen technical complexities.

III. KEY RISKS

22. **The overall risk remains Moderate after mitigation.** The only major risk that is rated Substantial is Environmental and Social, which could undermine the achievement of the PDO, or cause unintended negative impacts. The following paragraphs provide a brief description of this critical risk factors. Except for E&S risks, all other risks have been rated moderate or low (stakeholder) after mitigation according to the latest World Bank guidance on risk assessments.

Environmental and Social Risks

23. **Combined Environmental and Social risks is Substantial.** The Environmental Risk is Substantial. This is because the project area includes green fields, and hilly and mountainous terrains along the eastern part of Corridor VIII connecting the country with Bulgaria. Component 1, as originally designed, supports new construction, and in several locations the road alignment passes through untouched natural landscapes and construction of bridges that cross over the water courses. The potential adverse impacts are addressed under the ESIA/ESMP, site-specific cut slopes ESMP, addendum ESMP for the extended Rankovce junction, site-specific Biodiversity Management Plan, and a number of sub-management plans handling the specific impacts caused by the construction activities. The Social Risk is Moderate mostly because the solution to the obstructed access to the other side of the new road due to construction has been found and approved by the Civil Engineering Faculty. There will be no need for additional private land acquisition. The land acquisition to address the cut slops stabilization issues is complete for both lots.

24. **The project is located in a mountainous area prone to several natural hazards exacerbated by climate change.** Specifically, landslides, river floods, urban floods, and wildfires are identified as high-risk hazards. The project alignment in particular passes through areas of complex geology with high degree of weathering and undulating morphology, shifts in rainfall patterns, making landslides a frequent hazard phenomenon. Thus, the project aims to reduce the climate change vulnerabilities identified by incorporating climate resilient redesign of the cut slopes and other stabilization measures.

IV. APPRAISAL SUMMARY

A. Economic and Financial (if applicable) Analysis

25. **The project's economic rationale remains strong.** The economic analysis of the project road, Rankovce – Kriva Palanka, was conducted at appraisal using the Highway Development and Management Tool (HDM-4), which simulates life-cycle predictions of road deterioration, road works effects and their costs, road user costs, GHG emissions and road safety, and provides economic decision criteria for road construction and maintenance works. The analysis considered a 10 percent discount rate and a 25-year evaluation period. The estimated financial investment cost was EUR 70.22 million. The existing road was estimated to reach 3,982 vehicles per day in 2019, the expected year of the opening of the new road. The normal traffic was estimated to grow at 5 percent per year during the first 10 years of the evaluation period reducing thereafter to 4.0 percent per year. The return on the investments of the project was satisfactory at appraisal with an Economic Internal Rate of Return (EIRR) of 13.8 percent, Net Present Value (NPV) of EUR 27.86 million, at a discount rate of 10 percent.

26. **The economic analysis of the AF was done replicating the economic analysis undertaken at appraisal, but considering updated project costs, timing of the road works, and traffic projections.** The estimated cost of the financing gap is EUR 45 million, thus the updated road cost is EUR 115.22 million, representing a 64 percent increase in project costs. Construction started in May 2018 and the construction is expected to end by the end of May 2025. Traffic data on the project road for the first half of 2023 shows that the current traffic is 4,663 vehicles per day, which is like what was predicted at appraisal, thus the additional financing economic analysis adopted the same traffic projections as the ones estimated at appraisal. Traffic growth rate estimated at project appraisal proved realistic and is likely to be sustained in the coming years.

27. Considering the updated project costs, timing of the road works and high values for the social cost of carbon, the additional financing economic analysis shows that return on the investments of the project is still

satisfactory with an Economic Internal Rate of Return (EIRR) of 10.4 percent, Net Present Value (NPV) of EUR 2.20 million, at a discount rate of 10 percent. A worst-case scenario with construction costs increasing by 15 percent and traffic at the opening of the project road decreasing by 15 percent results in an EIRR of 8.4 percent. Considering the low values for the social cost of carbon, the EIRR is 10.5 percent and the NPV is EUR 2.81 million. Not including the social cost of carbon in the economic analysis, the EIRR is 10.6 percent and the NPV is EUR 3.42 million. The updated GHG analysis shows that from 2024 to 2043, the gross CO2 emissions without the project are expected to be 547,967 tons and with the project 585,202 tons, representing a net increase in CO2 emissions of 37,235 tons over the analysis period or 1,862 tons per year.

B. Technical

28. The new express road Kriva Palanka – Dlabochica -Stracin is part of the Corridor VIII which, once completed, will significantly reduce the traveling time between Skopje and Sofia. The completed new route from Kriva Palanka to Stracin is 22.8 km long. The construction is divided into two subsections/lots:

- Lot 1: Dlabochica to Stracin (Chatal) (km 10+308 – 25+850) in length of 15.55 km
- Lot 2: Kriva Palanka to Dlabochica (km 3+062 – 10+308), in length of 7.25 km

29. **During the project implementation phase, complex geotechnical issues occurred that resulted in previously unforeseen need to**: (i) stabilize the multiple cut-slopes along both sides of the road alignment; (ii) remediate the impacts of abandoned bentonite mining tunnels under portions of the alignment; and (iii) provide erosion protection solutions as needed. During project implementation, rock falls and landslides occurred throughout the alignment, in the large excavations. These events occurred due to the highly variable degree of weathering, which after the initial excavations, deteriorated due to atmospheric influences (e.g., cycles of rainfalls, snow, etc.). As instabilities were identified in the large excavations during the construction phase, adjustments to the design were considered necessary. Supplements to the detailed design have been prepared and provide the basis for the needed adjustments. The adjustments were required to ensure the stability of the terrain via cut-slope mitigation and erosion control, which consequently resulted in the need for a revision of the technical design. The new project adjustments for the stabilization of slopes will contribute to stabilizing the excavations along the roadside cut slopes, and help prevent failure of the cut-slopes, thus providing conditions for future safe and continued traffic.

30. **Several entities were involved in the redesign of the civil works.** Experienced geotechnical design companies, in cooperation with the Faculty of Civil Engineering of the University of Cyril and Methodius, Skopje, and with the assistance from an external geotechnical expert have been involved in the current safer and more climate-resilient redesign of the cut slopes in accordance with the Climate Resilience Design Guidelines for designing of roads resistant to climate impact.[4] Hence, the entire new construction financed by Component 1 will support slope stabilization measures – among others the installation of nets, anchors, and smoother inclinations of the cut slopes. Climate change-exacerbated precipitation levels are likely to cause premature deterioration of the road if no preventative measures are taken; hence, the new construction financed via this project will follow the best international practice for road design that incorporates climate-resilient materials and design.

[4] https://www.roads.org.mk/470/5151/climate-resilience-design-guidelines-for-the-public-enterprise-for-state-roads

31. **Increase in wildfires is also affecting built assets, economic activity, and health.** As wildfires denude the hillsides of vegetation, hence diminishing the protective capacity of vegetation, they are leading to heightened risks of increased runoff, erosion, debris flow, and an elevated potential for landslides. Hence, the project will address this hazard by designing flatter cut slopes to prevent landslides, reinforcing those slopes with steel nets, and combining planting and vegetation methods where possible by the geology. The World Bank has continuously provided comments and recommendations which have been partially considered in the new designs for the cut slopes.

C. Fiduciary

32. **Financial Management performance is Satisfactory.** The FM arrangements, established by PESR, including budgeting and planning, accounting and financial reporting, flow of funds, internal controls and external audit have been reviewed regularly during implementation and found to be adequate and acceptable to the World Bank. No major FM issues were raised in the project audit reports and management letters submitted to date. The latest implementation support mission (ISM) in July 2023 rated the FM performance as Satisfactory.

33. **Procurement performance is rated MS.** No new procurement is planned during the new implementation timeline of the original Project. Procurement for the original Project is 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, revised July 2014; and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011, revised July 2014. No new procurement is planned during the implementation timeline of the additional financing to the Project. The additional financing would only help finance the costs associated with the current RUDP's financing gap. The AF would cover the increased cost due to additional work required to stabilize 43 cut slopes and the associated increased cost of construction materials and works under ongoing contracts. The above referenced Guidelines apply to the ongoing contracts, and it will apply to the AF. Changing the procurement rules at this point of time brings the risk to have two sets of procurement rules applying to the ongoing contracts, therefore a waiver l to continue using the above referenced Guidelines for the AF was approved on December 4, 2023. The World Bank's Systematic Tracking of Exchanges in Procurement (STEP) platform will be used for the project. With the additional support of consultants financed from the Loan proceeds, PESR has satisfactory capacity to manage the ongoing contracts and the risk for procurement is rated as *Moderate*. Procurement implementation support missions will be carried out once a year or on an as-needed-basis.

D. Environment and Social (including safeguards)

34. **Safeguards Policies apply to this Additional Financing**. According to Bank procedures, additional financing with Activity Initiation Summary (AIS)/Initiation approval on or after January 1, 2020, solely to address a cost overrun or financing gap will apply World Bank Safeguard Policies (and not the Environmental and Social Policy).

35. **Social (including Safeguards). The OP/BP 4.12 Involuntary Resettlement and Land Acquisition remains triggered, for precautionary reasons, although all the land acquisition process is completed.** By the time of the preparation of the Project Paper, the land acquisition process for the cut slopes for both lots has been completed. There were neither resettlement nor livelihood impacts. There is also no need for additional private land acquisition for the new access in the Stracin village area.

36. **Citizens Engagement. The interaction of the PESR with the surrounding communities makes the PESR responsive to the community's needs.** The AF will continue to engage citizens through open links with the Local Governments of Rankovce and Kriva Palanka in order to address possible issues, as was the practice with the parent Project. Beneficiary Assessment activity as proposed during the preparation of the parent Project will be amended and will assess the satisfaction with the new road, upon completion, from the beneficiary point of view, without comparison with ex-ante assessment. The citizens' input during the ongoing Project implementation of the AF will continue with the same practice and will be done through qualitative inquiry instruments such as key informant interviews. The summaries will be reflected in Project Progress Reports as set in the current indicator: citizen Input to PESR during the preparation and construction of the project. There will be no change in the other CE indicator: Percentage of beneficiaries expressing satisfaction with the condition of the project road, which will be completed once the road is completed.

37. **The AF does not envisage any change in the project activities, thus, there is no change in the project EA Category A.** The OP 4.01 'Environmental Assessment remains triggered, and the existing environmental and social due diligence instruments developed during the preparation and implementation of the parent project are valid for the AF. This includes the Environmental and Social Impact Assessment and Management Plan (ESIA/ESMP) as well as a number of sub-management plans to address specific environmental and social risks during the construction period. The findings of the ESIA/ESMP as well as RPF were disclosed to the public in May 2015. In addition, due to the changes in the design of the Rankovce junction, an Addendum ESMP was developed to address the incremental impacts. Further, the environmental and social implications of the additional works required to stabilize 43 cut slopes were also analyzed, and respective mitigation measures were identified/confirmed within the scope of site-specific cut slopes stabilization ESMP. To closely monitor and mitigate the impacts on biodiversity, especially in the area of the Osogovo-German Biocorridor, a Biodiversity Management Plan (BMP) was developed. A biodiversity expert has been involved on a timely basis, to undertake regular monitoring of flora and fauna, and of the implementation of the BMP. The services of the biodiversity expert are sought on a seasonal basis and depending on the intensity of the construction. There is a full-time Environmental and Social Specialist at the PESR, responsible for the environmental and social management of the project on a daily basis.

38. **Other Safeguard Policies** triggered **for the parent project remain triggered for the AF, as follows:**

OP/BP 4.04 'Natural Habitats' – because the road alignment passes by/through natural habitats which were analyzed, and mitigation measures identified under the ESIA/ESMP and site-specific BMP.

OP/BP 4.12 'Involuntary Resettlement' – because the project implementation required land acquisition (completed by now), with no resettlement or livelihood impacts.

V. WORLD BANK GRIEVANCE REDRESS

39. ***Grievance Redress.*** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project-affected communities and individuals may submit their complaints to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints

through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Accountability Mechanism, please visit https://accountability.worldbank.org.

VI. SUMMARY TABLE OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Components and Cost	✓	
Implementing Agency		✓
Project's Development Objectives		✓
Loan Closing Date(s)		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Disbursements Arrangements		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Implementation Schedule		✓
Other Change(s)		✓

VII. DETAILED CHANGE(S)

COMPONENTS

Current Component Name	Current Cost (US$, millions)	Action	Proposed Component Name	Proposed Cost (US$, millions)
Construction along Corridor VIII: Rankovce - Kriva Palanka	73.40	Revised	Construction along Corridor VIII: Rankovce - Kriva Palanka	107.20

Institutional and Project Implementation Support	5.50	No Change	Institutional and Project Implementation Support	5.50
TOTAL	**78.90**			**112.70**

Expected Disbursements (in US$)

Fiscal Year	Annual	Cumulative
2016	226,175.00	226,175.00
2017	0.00	226,175.00
2018	14,466,653.57	14,692,828.57
2019	8,247,913.85	22,940,742.42
2020	8,177,059.76	31,117,802.18
2021	4,140,720.99	35,258,523.17
2022	8,702,329.06	43,960,852.23
2023	17,634,687.67	61,595,539.90
2024	20,404,451.10	81,999,991.00
2025	9,000,000.00	90,999,991.00
2026	0.00	90,999,991.00

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Latest ISR Rating	Current Rating
Political and Governance	Moderate	Moderate
Macroeconomic	Moderate	Moderate
Sector Strategies and Policies	Moderate	Moderate
Technical Design of Project or Program	Moderate	Moderate
Institutional Capacity for Implementation and Sustainability	Moderate	Moderate
Fiduciary	Low	Moderate
Environment and Social	Substantial	Substantial
Stakeholders	Low	Low
Other		

Overall	Moderate	Moderate

LEGAL COVENANTS – Road Upgrading and Development Project (P181422)

Sections and Description
No information available

Conditions

VIII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: North Macedonia

Road Upgrading and Development Project

Project Development Objective(s)

The Project Development Objectives are to improve transport connectivity for road users along Corridor VIII between Skopje and DeveBair, and to improve the asset management and planning functions of Public Enterprise for State Roads.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Improve transport connectivity for road users along Corridor VIII between Skopje and Deve Bair							
Volume of freight along Corridor VIII (tones, section Rankovce - Kriva Palanka) (Number (Thousand))		43.80					45.00
Market accessibility index along Corridor VIII (section Rankovce - Kriva Palanka) (Number)		138.50					265.60

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Vehicle operating cost for road users, in Euro per vehicle-km, along the project road section. (Number)		1.12					0.92
Improve the Borrower's asset management and planning function							
Bridge maintenance and investment program developed based on Bridge Management System (BMS). (Yes/No)		No	No	No	No	Yes	Yes

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Construction along Corridor VIII: Rankovce - Kriva Palanka							
Roads constructed, non-rural (Kilometers)		0.00	0.00	4.00	11.00	18.00	24.64
Direct project beneficiaries (Number)		6,181.00					24,964.00
Female beneficiaries (Percentage)		49.00					49.00
Percentage of beneficiaries expressing satisfaction with condition of the project roads (Percentage)		52.00					70.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Citizen Input to PESR during preparation and construction of the project. (Text)		Citizen committees formed					Final Citizen's engagement report
Kilometers of new road incorporating climate resilient redesign of the cut slopes and other stabilization measures (Kilometers)		0.00					13.70
Action: This indicator is New	***Rationale:*** ***The new indicator is aimed at tracking the climate result, as per the corporate requirements.***						
Institutional and Project Implementation Support							
Bridge condition survey completed (Yes/No)		No					Yes
Digitize all bridge structures as part of the larger digitized national road reference system (Yes/No)		No					Yes
Preparation of bridge maintenance and investment plan using the established BMS (Yes/No)		No					Yes

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Volume of freight along Corridor VIII (tones, section Rankovce - Kriva Palanka)	Indicator to be updated on completion of new sections and retains baseline value for now	PESR	Customs		At project completion.
Market accessibility index along Corridor VIII (section Rankovce - Kriva Palanka)	Passengers component – This indicator measures the average market accessibility along the project road section (Rankovce-Kriva Palanka), described as the sum of population of the selected major population areas weighted by travel time to reach Skopje and the border with Bulgaria. Freight component – a freight component such as average travel times for a typical freight truck to travel between Rankovce-Kriva Palanka and Skopje and the border with Bulgaria.	PESR	Survey		At project completion
Vehicle operating cost for road users, in Euro per vehicle-km, along the project road section.	This indicator measures road user costs (vehicle operating costs) along the	PESR	Project Progress Reports		At Project Completion

	roads to be constructed 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 reconstructed under the project.				
Bridge maintenance and investment program developed based on Bridge Management System (BMS).	development of bridge maintenance and investment program based on a functional Bridge Management System.	PESR	Project Progress Reports		Annual

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Roads constructed, non-rural	Kilometers of non-rural roads constructed under the project. Non-rural roads are roads functionally classified in various countries as Trunk or Primary, Secondary or Link roads, or sometimes Tertiary roads. Typically, non-rural roads connect	PESR	Project Progress Reports		Annual

	urban centers/towns/settlements of more than 5,000 inhabitants to each other or to higher classes of road, market towns and urban centers. Urban roads are included in non-rural roads.				
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.	PESR	Project Progress Reports		Annual
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries,	% is taken as a function of			

	specify what percentage of the beneficiaries are female.	the direct road beneficiaries in daily basis. As per the census 49% of female population is applied to the number of beneficiaries minus truck drivers.			
Percentage of beneficiaries expressing satisfaction with condition of the project roads	This indicator measures the satisfaction of local communities and other road users with the condition and safety of the project road.	PESR	Project Progress Reports		Annual
Citizen Input to PESR during preparation and construction of the project.	This indicator measures the citizens engagement through an Annual Citizen engagement Report	PESR	Project Progress Reports		Annual
Kilometers of new road incorporating climate resilient redesign of the cut slopes and other stabilization measures	This indicator measures kilometers of new road constructed under the project that will incorporate climate	At project completion	PESR		

	resilient design measures including the cut slope inclination, drainage measures and slope protection (mesh and anchors) in order to prevent landslides.				
Bridge condition survey completed	This indicator measures the development of bridge maintenance and investment program based on a functional Bridge Management System.	PESR	Project Progress Reports		Annual
Digitize all bridge structures as part of the larger digitized national road reference system	This indicator measures the actual progress of digitizing all bridge structures	PESR	Project Progress Reports		Annual
Preparation of bridge maintenance and investment plan using the established BMS	This indicator measures the preparation of maintenance and investment plans of bridges based on functional BMS	PESR	Project Progress Reports		Annual

IX. ANNEX 1 – PROJECT MAP