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Report No: PAD00071

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT AND

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF EUR 92.4 MILLION
(US$100 MILLION EQUIVALENT)

AND A

PROPOSED CREDIT

IN THE AMOUNT OF EUR 5.6 MILLION
(US$5.98 MILLION EQUIVALENT)

TO THE

REPUBLIC OF MOLDOVA

FOR A

MOLDOVA RURAL CONNECTIVITY PROJECT

APRIL 8, 2024

Transport Global Practice
Europe and Central Asia Region

CURRENCY EQUIVALENTS

Exchange Rate Effective March 31, 2024

Currency Unit =	EUR
EUR 1 =	US$1.08
US$ 1 =	EUR 0.93

FISCAL YEAR

January 1 - December 31

Regional Vice President:	Antonella Bassani
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ABBREVIATIONS AND ACRONYMS

BCP	Border Crossing Point
CERC	Contingency Emergency Response Component
COVID-19	Coronavirus disease of 2019
CPF	Country Partnership Framework
DA	Designated Account
DBC	Design and Build Contract
DFIL	Disbursement and Financial Information Letter
EaP	Eastern Partnership
EC	European Commission
ERR	Economic Rate of Return
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESS	Environmental and Social Standard
EU	European Union
EUR	Single European Currency
FM	Financial Management
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GOM	Government of Moldova
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HLO	High Level Objective
IBRD	International Bank for Reconstruction and Development
IDA	International Development Agency
IFC	International Finance Corporation
IFR	Interim Financial Report
IPF	Investment Project Financing
IRR	Internal Rate of Return
MFD	Maximizing Finance for Development
MOF	Ministry of Finance
MRCP	Moldova Rural Connectivity Project
MSC	Moldova Customs Service
NPV	Net Present Value
OPBRC	Output and Performance-Based Road Contracts
PDO	Project Development Objective
POM	Project Operational Manual
RAMS	Road Asset Management System
ROM	Republic of Moldova
RMC	Road Maintenance Company

SRA	State Road Administration
STEP	Systemic Tracking of Exchanges in Procurement
TEN-T	Trans European Transport Network
UNFCCC	United Nation Framework Convention on Climate Change
US$	United States Dollar
WB	World Bank
WBG	World Bank Group
WGM	Worker Grievance Mechanism
WUA	Water User Association
XDR	Special Drawing Rights

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DATASHEET

BASIC INFORMATION

Project Beneficiary(ies)	Operation Name		
Moldova	Moldova Rural Connectivity Project		
Operation ID	Financing Instrument	Environmental and Social Risk Classification	
P180153	Investment Project Financing (IPF)	Substantial	

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
[ ] Alternative Procurement Arrangements (APA)	[ ] Hands-on Expanded Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
29-Apr-2024	30-Jun-2029
Bank/IFC Collaboration	

No	

Proposed Development Objective(s)

The Project Development Objective (PDO) is: (i) to improve climate-resilient road connectivity in selected rural communities; (ii) to enhance road transit through selected border crossings with Romania; and (iii) in case of an Eligible Crisis or Emergency, to respond promptly and effectively to it.

Components

Component Name	Cost (US$)
Component A: Linking local communities with economic opportunities	81,734,004.00
Component B: Facilitating trade and expanding Solidarity Lanes	20,550,000.00
Component C: Building sustainability, delivery capacity and project management support	3,695,996.00
Component D: Contingent emergency response	0.00

Organizations

Borrower:	Republic of Moldova
Implementing Agency:	Moldova Customs Service, State Road Administration

PROJECT FINANCING DATA (US$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)?	Yes
Is this project Private Capital Enabling (PCE)?	Yes

SUMMARY

Total Operation Cost	**189.90**
Total Financing	**189.90**
of which IBRD/IDA	**105.98**
Financing Gap	**0.00**

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	100.00
International Development Association (IDA)	5.98
of which IDA Recommitted	5.98
IDA Credit	5.98

Non-World Bank Group Financing

Counterpart Funding	83.92
Borrower/Recipient	83.92

IDA Resources (US$, Millions)

	Credit Amount	Grant Amount	SML Amount	Guarantee Amount	Total Amount
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Expected Disbursements (US$, Millions)

WB Fiscal Year	2024	2025	2026	2027	2028
Annual	0.00	22.00	34.00	35.00	14.98
Cumulative	0.00	22.00	56.00	91.00	105.98

PRACTICE AREA(S)

Practice Area (Lead)

Transport

Contributing Practice Areas

Macroeconomics, Trade and Investment

CLIMATE

Climate Change and Disaster Screening

Yes, it has been screened and the results are discussed in the Operation Document

SYSTEMATIC OPERATIONS RISK- RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial

2. Macroeconomic	High
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Moderate
7. Environment and Social	Substantial
8. Stakeholders	Substantial
9. Overall	Substantial

POLICY COMPLIANCE

Policy

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

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

ENVIRONMENTAL AND SOCIAL

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant

ESS 2: Labor and Working Conditions	Relevant
ESS 3: Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4: Community Health and Safety	Relevant
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
ESS 8: Cultural Heritage	Relevant
ESS 9: Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

LEGAL

Legal Covenants

Sections and Description
Loan Agreement Section I, Schedule 2 The Borrower shall carry out the Project in accordance with the Implementation Arrangements set out in Section I, Schedule 2 of the Loan Agreement.
Financing Agreement Section I, Schedule 2 The Recipient shall carry out the Project in accordance with the Implementation Arrangements set out in Section I, Schedule 2 of the Financing Agreement.

Conditions

Type	Citation	Description	Financing Source
Effectiveness	LA/FA Article 5.01	(a) that the Loan/Financing Agreement has been executed and delivered and all conditions precedent to its effectiveness (other than	IBRD/IDA

		the effectiveness of this Agreement) have been fulfilled;	
Effectiveness	LA/FA Article 5.01	(b) that the SRA PIU referred to in Section I.A.(a) of Schedule 2 to this Agreement has been established and staffed in a manner acceptable to the Bank/Association.	IBRD/IDA
Effectiveness	LA Article 5.01	(c) that the MCS PIU referred to in Section I.A.(b) of Schedule 2 to this Agreement has been established and staffed in a manner acceptable to the Bank.	IBRD/IDA
Effectiveness	LA/FA Article 5.01	(d) That the Technical Working Group referred to in Section I.D/I.C of Schedule 2 to this Agreement has been established in a manner acceptable to the Bank/Association.	IBRD/IDA
Effectiveness	LA/FA Article 5.01	(e) that the SRA Subsidiary Agreement referred to in Section I.B. of Schedule 2 of this Agreement has been entered into in a manner acceptable to the Bank/Association.	IBRD/IDA
Effectiveness	LA Article 5.01	(f) that the MCS Subsidiary Agreement referred to in Section I.C. of Schedule 2 of this Agreement has been entered into in a manner acceptable to the Bank/Association.	IBRD/IDA
Effectiveness	LA/FA Article 5.01	(g) that the Project Operations Manual referred	IBRD/IDA

		to in Section I.E/I.D of Schedule 2 of this Agreement has been prepared and adopted in a manner acceptable to the Bank/Association.	
Effectiveness	LA/FA Article 5.01	(h) that the Coordination Agreement referred to in Section I.D/I.C of Schedule 2 to this Agreement has been entered into in a manner acceptable to the Bank/Association.	IBRD/IDA
Effectiveness	LA Article 5.01	(i) that the Preliminary ESIA for Part 2 of the Project is finalized in a manner acceptable to the Bank.	IBRD/IDA
Effectiveness	LA/FA Article 5.01	(j) That the grievance mechanism for the Project, referred to in Section I.G.5/I.F.5 of Schedule 2 to this Agreement, has been established in a manner acceptable to the Bank, and according to the ESCP.	IBRD/IDA
Disbursement	LA Section III.B. 1 of Schedule 2	No withdrawal shall be made: (a) for payments made prior to the Signature Date, except that withdrawals up to an aggregate amount not to exceed €18,480,000 may be made for payments made prior to this date but on or after the date falling twelve (12) months prior to the Signature Date, for Eligible Expenditures, following an Environmental and Social Audit, satisfactory to the Bank, showing that the	IBRD/IDA

		pertinent obligations set forth in this Agreement, as applicable to each Eligible Expenditure, have been complied with. (b) for Eligible Expenditures under Category (2), unless and until all funds in Category (1) in the withdrawal table set forth in Section III.A of Schedule 2 of the Financing Agreement has been fully disbursed. (c) for Emergency Expenditures under Category (6), unless and until all of the following conditions have been met in respect of said expenditures: (i) the Borrower has determined that an Eligible Crisis or Emergency has occurred, and has furnished to the Bank a request to withdraw Loan amounts under Category (6); (ii) the Bank has agreed with such determination, accepted said request and notified the Borrower thereof; and (iii) the Borrower has adopted the CERC Manual and Emergency Action Plan, in form and substance acceptable to the Bank.	
Disbursement	FA Section III.B.1 of Schedule 2	Notwithstanding the provisions of Part A of this Section, no withdrawal shall be made: (d) for payments made prior to the Signature Date. (e) for Emergency	IBRD/IDA

		Expenditures under Category (2), unless and until all of the following conditions have been met in respect of said expenditures: (iv) the Association has determined that an Eligible Crisis or Emergency has occurred, and has furnished to the Association a request to withdraw Credit amounts under Category (2); (v) the Association has agreed with such determination, accepted said request and notified the Recipient thereof; and (vi) the Recipient has adopted the CERC Manual and Emergency Action Plan, in form and substance acceptable to the Association.	

I. STRATEGIC CONTEXT

A. Country Context

1. **Moldova's rapid economic growth has led to significant poverty reduction and shared prosperity.** The economy has been growing at an average of 4.9 percent since late 1990s, fueled in large part by worker remittances, resulting in the national poverty rate falling from 90 percent in the late 1990s to 10.9 percent in 2021 and substantial improvements in life expectancy and educational attainment. However, significant spatial inequalities persist, with 84 percent of the poor and 75 percent of the bottom 40 percent of income earners living in rural areas. Moreover, the remittance-based growth model has shown limitations, with the COVID pandemic, energy crisis, and Russia's invasion of Ukraine interrupting the flow of money from abroad and exposing Moldova's vulnerability to shocks.

2. **The recent exogenous shocks have stymied efforts to sustain growth and poverty reduction.** GDP declined by 7 percent in 2020 because of the twin shocks of the COVID-19 pandemic and one of the most severe droughts in the past two decades. The confluence of events impacted the entire economy, with employment dropping by 8 percent. The loss of earnings was exacerbated by the return of migrants from abroad. Developments since February 2022 have further impacted Moldova's economy, given the country's close links to both Ukraine and Russia and its energy dependency. Additionally, the influx of refugees from Ukraine has exacerbated an already challenging socioeconomic environment.

3. **The past decade has seen a shift in Moldova's trade patterns, with the country significantly reducing its reliance on the Commonwealth of Independent States.** In particular, the share of Moldovan exports to Russia has decreased from 39.5 percent in 2003 to 10.8 percent in 2021. At the same time, economic links with the EU have strengthened, with the EU now accounting for 66 percent of Moldova's total exports, well above its regional peers, and around 45 percent of its imports in 2021. Finally, with geopolitical developments severely affecting traditional trade routes and freight transport, Moldova has become an important transit corridor, ensuring not only the economic resilience of the Moldova-Romania trade flow, but also the export of Ukrainian goods to international markets.

4. **Moldova is highly vulnerable to climate shocks.** These include increased frequency and severity of extreme weather events such as heatwaves, frost, floods, storms, heavy rains, and severe droughts. Since 2000, Moldova has witnessed, on average, one major climate-related event every three years. The total cost of inaction on climate adaptation is estimated at US$600 million, equivalent to 6.5 percent of GDP, and this is expected to more than double to US$1.3 billion by 2050. Flooding alone costs the economy an estimated US$62 million annually and droughts have large impacts (as witnessed in 2020), as agriculture is largely rainfed. This leave Moldova's poor in a particularly vulnerable position as 84 percent depend on agriculture for their livelihoods and are concentrated in rural areas. Hence the poorest households are hit the hardest by extreme weather events that disrupt agricultural production. With these climatic events projected to worsen with climate change, the ability to manage and adapt to extreme hydrometeorological events is thus of critical importance for sustained poverty reduction.

B. Sectoral and Institutional Context

5. **Moldova depends on its road network for most of its connectivity.** The national road network is 2,598 km in length. The secondary and local road network is over 7,000 km. The rehabilitation of national roads in Moldova is supported by the EU while the World Bank is the Government of Moldova's (GoM) key partner in supporting local roads development.

B.1. Rural Transport and Border Transit Transport

6. **The country has a relatively high rural accessibility index of 93 percent**,[1] owing to the massive infrastructure development of the Soviet era. However, maintenance has proven to be a challenge, with only 50 percent of the entire road network in good to fair condition as of 2021, due to limited investment in rehabilitation and maintenance. For local and regional roads, the share is even lower at 37 percent.

7. **The deteriorating state of local and regional roads is significantly impacting the lives of rural inhabitants, 35 percent of whom are considered poor**. These local roads are primarily built of gravel surface and are susceptible to washouts from heavy rains, flash floods, landslides, slope erosion, and gusty winds. As a result, they require frequent resurfacing and repair, which are much more expensive than otherwise required for routine maintenance. The design of these rural roads, along with associated structures such as culverts, embankments, and bridges were meant to withstand much less severe and frequent climatic events. Compounded by inadequate maintenance, climate change accelerates the deterioration of these roads, leading to more frequent road closures, isolating residents for longer periods at a time, and affecting their livelihoods and access to vital services at a time when such services are undergoing consolidation, resulting in fewer and more distant schools and health facilities.

8. **In 2015, the GoM made a strategic decision to prioritize the rehabilitation and maintenance of a core network of local and regional roads**. The decision was followed by the identification of 1,135 km of priority corridors (26 total) connecting villages to the national road network. As part of the Bank-financed Local Roads Improvement Project (LRIP), 150 km of priority roads were rehabilitated, making them more climate resilient, and establishing a model for future interventions in rural roads. Despite some improvements in road conditions, progress has been limited due to insufficient allocation of resources to the rural road network compared to needs.

9. **The costs to the transport sector from disasters can substantially affect recurrent maintenance budgets.** After a large event, reconstruction in the transport sector often represents one of the greatest fiscal liabilities for national and subnational governments. A comprehensive road asset management system (RAMS) that includes detailed flood hazard and landslide susceptibility data can support evidence-based decision making on flood impacts on the road network. Once this information is collected, criticality assessments of transport systems can be combined with data on vulnerability to support prioritization of resilience investments in the transport sector.

10. **The country's transport sector remains heavily male-dominated and gender disparities in infrastructure design is a challenge.** Women in Moldova are more reliant on public transport than men due to limited access to private cars; they also walk longer distances.[2] Adequate and safe rural transport infrastructure is therefore critical for women to help overcome spatial constraints, accumulate a higher level of human capital (e.g., education,

[1] SUM4ALL data from 2016
[2] Ibid. National Bureau of Statistics and the United Nations Moldova, 2014

health) and access wider income opportunities. Women's share of labor participation in the road sector is one of the lowest. Incentivizing women to pursue professions in the transport sector to bring their perspectives to the fore can lead the sector to be more inclusive.

11. **Road safety is a vital development priority for Moldova and challenges have increased due to the refugee crisis.** Despite a decreasing trend in recorded road accidents and fatalities, Moldova still has one of the highest levels of road crash fatalities per capita in the Europe-Central Asia (ECA) region. In 2020, Moldova recorded the third highest road crash fatality rate (9.24 fatalities per 100,000 inhabitants) in the Eastern Partnership (EaP)[3] region and in EU-27. Road safety enhancement is a priority linked to refugee crisis management. In 2022, the number of road accidents involving foreign vehicles (mostly Ukrainian) tripled from 2021.[4]

12. **Moldova's transit traffic and border control operation have increased significantly in the last two years.** The influx of refugees, the closure of specific routes within Ukraine, and disruptions to Black Sea ports prompted the European Union (EU) to establish the EU-Ukraine Solidarity Lanes. These lanes have become indispensable links that enhance connectivity between Ukraine, the Republic of Moldova, and the EU. However, the Solidarity Lanes are reaching capacity and additional investments are required to reduce pressure on border crossing points (BCPs) between Romania and Moldova, notably to facilitate the evacuation of Ukrainian grain. Currently, BCPs in these two countries are experiencing extensive truck queues of up to 20 kilometers.

B.2. Institutional Context

13. **Several entities play roles in managing the transport sector in Moldova.** The Ministry of Infrastructure and Regional Development (MIRD) takes the lead in overall policy formulation, sector regulation, development, operation, and maintenance, with management of road infrastructure delegated to its State Roads Administration (SRA), a state-owned enterprise. For capital projects, the SRA sets up project implementation units (PIUs), while road maintenance is carried out by 10 regional joint-stock road maintenance companies (RMCs). The Road Fund is a dedicated fund responsible for financing the maintenance and repair of national and local roads, generating its revenues from (inter alia) excise duty on fuel and vehicle registration fees. Domestic contractors play dominant roles in construction and maintenance. However, foreign contractors are also active in large projects.

14. **The Moldova Customs Service (MCS) operates as a public authority under the Ministry of Finance and is responsible for customs activities.** This involves implementing customs policies, ensuring compliance with regulations for goods, transport, and individuals crossing customs borders. Since 2022, the MCS has faced various challenges, including issues related to refugees, humanitarian aid, long queues at BCPs, inefficient border crossing procedures, customs clearance processes, and security concerns.

C. Relevance to Higher Level Objectives

15. **The proposed Project is aligned with the World Bank's vision of ending extreme poverty and boosting prosperity on a livable planet.** The project would help fulfill this vision by investing in climate resilient rural roads that are the lifeline to livelihoods and essential services. The project's strategic thrust is embedded in the World

[3] The Eastern Partnership (EaP) is a joint initiative involving the EU, its Member States and five Eastern European Partner countries: Armenia, Azerbaijan, Georgia, the Republic of Moldova and Ukraine.
[4] Data from the Ministry of Interior of Moldova

Bank Group's Country Partnership Framework (CPF) for Moldova for the period FY23-FY27.[5] The overarching goal of the CPF is to support green, resilient, and inclusive development (GRID) and competitiveness in Moldova and is underpinned by three high-level objectives (HLOs): (i) increased formal employment; (ii) improved human capital; and (iii) increased green and resilient investments. The project will support all three HLOs. Project investments in rural roads will help ensure rural communities maintain access to education and social services (Objectives 2.1 and 2.2), that are undergoing significant consolidation, thus reducing inequities cited in the CPF and positively impacting local human capital and the local economy. Investments will convert gravel roads to paved, all-season roads, significantly strengthening their resilience to extreme climate conditions. The CPF also notes that insufficient supply of quality transport and logistics services are critical constraints to closer integration with the EU, a constraint that could be ameliorated in part by the investments in the TEN-T infrastructure and border crossing facilitation, thereby enhancing competitiveness (Objective 1.1). The project also supports the capacity-building theme of the CPF, by enhancing the local industry's ability to implement road projects and by modernizing and digitalizing border crossing procedures. Enhanced road safety supports the human capital objective while improved resilience supports the climate change cross-cutting theme (Objective 3.2).

16. **The proposed Project is also aligned with the government's Nationally Determined Contribution,** (NDC 2020) and contributes to achieving the target of 70 percent reduction in net greenhouse gas (GHG) emissions from 1990 levels by 2030. Specifically, the project focuses on: (a) reducing GHG emissions at border crossings; and (b) ensuring "access of the rural population to a climate-resilient road system that takes into account social, age and gender issues."[6] The project also addresses the marginalization impacts of climate change on poor rural communities due to the projected change in precipitation patterns as the poor are more vulnerable to severe rainfall. This also addresses Moldova's EU integration commitments under the EU Association Agreement which includes the stated agreement to "endeavor to enhance the main transport links between their territories."[7]

II. PROJECT DESCRIPTION

A. Project Development Objective

17. The Project Development Objective (PDO) is: (i) to improve climate-resilient road connectivity in selected rural communities; (ii) to enhance road transit through selected border crossings with Romania; and (iii) in case of an Eligible Crisis or Emergency, to respond promptly and effectively to it.

PDO Level Indicators

a. PDO 1: Reduced average travel time along project road corridors (Percentage)

b. PDO 2: Roads upgraded with climate resilient design (Kilometers)

[5] Report No. 177939-MD, January 3, 2023
[6] https://unfccc.int/sites/default/files/NDC/2022-06/MD_Updated_NDC_final_version_EN.pdf
[7] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:22014A0830(01)&from=EN#d1e1997-4-1

c. PDO 3: Reduced average waiting times of heavy-duty vehicles at select Moldova/Romania border crossing points (Hours)

B. Project Components

18. The proposed Project's design consists of four components as described below.

Component A: Linking local communities with economic opportunities, EUR 134.85 (IBRD EUR 69.99 million; IDA EUR 5.6 million; GOM EUR 58.78 million)

19. *A.1: Climate resilient local road links, EUR 124.60 million (IBRD EUR 60.75 million; IDA EUR 5.60 million; GOM EUR 58.25 million):* This subcomponent will finance the rehabilitation and upgrading of approximately 95 km of three priority local roads with climate resilient design to improve reliable, all-weather connectivity to markets, schools, health, and other social and economic centers. The works include road safety measures in the proximity of schools and settlement areas. Project roads will be under maintenance contracts (including winter maintenance and emergency repairs) to ensure that investments are sustained over time. One of the three contracts will be tendered following the Design and Build Contract methodology.

20. *A.2: Community inclusion & accessibility (IBRD EUR 1.85 million):* This subcomponent will finance: (i) interventions complementary to the road works in (A.1) including those requested by communities along the roads, and (ii) Non-Motorized Transport (NMT) infrastructure along and adjacent to Project roads.[8] These community requested road works are located along or in the proximity of the three road corridors to be rehabilitated under Component A.1 and will similarly integrate climate change considerations to the extent possible.

21. *A.3: Safer roads for Moldova (IBRD EUR 3.69 million):* This subcomponent will finance: (i) Remediation of road safety "black spots" at up to 6 priority locations.; (ii) Road safety educational and informational campaigns which aim to raise awareness and educate the public about road safety measures and practices. The campaigns will be designed to target specific audiences and address key road safety issues relevant to the Moldovan context.

22. *A.4: Project Supervision related to A.1, A.2 and A.3 (IBRD EUR 3.71 million):* This subcomponent finances consultancy services for the supervision of activities in A1, A2 and A.3.

Component B: Facilitating trade and expanding Solidarity Lanes, EUR 37.98 million (IBRD EUR 18.99 million; GOM EUR 18.99 million)

23. This subcomponent will enhance capacity and improve the functionality of the Border Crossing Points (BCPs) between Moldova and Romania. These investments include upgrades to access roads with climate resilient

[8] The approach to consider community requested works will be linked to the Project's citizen engagement activities and Stakeholder Engagement Plan. Examples of community requested works could include additional sidewalks and others as will be indicated in the Project Operation Manual

design and will be complemented by simultaneous modernization investments on the Romanian side of the BCPs that will be implemented by the Romanian Government.

24. *B.1. Construction and Road access to BCPs (Ungheni) (IBRD EUR 7.42 million; GOM EUR 7.42 million):* A new access road to the BCP will be developed at Ungheni to climate resilient standards and with modern customs processing, weighting, and scanning facilities and truck terminal. The BCP will be connected through a 0.5 km access to the national road network, for which a feasibility study is already available.[9] The subcomponent also finances consultancy services for feasibility studies, supervision, and monitoring services. The MCS will be responsible for the procurement and installation of equipment.

25. *B.2. Solidarity Lane customs facilitation & BCP upgrades (Giurgiulesti) (IBRD EUR 2.30 million; GOM EUR 2.30 million):* This subcomponent will encompass the following activities: (i)carry out a feasibility study for traffic management ; (ii) Expansion of the capacity of the existing parking/waiting facility in Giurgiulesti area and improving basic services such as toilets and water supply points for truckers; (iii) Procurement and installation of scanning equipment and software at the BCP facility; (iv) Supervision services.

26. *B.3: Road access and modernization of Leuseni/Albita BCP (IBRD EUR 9.26 million; GOM EUR 9.26 million):* This subcomponent will finance the upgrade of the BCP at Leuseni and expansion and improved climate resilience of the access road to the BCP.

27. *B.3.1 Upgrade of BCP at Leuseni*: The BCP upgrade will take place in two stages. Stage 1: full refurbishment of the existing freight entry facility and the passenger car exit facility; Stage 2: construction of a new freight exit facility. The subcomponent also finances procurement of fixed and mobile customs equipment and consultancy services for feasibility studies, supervision, and monitoring services.

28. *B.3.2 Access Road to Leuseni BCP*: The works involve: (i) using climate resilient design to widen the existing 1 km two-lane access road to four lanes, in line with the standards of a similar access road on the Romanian side; (ii) consultancy services for feasibility studies, supervision and monitoring services.

Component C: Building sustainability, delivery capacity and project management *support, (IBRD EUR 3.42 million)*

29. C.1. *Project audit (EUR 0.92 million):* This subcomponent will finance: (i) annual project audits; and (ii) Monitoring consultants for the Design and Build contracts as well as supervision consultants for the remaining civil works under Component A.1.

30. *C.2: Output and Performance Based Roads Contracting (OPBRC) system; and Road Asset Management System (RAMS) (EUR 0.92 million)*. Specific activities include: (i) an assessment of the enabling environment for adopting OPBRC, (ii) develop a strategy and implementation plan to guide its adoption; (iii) the development of a strategy and implementation plan to guide the adoption of OPBRC; (iv) training and capacity building on OPBRC

[9] Simultaneously, Romania will construct a bridge across the Prut River with a new BCP and 0.5 km access road of the same standard as the Moldovan side access road to the BCP.

matters. The subcomponent also supports the enhancement and full operationalization of the existent RAMS, to include climate resilience and road safety modules and will be interlinked with other systems such as meteorological data. Training and capacity building will be provided.

31. *C.3. Female internship program (IBRD EUR 0.18 million).* This Sub-component will help promote female employment in the transport sector, where women are underrepresented by designing and implementing jointly with academia a female internship program to open career opportunities in the sector.

32. C.4. *Incremental operating costs, project management and staff development (IBRD EUR 1.38 million):* This subcomponent will include: (i) consultancy support and (ii) incremental operating costs for each PIU.

Component D: Contingent emergency response (EUR 0 million)

33. Contingency Emergency Response Component (CERC) (US$0). This component will enable the reallocation of loan/credit proceeds from other components to provide immediate recovery and reconstruction support following an eligible crisis, as needed. Due to the vulnerability to natural disasters and the precarious regional security situation with potential repercussions on Moldova's stability, the GoM has opted to include a CERC that can be activated in case of an eligible emergency event. Following such an event, the GoM may request the World Bank to reallocate uncommitted project funds to emergency response. The CERC design will be contingent on the impact and type of emergency and will not be a-priori limited to any sectors, regions, or specific activities. CERC-financed activities will be demand- and event-driven and will be detailed in a GoM Action Plan of Activities. An eligible emergency, conditions for triggering the CERC, and a positive list of financed activities will be defined in the project's legal documents, and mechanics of the decision-making process and implementation will be reflected in the CERC Operations Manual, prepared as part of the overall Project Operations Manual (POM).

C. Project Beneficiaries

34. **Component A of the project ("linking local communities") is expected to directly benefit about 42,000 people, 133 businesses, 27 health facilities, and 84 schools located along rural road corridors selected for rehabilitation.** A household survey and data collection initiative (supported by LRIP) will further define the characteristics of beneficiary households under the project. This survey includes gender disaggregated data collection for travel behaviors and employment related variables. Component B of the project is expected to facilitate between 350,000 and 400,000 heavy goods shipments per year. Benefits will primarily accrue to shippers in Moldova, Ukraine, and Romania whose goods are transiting into, out of, or through Moldova's road BCPs.

Table 1. Summary of project beneficiaries under Component A "linking local communities."

Corridor	Corridor Location	Length (km)	Schools	Health facilities	Businesses	Population served
Corridor 5	R14 – Ivanovca-Izvoare-Vantina-Ocolina-R13	35.5	36	8	74	13,804
Corridor 8	Cornesti-Boghenii Noi – Napadeni-M5	33.5	27	8	23	12,543
Corridor 24	R34-Ciobalaccia-Tartaul-Baimaclia-Enichioi-R35	43.3	21	11	36	15,591
Total		**112.3**	**84**	**27**	**133**	**41,938**

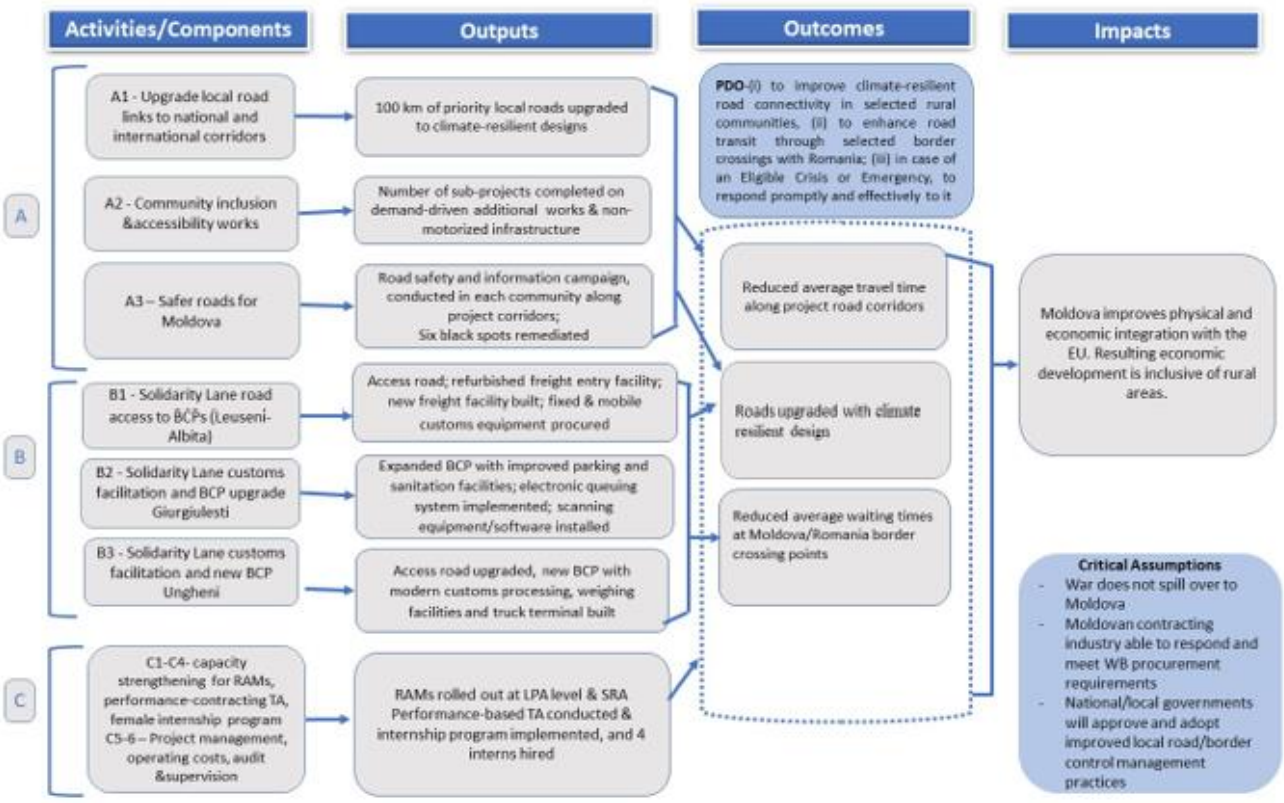
D. Rationale for the Bank Involvement and Role of Partners

35. The use of scarce World Bank resources is justified for the project, owing to the Bank's broad expertise and international experience in rural roads, which ensure the use of reliable procurement and financial management (FM) processes, the application of social and environmental safeguards, modern and well-adapted technical standards, the execution of road works with proper quality control, and the use of efficient monitoring and evaluation systems. At the GoM's request, the WB is the key partner focusing on local roads, while other IFIs focus on the TEN-T network. While local road maintenance is financed by the public sector, there is potential for private sector engagement through long-term maintenance contracts, which is part of a more complex sector reform agenda and policy dialogue underpinned by Bank analytic work. As demonstrated by the completed LRIP operation, the Bank can also bring international best practice in asset management, road safety and innovative contracting approaches for road maintenance. The World Bank plays a unique role in supporting the trade and transport facilitation agenda in Moldova and helping leverage and complement existing programs, while coordinating with the other IFIs. Additionally, the Bank is a key partner to the EC to support priority Solidarity Lane investments and recovery investments in Ukraine.

E. Results Chain

36. The Project's "Theory of Change" demonstrates a series of changes that need to happen during project execution and operation to achieve the PDO and longer-term impacts. The expected outcomes from the proposed Project are presented below in a theory of change that links them to proposed project components and activities.

Figure 1. Theory of Change



F. Lessons Learned and Reflected in the Project Design

37. **Based on lessons learned from LRIP, ensuring the readiness of civil works is crucial to begin implementation immediately after effectiveness.** LRIP faced significant delays, cost fluctuations, contract amendments, and extensions primarily due to a lack of readiness. Currently, the corridors selected under Component A of the project have designs in place prepared under LRIP. These designs are being updated to incorporate road safety interventions and EU construction standards adopted in 2021. Additionally, the preparation of the associated environmental and social (E&S) instruments has advanced to avoid delays in procurement due to absence of key E&S instruments such as the Environmental and Social Management Plans, Resettlement Action Plans, etc.

38. **Environment and Social:** LRIP was implemented under the Bank's Environmental and Social Safeguard Policies in effect at the time and was rated Satisfactory throughout implementation. Through LRIP, SRA, gained experience in regularly monitoring compliance of civil works with the Environmental Management Plans (EMPs). There was no land acquired as part of LRIP. From a social perspective, the project's introduction of Social Impact Monitoring Committees (SIMCs) in affected communities emerged as an effective modality to enhance community engagement and monitoring on a wide range of issues, such as road safety and grievance redress.

39. **Procurement Strategy**: The LRIP contracts had to be retendered due to a lack of upfront market assessment and packaging the civil works contracts based on the local construction industry capacity, which failed to attract

suitable bidders. To address this, the proposed project will package contracts based on a thorough assessment of local contractors' capacities to undertake works requiring specific technologies and resources. The Implementation Completion Report (ICR) of the LRIP has reinforced the importance of this lesson, emphasizing the need for upfront market assessment as part of the procurement strategy and consideration of local industry capacity to attract the right bidders and ensure successful project implementation. Preliminary dialogue with the local industry revealed adequate capacity of the local contractors and understanding of EU standards being newly adopted. Further detailed market assessment is underway and expected to be finalized by project appraisal.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

40. **The Project will involve two PIUs in the MCS and the SRA.** The MCS will be the implementing agency for border crossing enhancements and associated activities under Component B. Although MCS does not have recent experience implementing IBRD/IDA projects, the scale and scope of investments envisaged under Component B is expected to be within its capacity. The Bank will be providing additional guidance and implementation support to MCS as a "new" implementing institution based on the conducted fiduciary assessment covering FM and procurement. In addition to the core staff assigned from its pool, MCS would also need to fill in the vacant positions prior to the effectiveness date, as per the qualification requirement agreed with the Bank.

41. **The SRA will implement road rehabilitation works under Component A, as well as access roads and civil works part of Component B.** SRA has the experience of implementing the LRIP including the associated social, environmental, and fiduciary requirements. The coordination between the two PIUs will be ensured by a technical working group, to be established by the Government prior to effectiveness date, whose members comprise experts and specialists from the Ministry of Finance (MoF), the MRDI, SRA and MCS and others. A Moldo-Romanian Joint Commission has been set up, consisting of senior officials from Moldova and Romania who are responsible for overseeing overall progress under Component B, and will be underpinned by a coordination agreement entered between the two implementing entities. SRA assigned cores staff to the PIU for the preparation of the project and submitted to the Bank the PIU structure and staffing, some key positions are yet to be filled as per the qualification requirement agreed with the Bank, not later than the effectiveness date.

42. **Subsidiary Agreement.** To facilitate the implementation of their respective components and subcomponents, Ministry of Finance will execute a Subsidiary Agreement with SRA and MCS to ensure that the proceeds of the Loan/Credit is available to SRA and MCS, in terms and conditions acceptable to the Bank.

B. Results Monitoring and Evaluation (M&E) Arrangements

43. Two M&E staff for each PIU under the project will be responsible for the collection and monitoring of data for each component as per the Theory of Change and Results Framework. However, to ensure coherent reporting, the SRA PIU, as the institution with a well-established M&E system, will be responsible for collecting and reporting the consolidated set of project output and outcome indicators both to national stakeholders and the Inter-Ministerial Council, as well as to the Bank, as part of the semi-annual progress and results monitoring reports. The M&E system will be used to track a) procurement, physical and financial progress; b) the results of technical and

financial audits to measure compliance with technical designs and other relevant national norms; and c) beneficiary satisfaction with the quality of engagement, quality of technical works and the impact assessment.

C. Sustainability

44. **GoM has prioritized improved connectivity of local communities** to the economy by building resilient roads and complementary investments. SRA's resolve to commercialize its operation and maintenance companies is a testament to its commitment to efficient road maintenance. Part of the road fund's revenues are channeled to road maintenance; however, allocation is constrained by the limited amount of funds secured every year. Road fund sources need to diversify to include land value capture of developing roads, advertisement along the roads, etc. The RAMS is expected to improve efficiency of resources allocation for maintenance. Design standards are being improved to enhance road safety features in the design, as well as improve measures to address climate induced damages to the road network.

45. **Solidarity Lanes will continue to be a prominent part of TEN-T.** The GoM aspires to advance activities that are precursors to EU accession, including the modernization of the TEN-T transport network and BCPs. The solidarity lanes related investments financed by the project are of importance to the EU as they not only form part of the TEN-T, but also are key to addressing the impact of recent developments on trade flows and patterns.

IV. PROJECT APPRAISAL SUMMARY

A. Technical

46. **Road designs are informed by the experience from the recently completed LRIP.** The project roads are primarily loosely bound gravel surface and vulnerable to washouts and severe damages following heavy rains and floods, which are costly to repair. Under the project, the roads will be paved, designed to withstand not only growing traffic and increased axle load, but also to improve resilience to more frequent and severe climatic events. The pavement structure will be a composite layer of base course comprising cement-stabilized crushed limestone and two layers of asphalt concrete. This design not only improves pavement strength, but also reduces the quantity of hydrocarbon asphalt binder compared to traditional pavement designs through recycling the existing pavement and mixing it with Portland cement instead of asphalt. Several culverts and bridges will be replaced to increase their capacities to withstand increased flood discharges due to climate change over and above the quantity the structures are designed for. Annex 6 summarizes the list of structures and the associated cost to increase their capacity.

47. **Road safety and resilience measures will be mainstreamed in the project design.** They include traffic calming measures in settlement areas and paved sidewalks 1.5 meters on one side to segregate pedestrians from vehicular traffic. Road sections outside of settlement areas will typically have two lanes, each 3.0-3.5 meters wide. Bus bays and infrastructures for market platforms will be provided based on criticality and budget availability. Drainage structures will be rehabilitated as needed to improve resilience to climate hazards. Slope protection measures, including nature-based solution (NBS), will be included in the design, and implemented at sections with high embankments and areas prone to landslides. In settlement areas, side drains will be lined, and where possible,

closed to facilitate the safe crossing of people and animals. The project will also explore the installation of LED street lighting in settlement areas, powered by photovoltaic (PV) cells.

48. **For Component B, civil and electromechanical works will be undertaken to expand the current facilities for truck weighing, customs processing, vehicle parking, etc.** Capacities of access roads will be upgraded to match the increasing transit traffic and the upgraded capacities of the BCPs.

49. **The operation is aligned with the Paris Agreement on both mitigation and adaptation**. While the project envisages moderate climate adaptation risks, mitigation risks are expected to be minimum as highlighted below:

- **Adaptation risks:** The project design considers climate and disaster risks such as heavy precipitation, flooding, drought, and extreme temperature, identified using the Climate and Disaster Risk Screening Tools. Two of the three road corridors, subject to rehabilitation, are in regions at greatest risk of floods and with the greatest economic impact, estimated at two to four percent of their respective annual average GDP. The third corridor is in a region with a more moderate flood risk and with an impact estimated at one to two percent of its annual average GDP. Specifically, climate change risks and vulnerability will be managed and mitigated through heat-resistant paving materials for construction, updated design standards to include upgrade of existing infrastructure drainage system and increase of culvert capacities. Roads will be designed to include adaptation measures that boost climate resilience, including improved structural integrity of pavements, slope stabilization works, raised road formation levels, enhanced side-drains and culverts, upgraded bridges, provision of measures to prevent scour at bridge abutments, and riverside protection.
- **Mitigation risks:** The rehabilitation and upgrading of rural roads under Component A involve no capacity expansion, so this component is universally aligned. The objective of expanding the capacities of the BCPs and the related access roads is to effectively alleviate congestion and improve traffic management. This project aims to enhance the flow of vehicles by upgrading the BCPs and introducing additional equipment to streamline customs procedures. This in turn is anticipated to ease vehicle congestion, decrease the time trucks spend idling, and discourage the diversion of freight traffic onto longer routes. Considering these factors, the projected effects of the proposed project under Component B are expected to reduce greenhouse gas emissions.

B. Economic Analysis

50. **For Component A, the roads were subject to a two-stage evaluation. First**, 26 priority corridors were identified and ranked in 2015 as the core regional network based on a comprehensive multicriteria evaluation system**.** This included economic, technical, social, and environmental factors, with the goal of maximizing development outcomes. The three top project roads were selected based on the resource made available by the WB. **Second**, the economic viability of the prioritized investments was evaluated using a formal economic analysis conducted using the Roads Economic Decision (RED) model. A discount rate of 6 percent over an evaluation period of 20 years was used. The discount rate is set based on OPCS (Operations Policy and Country Services) guidance[11] and given Moldova's growth prospects (1.8 percent in 2023, 4.6 percent forecast in 2024) and constrained long-term growth prospect due to declining population. However, the economic robustness has been tested for higher discount rate scenarios of 8, 10 and 12 percent. Wherever applicable normal, diverted, and generated traffic growth have been computed.

51. **Projected Traffic Demand is as follows**: (a) Normal traffic forecast is based on: (i) population change in Moldova, which is expected to decline by 14 percent by 2050; (ii) GDP growth which contributes to an increase in freight demand and car ownership. IMF projects ~4 percent per annum to 2025 and 3 percent thereafter for Moldova. (b) *Diverted traffic*: primarily applicable to Corridor C8, due to its function linking TENT-T corridors. (c) *Generated traffic*: primarily applicable to Corridor C8, due to its proximity to the Ungheni free economic zone and the planned new Beresti logistics hub. No significant *generated or diverted traffic* is anticipated and considered for the other two corridors. Based on this, the rate of increase of average annual daily traffic (AADT) for Corridors 5 and 24 is kept at **4 percent** for 2024 - 2033; and **3 percent** for 2034 - 2043, for all types of vehicles. However, for Corridor 8.1 & 8.2, this rate of annual AADT increase is forecast ***8 percent*** for years 2024 to 2033 and ***6 percent*** for years 2034 - 2043. The table below summarizes the combined normal, diverted, and generated traffic demand forecasting.

Table 2. Traffic Demand Forecast for Local Roads, Component A

	Annual Average Daily Traffic (AADT) count						
Traffic Type	**Corridors**	**2023**	**2025**	**2030**	**2033**	**2038**	**2043**
Normal Traffic (based on population growth and GDP growth)	C5	1,395	1,399	1,661	1,838	2,141	2,494
	C8	775	777	923	1,021	1,189	1,385
	C24	1,724	1,728	2,052	2,271	2,645	3,082
Diverted Traffic (freight increase due to proximity to BCP)	C5	0	0	0	0	0	0
	C8	0	16	19	25	34	55
	C24	0	0	0	0	0	0
Generated Traffic[10]	C5	0	0	0	0	0	0
	C8	0	112	391	558	587	617
	C24	0	0	0	0	0	0
Overall Traffic Increment (% shows yearly increment)	C5		1,399 (0.1%)	1,661 (3.5%)	1,838 (3.5%)	2,141 (3.1%)	2,494 (3.1%)
	C8		905 (8.0%)	1,333 (8.0%)	1,604 (6.4%)	1,810 (2.5%)	2,057 (2.6%)
	C24		1,728 (0.1%)	2,052 (3.5%)	2,271 (3.5%)	2,645 (3.1%)	3,082 (3.1%)

52. The school and health facilities optimization programs are expected to have created additional trip demands on Project roads since the program started in 2014[11].

53. **Road construction costs**: Updated Road construction cost estimates (Table 3) at appraisal showed a significant increase from previous estimates as engineering designs reach completion. By comparison, cost per km from different countries[12] in the region is significantly less (Table 4). In addition, the average cost per km under recently closed LRIP was US$442,583/km. MIRD cited the following likely reasons for the high unit prices: (a) increased cost of construction materials; (b) enhanced scope of works, including new sidewalks in the Project communities and enhanced road safety measures; (c) limited availability of construction materials in the local

[10] Traffic due to Beresti logistic hub, Ungheni Free Economic Zone and EU Flagship investments in Ungheni rayon

[11] Preliminary studies estimate the consolidation of schools was expected to close 66 elementary, 270 middle and 15 high schools nationally and to have saved the government about US$2.2 million per year. No data on the savings from health services optimization exists.

[12] Based on a quick collection of data from a few countries in the region, data are not necessarily representing projects with similar scope as the Project roads, in addition the costs may not necessarily updated to the current price level

market and the need to import. Given the substantial increase in the cost estimates observed over the last year, a detailed benchmarking exercise of local road rehabilitation costs in the region prior to tendering shall be carried out to confirm the current unit prices or to revise them as necessary based on the findings.

Table 3: Cost of project Roads at Appraisal

Moldova Roads	Scope	Cost USD	Length, Km	Cost per km
Corridor 8	Reconstruction	33,917,959	34	997,587
Corridor 24	Reconstruction	54,853,203	40	1,371,330
Corridor 5	Reconstruction	47,807,100	36	1,327,975
			Av Cost/km	**1,232,297**

Table 4. Cost estimates for local roads rehabilitation in the region

Country	Road Type	Scope of works	Cost per km, USD
Ukraine	Local	Rehab	600,000
Romania	Local	Rehab	590,000
North Macedonia	Local	Rehab	254,100
Armenia	Local	Rehab	371,000
Albania	Local	Rehab	554,271
Serbia	Local	Rehab	420,000

Data Source: World Bank on-going and recently closed local roads projects.

54. **Economic evaluation results**: The baseline AADT ranges from 1,002 to 2,261 vehicles per day, of which 5 - 20 percent is trucks. The roads are two-lanes with an average design speed of 50 km/h. Two project alternatives have been evaluated for each road: 1: small repair works, and 2: full rehabilitation. Table 5 presents the economic evaluation results for Alternative 2, which was found more justified considering the vital benefits it provides, such as better climate resilience, environmental, social as well as road safety benefits. The overall EIRR of the component is 13 percent and the NPV is US$78.6 million corresponding to a B/C ratio of 1.83. The EA has been updated based on the latest road construction costs, which have increased significantly over the last one year. Despite the high cost, investments in the Project roads remain economically justified.

Table 5: Economic Evaluation Results, Component A

Corridor	Average cost/km (excl. VAT (Value Added Tax)) US$	EIRR (%)	NPV (M$)	B/C Ratio	Sensitivity Analysis			
					Base EIRR (%)	A: Costs+15%	B: Benefits-15%	C: A & B
Corridor 5	1,108,446	9%	11.1	1.35	9%	8%	7%	6%
Corridor 8	833,735	14%	20.52	1.96	14%	12%	12%	10%
Corridor 24	1,209,590	16%	46.98	2.18	16%	14%	14%	12%
Total		**13%**	**78.6**	**1.83**	**13%**	**11%**	**11%**	**9%**

55. ***Economic analysis - Component B.*** Economic benefits relate to a reduction in truck and car wait time, increased trade, and a reduction in GHG emissions. Based on the model used, the current cumulative wait times is 110 hrs and 75 hrs at Leuseni and Giurgiulesti borders, respectively. The appraisal was conducted for three political-economic scenarios which affect expected demand: i) Ukraine's grain export via the Black Sea coastal corridors (BSCs) is relaunched, ii) Ukraine's grain export via the BSCs is terminated, iii) trade between Moldova and the EU is

increased reflecting Moldova's EU candidate status. The ENPV (Economic Net Present Value) represents 20 percent of total net benefits as this reflects the share of financing provided by the World Bank loan.[13][14] The proportion of traffic demand for the Moldova-Romania route is influenced by the three scenarios across the three border crossing points (BCPs). However, it is assumed that traffic in the Romania-Moldova direction remains unaffected regardless of the scenario. BCP investment has a good economic performance under all scenarios, with BCP expansion showing even greater importance when the BSCs are not operational (Table 6). The comparatively lower EIRR is observed for Ungheni BCP which reflects the higher capital cost to construct a new border crossing point, compared to an upgrade at other locations.

Table 6: Economic Evaluation results, Component B

Demand Scenario	BCP	ENPV, €	EIRR
i) Grain export via BSCs continues	Leuseni	€ 55,019,111	46%
	Giurgiulesti	€ 36,650,467	58%
	Ungheni	€ 77,432,451	30%
	Total	€ 169,334,627	38%
ii) Grain export via the BSCs is terminated	Leuseni	€ 69,742,556	61%
	Giurgiulesti	€ 59,913,538	93%
	Ungheni	€ 222,870,301	72%
	Total	€ 352,761,340	72%
iii) Peace & EU Trade	Leuseni	€ 20,923,304	23%
	Giurgiulesti	€ 12,061,449	28%
	Ungheni	€ 74,748,750	23%
	Total	€ 108,072,407	23%

56. ***GHG accounting:*** (i) Component A interventions are expected to result in a marginal increase of GHG emissions. The 'without-project scenario" generates 508,804 tons equivalent gross Carbon Dioxide (CO2) emissions over a 20-year evaluation period while the "with-project" scenario generates 576,404 tons in the same period. (ii) Component B investments will result in net emission savings arising from reduction in time spent with engines idling for vehicles waiting for turns at the BCP area. The investments are likely to generate total GHG emission savings from 2025 to 2050 of between: (i) 138,000 and 206,000-tons CO2 for scenario 1, (ii) 10,000 and 13,000-tons CO2 for scenario 2 and (iii) 104,000 and 153,000 tonnes CO2e for the Peace & EU Trade scenario.

Rationale for public sector provisioning/financing, if applicable

57. ***Public financing is appropriate for the proposed Project.*** Moldova's rural road sector does not currently have access to private sector solutions that are sustainable. In addition, the low volume of road sections that would

[13] The remaining 80 percent of the investments are to be financed by EU Grant and Romania Government with 50 percent share from each) and will be implemented by the Romania Government. These include the construction of new bridges in Leuseni and Ungheni BCPs.

[14] The fact that 50 percent of the cost is available as a grant from EU will not affect the economic analysis as it would have a financial analysis.

be upgraded under Component A of the project are not amendable to any form of direct user charging (e.g., tolling) as the cost of collection and enforcement would not be justifiable relative to the revenue gained which could be directed to support investment.

58. **Implementation Readiness.** ***The Project is on track to move into implementation after effectiveness. considering the following major factors (i) Implementation Arrangement***: The PIU for the roads' component, SRA, has been established under the previous LRIP project and has gained capacity in implementing a WB funded project. SRA is currently managing a portfolio of over 1 billion USD of road projects financed from IFIs and the Road Fund. The State Customs PIU has the key staff and is in the process of mobilizing additional staff required; (ii) *Engineering Design and Safeguards*: For the road works (USD81.8 million), final design updates are underway and expected to be completed May 2024, and tenders for at least two of the three roads are expected to be launched by August 2024. E&S instruments have been disclosed and publicly consulted before appraisal in mid-February 2024. ESMPs (Environmental and Social Management Plan) are expected to be ready well before bidding on the works contracts. For investments in the border crossing points (US$20 million), feasibility studies will be completed by September 2024 and civil work contracts will be awarded towards the end of 2024. GOM has confirmed the availability of funding for its contribution for components A and B; (iii) *The Supply Market*: The procurement strategy has been finalized and is used to develop the procurement plan that considers the prevailing market to prepare appropriate packaging of procurement activities. The local construction industry has demonstrated its capacity in the predecessor project. A three-day workshop was given to SRA and contractors on OPBRC/Design and Build contracting methodology that will be piloted on the road's works. (iv) *Use of retroactive financing clause for eligible expenditures*: An agreement has been reached with GOM to advance activities ahead of project approval and effectiveness and, to retroactively finance eligible expenditures.

C. Fiduciary

C.1. Financial Management

59. **The FM arrangements and existing capacities of the SRA and MCS have been reviewed in accordance with the Financial Management Manual for World Bank Investment Project Financing Operations.** Overall, FM arrangements in these entities were found to meet the minimum requirements of the Bank Policy and Directive on Investment Project Financing. Each of the entities will handle FM matters under the components of their responsibility. For the SRA, the FM arrangements will be based on the well-established and functional FM set-up of the LRIP.[15] Given MCS' limited experience with project implementation, it will need to adjust its own systems to accommodate project requirements. The SRA will assume overall FM responsibility for the project, including preparing regular reports and audits with inputs from the MCS. Further details on FM arrangements and flow of funds mechanism are described in Annex 2. More specific details will be developed and provided in the Project Operational Manual (POM).

C.2. Procurement

[15] The latest review of LRIP FM arrangements was carried out in May 2023; FM performance was rated *Satisfactory,* acknowledging that all necessary control procedures are in place, determining compliance with all the reporting and auditing covenants. The audit opinions have been clean.

60. **Procurement under the project will also be managed by MCS and SRA.** The implementing agencies will assume the overall procurement function for their respective components, including coordination of the preparation of terms of references and technical specifications, procurement documents, and organization of procurement processes. As opposed to MCS, SRA has extensive experience in implementing Bank-funded operations and the Bank procurement procedures following the Procurement and Consultant Guidelines. SRA employs three Procurement Specialists, of which one is experienced in Bank procedures and use of the Systematic Tracking of Exchanges in Procurement (STEP). All specialists are familiar with procurement of civil works (on roads) and related consulting services. Procurement will be carried out in accordance with the World Bank 'Procurement Regulations for IPF Borrowers: Procurement in IPF of Goods, Works, Non-Consulting and Consulting Services,' dated September 2023 (the Procurement Regulations), as well as with the latest Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits. Overall, the proposed Project Procurement Strategy for Development (PPSD) provides an adequate justification for the selection methods in the Procurement Plan. Annex 2 includes a summary of the PPSD and other details on the procurement arrangements.

61. **Retroactive financing**. Subject to compliance with the applicable provisions of the Bank's Procurement Regulations, and the ESF, the project may retroactively finance expenditures of up to US$ 20 million incurred within 12 months prior to the signing of the Loan/Financing Agreement.

D. Legal Operational Policies

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Area OP 7.60	No

62. **The project's environmental & social risk is classified as Substantial**. Environmental and Social Standards (ESSs)[16] ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8, and ESS10 are considered relevant.

63. **The environmental risk of the project is rated Substantial**. The long-term development impacts of the project are expected to be positive. However, all anticipated civil works could, cumulatively, result in potential significant environmental risks and adverse impacts that are generated by the activities under Components A and B. But these are predictable, temporary and/or reversible, low in magnitude and site specific. Except for the construction of a short (0.5 km) new access road to Ungheni bridge and a 1 km road widening in Leuseni, the

[16] *ESS1: Assessment and Management of Environmental and Social Risks and Impacts; ESS2: Labor and Working Conditions; ESS3: Resource Efficiency and Pollution Prevention and Management; ESS4: Community Health and Safety; ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement; ESS8: Cultural Heritage; and ESS10: Stakeholder Engagement and Information Disclosure.*

proposed activities are road rehabilitation and maintenance within the "Right of Way" (ROW) areas. The potential negative environmental impacts are unlikely to extend beyond the project footprint, and include possible temporary disruption to current traffic circulation, traffic safety, damage to access roads, dust nuisance, gaseous emissions, potential pollution of soil and water resources, and momentary interference to neighboring settlements. All these can be managed through conventional mitigation and management measures. The project will not support any activities which might involve conversion of natural protected areas and forests or impacts on them as all project activities will be implemented on ROW and in small areas of agricultural land. It is expected that there will be no impact on physical cultural resources as the proposed activities will be implemented on existing local roads and on small expansion of agricultural land.

64. **The social risks of the project are rated substantial**. The main social risks are related to moderate scale civil works to rehabilitate rural roads on three main corridors (Component A), and to upgrade three border crossing facilities (e.g., reconfigured traffic lanes, new access roads, buildings, parking areas, wastewater treatment) (Component B). During construction phase, these works and related worker and community health and safety impacts (i.e., noise, traffic disruptions, road safety) will be substantively contained within the boundaries of the various existing sites and Rights of Way (ROW) and are considered manageable with conventional mitigation measures. Significant labor influx and use of work camps is not anticipated based on the expected scale and accessibility of work sites, and availability of local workforce. Although no transboundary impacts from construction are anticipated, the upgrades to Border Crossing Facilities (Component B) are connected to significant existing operations (e.g., Giurgiulesti Port) or activities being planned by other financiers (associated facilities) including a new bridge over the Prut River on the Romanian side of the border at (Ungheni-Ungheni); and upgrades to roads approaching/connecting to Leuseni BCP on the Moldovan side. Each of the three BCPs are in proximity to small rural communities currently experiencing significant impacts due to noise, road safety, blocked access to property, household and truck waste and exhaust pollution owing to a substantial increase in freight truck traffic diverted through Moldova and spilling over into the villages. Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) risks are considered as Moderate at appraisal given the project takes place within the context of broader induced influx into rural communities and increased traffic at border crossing points that are expected to persist through operational phases. The project is expected to alleviate such impacts once in operation by increasing capacity of the border control points and will further ensure that cumulative impacts (e.g., traffic and road safety) are assessed and mitigated, and that the benefits are maximized, through the environmental and social assessments including consultations, as well as a sub-component to support community initiatives. The project will prepare a SEA/SH Action Plan. The road re-alignment and infrastructure development for customs facilities will require some acquisition of agricultural land. Physical displacement is actively being avoided; however, the exact number of project-affected people impacted by economic displacement cannot be confirmed, pending completion of detailed designs during implementation. Small to moderate scale, temporary or permanent, economic displacement associated with rehabilitation works (component A) may also be needed and is being minimized through finalization of detailed designs.

65. SRA has previous experience implementing World Bank projects under Safeguard Policies. The two PIUs require additional environmental and social resources for implementation readiness to coordinate environmental and social risk management for the full range of activities under the project and issues covered under the Environmental and Social Framework (ESF).

66. To manage the environmental and social risks, the following assessments and management plans have been prepared, consulted and disclosed prior to appraisal in accordance with the relevant ESS, and in compliance with the World Bank's Environment, Health, and Safety (EHS) Guidelines: Environmental and Social Commitment Plan (ESCP); Labor Management Procedures (LMP); Stakeholder Engagement Plan (SEP); Resettlement Policy Framework (RPF); a site-specific Environmental and Social Management Plan (ESMP) for the rehabilitation of road corridor (C-8) for which the detailed design has been finalized; and, a preliminary Environmental and Social Impact Assessment (ESIA) for Component B. The ESCP also requires an Environmental and Social Management Framework (ESMF) for new potential subprojects that might include construction works (e.g., remediation of road safety "black spots," etc.) to be prepared, consulted, disclosed, adopted, and implemented within 90 days from the effective date, site-specific ESMPs to be prepared, consulted, approved by the Bank, and disclosed, for the other roads corridors included in Component A (C-24 and C-5), and full-site specific Environmental and Social Impact Assessments (ESIAs), for the subprojects included in Component B after finalization of detailed designs. See the link to the client's website where the ESF documents are publicly disclosed at: MRCP ESF Disclosure.

67. **As the project will also include a CERC component, if this is activated, an Environmental and Social Management Framework (ESMF) will be prepared for this component.** The guidance and procedures included in this CERC ESMF should be considered in the Emergency Response Manual (ERM) that will be prepared during the project implementation, and will contain the environmental and social requirements, if the CERC is activated. CERC Component will avoid activities or subprojects with complex environmental and social aspects (for example resettlement), because the CERC objective is to support immediate priority activities (less than 18 months). The subprojects with more environmental and social complexity could be financed with other specific sources of financing.

68. **The key measures and actions to meet the required environmental and social standards (ESSs), the necessary E&S permanent staff and consultants, other activities such as capacity building of the client and other agencies involved in implementation, are reflected in the Environmental and Social Commitment Plan (ESCP)** drafted prior appraisal and finally agreed with the Borrower at project negotiation stage. Disclosure and consultation on the ESIA, site-specific ESMPs, SEP, RPF, LMP and ESCP were undertaken prior to project appraisal and the documents were revised to reflect the feedback from the consultations.

E. Citizen Engagement, Gender, Inclusion, Climate Change Co-Benefits, Maximizing Finance for Development

69. **Citizen engagement.** Consultations, social accountability, community-driven development, collaboration, and empowerment along with other citizen-cantered initiatives have long been an integral part of the WB transport projects in Moldova. As local communities are the primary beneficiaries of the Project, their involvement in the rehabilitation and maintenance of local roads will be important to the implementation of the project. SRA holds gender-representative consultations in all affected local communities every six months and this practice will be continued. Additionally, subcomponent A.2 financing will enhance the participatory role of the communities in the Project implementation through allocating small grants to address community-identified complementary infrastructure needs, such as access roads to schools and hospitals, parking spaces and bus stops.

70. **Beneficiary satisfaction surveys.** The project will use beneficiary satisfaction surveys for both components to assess satisfaction with the quality of the rehabilitated roads and the quality of service provided at BCP, including social and sanitation facilities. These surveys would be carried out at the beginning of the project to establish the

baseline, mid-term (on completed road sections and BCPs) and upon completion of the project as part of the overall impact assessment.

71. **The project will establish project-level redressal mechanisms (GRMs) that will be managed by both PIUs and ensure public awareness of the project GRMs and their scope. The GRM should be publicized and maintained throughout project implementation.** The GRM will be implemented no later than 45 days after project effectiveness and will include procedures and capacity to handle complaints associated with SEA/SH including referral to specialist national service providers. In the event of land acquisition, temporary, locally based GRMs will be formed to address land-related grievances. The project will develop a project-cite GRM to receive and address all grievances related to labor. The project will enable different channels of grievances such as through email, direct, telephone, and social networks as well as keep track of all grievances in a grievance register using procedures that appropriately protect the identities of affected individuals, whenever necessary. The SRA PIU will be responsible for providing consolidated quarterly reports summarizing issues raised during local consultations, grievances received and progress of resolution. The report will be submitted for the Bank's review. Beneficiaries that will not be satisfied with the response to their complaint will be able to submit an appeal to the community monitors for the local road component and to a review committee at the Customs Office. The GRM will not prevent the beneficiaries from bringing their grievances to national courts. The project will also include citizen engagement-specific indicators such as community satisfaction with the quality of investments, community feedback on the effectiveness of engagement processes; and responsiveness of implementing entities to grievances.

72. **Gender considerations.** The project expects to reduce some of the gender discrepancies in rural areas. First, about one third of the employed women in Moldova work in the public sector (for example, health, education, social care). By better connecting local communities to health and education facilities, the project will create a more conducive mobility environment for all but primarily for women, who rely on public transport infrastructure more than men, to access these essential facilities for themselves and their children. Gender considerations (e.g., needs of women with young children using border crossing facilities) will be incorporated into the detailed designs of BCPs. Further, the road safety program will help address a significant social issue in Moldovan society—the high percentage of men dying in road accidents. At the same time, as women are less likely than men to own cars, they tend to be more vulnerable to road accidents as pedestrians. Enhanced roads safety infrastructure will mitigate those risks for both women and men. Project indicators assessing the effectiveness of safety programs will all be disaggregated by gender. Lastly and importantly, the MIRD will design and implement a female internship program providing female university students in their last year and graduates hands-on theoretical and practical work experience in the project by placing them in traditionally male-dominated mid and high skilled roles. More details on the internship program can be found in the Gender Annex 3.

73. ***Inclusion.*** A gender-focused social survey that assesses the road usage patterns of different social groups (i.e., men, women, youth, pensioners, unemployed, businessmen, and so on) and their safety-related needs and concerns is planned to be conducted by SRA during preparation (as part of the ongoing IDA-funded LRIP) to better inform the new project. The safety needs of the most vulnerable road users (pedestrians, children, bikers) will be consulted and included in the technical design update.

74. ***Maximising Finance for Development.*** The project will have no scope for mobilizing private capital however, by virtue of incentivizing contractors to innovate in the Design and Build contracting model piloted under Component A, the project is considered an MFD enabler (MFD-E).

V. GRIEVANCE REDRESS SERVICES

75. ***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). Project affected communities and individuals may submit their complaint 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), visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Accountability Mechanism, visit https://accountability.worldbank.org.

VI. KEY RISKS

76. **Overall project risks are "Substantial."** These risks stem primarily from Moldova's political situation and macroeconomic condition, the project's social and environmental issues, and stakeholder groups who could affect the pace and quality of implementation.

77. **Political and Governance risks are "Substantial."** The political environment of Moldova reflects both domestic challenges as well as regional challenges from beyond Moldova's borders which are not under the project's immediate control. Unpredictable electoral outcomes, and changes to government priorities could substantially affect the project's ability to achieve its intended development objective. However, the risk is partially mitigated by the fact that the road subprojects constitute a vital element of a national program aimed at improving connectivity for the underserved rural population. The program is broadly supported and has withstood multiple election cycles. Similarly, the expansion of BCPs is a national priority, has high profile support and funding by the EU, and is viewed as a means for improved access to and integration with the EU. The residual risk is "substantial" because of the unpredictable nature of Moldova's elections, potential for political instability, and the impact such disruption can have on project implementation.

78. **Macroeconomic risks are "High."** Moldova has faced macroeconomic challenges in recent years in the form of fiscal deficits, inflation, changes to patterns of international trade, and volatility in foreign exchange rates. The high macroeconomic risks to the project stem from the dependency of the economy on imports of energy, construction material, and equipment; the continuing high rate of inflation; and associated challenges of fiscal sustainability. The GoM has committed to providing the counterpart funding required to implement the project and to cover potential cost overruns that may materialize. The Bank has a robust program of budget support and closely monitors evolving macroeconomic risks in coordination with the EU and the International Monetary Fund (IMF) whose program serves as a macro-fiscal anchor. An important mitigating factor is also that most of the government's forthcoming financing is expected to be provided by bilateral donors and international financial institutions (IFIs) on concessional terms. Moreover, Moldova's EU candidate status may result in higher grant funding. Nevertheless, given Moldova's susceptibility to exogenous shocks, residual risks are "high."

79. **Social and Environmental risks are "Substantial."** The project entails moderate scale civil works at multiple locations with associated environmental and social risks and impacts and requiring coordination and supervision between two project implementing agencies. Component B will require land acquisition for the expansion of BCPs and associated parking facilities. Component A rehabilitation works will be taking place on existing roads within existing rights of way, and with the primary aim of upgrading transport infrastructures. The project is not expected to physically displace households but has the potential for economic displacement under Component A and B that is being minimized through finalization of detailed designs. To manage the environmental and social risks, the project has prepared, consulted, and disclosed a series of environmental and social assessments and management plans, including a stakeholder engagement plan, that will be implemented in accordance with the ESCP. The ESCP also requires additional assessments to be prepared, consulted, disclosed and adopted during implementation, as sub-projects are identified, and detailed designs for various components are completed. The environmental and social risk management structure and coordination between project implementing agencies is delineated in the ESCP and a coordination agreement.

80. **Stakeholders' risks are "Substantial."** The project entails two PIUs and has numerous interfaces with different stakeholder groups. For component A implemented by SRA, at the level of individual road corridors these include local administrations, community members themselves, and providers of local utility services (water, power, telecoms, etc.) that would be affected by civil works. The SRA and some local contractors have experience in managing community and other stakeholder inputs and addressing grievances from the previous LRIP. For component B jointly implemented by SRA and MCS, the project includes interfaces with different line ministries. Despite the multitude and complexity of stakeholder engagement, coordination between the two PIUs will be managed by an established inter-ministerial council group comprised of officials from the MoF, the MRDI, SRA and MCS. The technical group, on the other hand, comprises experts and specialists who will address technical aspects of implementation. For the transborder coordination, the Moldo-Romanian Joint Commission has been set up, consisting of senior officials from Moldova and Romania who are responsible for overseeing progress on the BCP-related activities. The residual risk is "substantial," largely because the Joint Commission is new and border and customs procedures have a large bearing on wait times, notwithstanding the improved capacity of BCPs.

VII. RESULTS FRAMEWORK AND MONITORING

PDO Indicators by PDO Outcomes

Baseline	Period 1	Period 2	Closing Period
To improve climate resilient road connectivity			
Reduced average travel time along project road corridors. (Percentage)			
Feb/2024	Dec/2025	Jun/2027	Jun/2029
0	5	10	15
Roads upgraded with climate resilient design (Kilometers)			
Feb/2024	Dec/2025	Jun/2027	Jun/2029
0	20	60	95
To facilitate road transit through selected border crossings with Romania			
Reduced average waiting times of heavy-duty vehicles at select Moldova/Romania border crossing points (Hours)			
Feb/2024	Jun/2027		Jun/2029
1.5	1.0		0.8
➢Average waiting time at Leuseni border (Hours)			
Feb/2024	Jun/2027		Dec/2027
1.7	1.0		0.9

➢Average waiting time at Giurgiulesti border (Hours)			
Feb/2024			Dec/2027
1.3			0.7

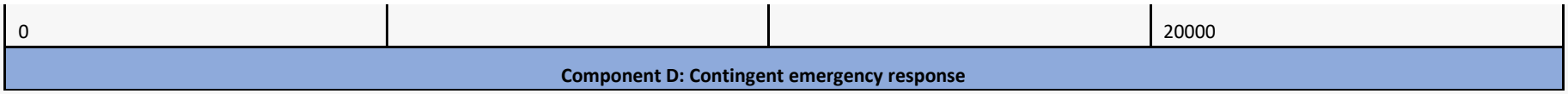
Intermediate Indicators by Components

Baseline	Period 1	Period 2	Closing Period
Component A: Linking local communities with economic opportunities			
Roads rehablitated (Kilometers)			
Feb/2024	Jun/2025	Jun/2026	Dec/2028
0	25	60	95
➢Roads rehabilitated - rural (Kilometers)			
0			95
Complementary infrastructures built (Text)			
Feb/2024			Dec/2027
Non existent			Complementary Infrastructure built
Selected blackspots remediated (Number)			
Feb/2024			Dec/2027
0			6
Number of people that benefit from improved access to sustainable transport infrastructure and services: (Number)			
Feb/2024			Dec/2027

0			40000
Beneficiary satisfaction index of local roads users (Number)			
Feb/2024			Dec/2027
2			5
Speed calming measures are implemented in settlement areas connected by project roads (Yes/No)			
Feb/2024			Dec/2027
No			Yes
Average IRI or project road corridors improve (Number)			
Feb/2024	Dec/2025	Jun/2027	Jun/2024
10	8	5	3
Millions of people with enhanced resilience to climate risks (Number)			
Feb/2024			Dec/2027
0			40000
Component B: Facilitating trade and expanding Solidarity Lanes			
New system for vehicle processing at Leuseni BCP installed (Text)			
Feb/2024			Sep/2025
Old system			New system and equiment
Vehicle entry/exit capacity increased at Leuseni BCP (Text)			
Feb/2024			Sep/2027
Single track			Double track

Access road capacity increased for Leuseni BCP (Text)			
Feb/2024			Sep/2027
Two Lane			Four Lane
New road BCP built at Ungheni (Yes/No)			
Feb/2024			Sep/2027
No			Yes
Access road to Ungheni BCP is constructed (Kilometers)			
Feb/2024			Sep/2027
0			0.5
Modern scanning equipment acquired and installed at the Giurgiulesti BCP (Yes/No)			
Feb/2024			Dec/2025
No			Yes
Truck parking upgraded at Giurgiulesti BCP (Yes/No)			
Feb/2024			Nov/2025
No			Yes
Beneficiary satisfaction index (Number)			
Feb/2024			Dec/2027
2			5
Component C: Building sustainability, delivery capacity and project management support			
Assessment of constraints to adopt OPRC is carried out (Yes/No)			

Feb/2024			Mar/2025
No			Yes
Legislation/regulation for OPRC adoption prepared (Yes/No)			
Feb/2024			Oct/2025
No			Yes
Climate resilience module developed and synchronized with RAMS (Yes/No)			
Feb/2024			Jun/2029
No			Yes
Technical audit conducted (Number)			
Feb/2024			Dec/2027
0			3
Female university students in their senior year or graduates recruited for 6-month paid internship program at MIRD, SRA, and Railways in engineering, ICT, and other similar male-dominated fields. (Number)			
Feb/2024			Jun/2029
0			25
Females hired in MIRD, SRA, and Railways in male-dominated roles, e.g., engineers and ICT specialists, following their graduation from the internship program. (Number)			
Feb/2024			Jun/2029
0			4
People benefitting from greater gender equality from actions that expand and enable economic opportunities (Number)			
Feb/2024			Dec/2027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20000
Component D: Contingent emergency response

ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Republic of Moldova
Moldova Rural Connectivity Project

Strategy and approach to support implementation

1. The strategy for implementation support has been developed based on the nature of the project and its risk profile. It aims at making implementation support to the client flexible and efficient. Special emphasis will be given to supporting State Customs, which has no previous experience implementing World Bank financed projects.

- **Procurement.** The procurement related implementation support will include: (a) timely advice from the country office-based procurement officer on various procurement related issues and guidance on the Bank's Procurement Regulations; (b)monitoring of procurement progress against the procurement plan.
- **Financial management.** During implementation support missions, the Bank team will review the project's financial management system, including but not limited to accounting, reporting and internal controls.
- **Institutional strengthening.** The institutional strengthening component will receive substantial focus during the project implementation phase. This will include regular dialogue on the progress of specific capacity building within the sector developed for efficiently and effectively maintaining and improving the regional and local road networks.
- **Environmental and social.** The Bank's environmental and social specialists will provide regular support in strengthening the capacity of SRA in tackling safeguards related issues. Additionally, the Bank's E&S specialists will provide guidance to SRA and SC to address the specific issues that may arise.
- **Various technical aspects.** The Bank team will supervise the implementation of the project on a daily basis to provide needed support and guidance to the project implementation units on various aspects of interventions.
- **Operation.** The Task team leaders of the project will lead it and ensure regular implementation support.

Implementation Support Plan

2. Implementation support missions, including field visits, will be carried out semi-annually, and will focus on: (a) technical aspects of works, and (b) institutional strengthening.
3. The implementation support missions will involve engineering, procurement, financial management and safeguards specialists at least once annually.
4. Particular focus will be put on supervising the implementation of (a) the Output and Performance Based Road Contracting (OPRC) package, and (ii) the Institutional strengthening component.
5. Capacity regarding environmental and social aspects will be continuously monitored by the Bank environmental and social specialists who will participate regularly in implementation support missions and provide input directly to the client during ESMP and RFP preparation and works supervision.
6. The midterm review of the project, expected to take place in the first quarter of 2018, will include technical workshops to discuss the implementation of the multi-year performance contracting, the implementation of simplified designs, the maintenance component, as well the implementation of the institutional activities.

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Senior Transport Specialist -Task Team Leader (TTL1)	10/year	Technical trips as required and two missions per year	HQ based
Senior Transport Specialist -Task Team Leader (TTL2)	25/year	Field trips as required and two missions per year	CO based
Team Assistant	15/year		CO based
Procurement Specialist	4/year	Field trips as required and two missions per year	CO based
Financial Management Specialist	4/year		CO based
Environmental Specialist	3/year	Field trips as required and two missions per year	Regionally based
Senior Social Specialist	2/year	Two missions per year including field trips as required	HQ Based
Social Specialist	3/year	Field trips as required and two missions per year	CO based
Gender Specialist	2/year	One mission per year	HQ based

ANNEX 2: Procurement and Financial Management

Financial management

1. The FM arrangements, including existing capacities of the SRA and MCS, have been assessed in May 2023 to determine if these arrangements (budgeting, accounting, reporting, internal control, staffing, funds flow, and audit) are satisfactory to the World Bank. The project FM assessment confirmed that (a) FM staff of SRA have experience in implementing World Bank-financed projects; (b) the audits of externally financed projects implemented by the SRA generally revealed no issues; (c) both SRA and MCS prepare regular financial reports to the donors and the Government; and (d) the entities apply national rules for budgeting, funds flow, and internal control that are acceptable to the World Bank. Since MCS has no recent experience with implementation of WB financed projects, a qualified FM consultant could be hired to help them with managing FM function under the component they are responsible for. The assessment concluded that the existent FM arrangements at the entities satisfies the Bank's requirements and will be applicable for the new project. Both entities will maintain a project accounting system, capable of accurately tracking all project resources and expenditures and generating regular financial reports. The SRA will keep the main fiduciary responsibility for the project by consolidating financial information of the projects and arranging project audits. The FM arrangements proposed for the operation for each of the elements of the FM system are described in the following paragraphs.

2. The major FM risks associated with the project are: (i) the insufficient or untimely budgetary appropriation and allocation, (ii) inadequate coordination between SRA and MCS on financial reporting and auditing; and (iii) insufficient FM capacity given the current workload of the SRA and MCS. To mitigate these risks, SRA and MCS will need to ensure that realistic project budgets and forecasts are included in the country's Medium-Term Budgetary Framework and the Annual State Budget laws, and that any required budgetary revisions are coordinated with MOF in a pre-emptive and timely manner. The POM will clearly describe the SRA's and MCS' responsibilities in relation to the financial reporting and auditing, detailed procedures, and timeline for submission of financial and audit reports. All these will also be embedded in the Agreement to be concluded between the SRA and MCS. The capacities of SRA and MCS will be strengthened with additional staff as needed. Additional training could be provided by the WB fiduciary team upon request. The proposed project's residual FM risk is assessed as Moderate.

3. The proposed project will rely on some elements of Moldova's public FM system. These specific elements include: (a) planning and budgeting - project planning will be done in accordance with the budgetary rules and budget preparation procedures established by MoF for all budgetary units, and the project will be included in the Annual State Budget laws; (b) flow of funds - the funds will flow through a single treasury account; (c) execution of project budget - the project related payments will be executed by the State Treasury by applying additional controls over project spending. The results of the 2021 Public Expenditure and Financial Accountability Assessment of the Public FM systems in Moldova show that budget planning, budget execution, controls and reporting are overall strong at central and subnational levels.

4. **Budgeting and planning.** The SRA and MCS have adequate budgeting and planning procedures in place. They follow the rules and procedures established by the MoF for budget approval, execution, reporting, and monitoring. The same rules would apply to the project. The budgets of the projects funded from external sources are included in the country's annual state budget document, which provides a basis for opening budget allocations for the projects. The project budget will be prepared based on the Procurement Plan. The budget is normally disaggregated by financing source, implementing agency, components, and expenditure category according to the applicable budgetary classification. The approved annual budget will be entered into the accounting system.

5. **Accounting and reporting.** The project accounting will be conducted as per Cash Basis IPSAS. SRA and MCS will keep project-related records in automated accounting software which generates reports in the format required by the World Bank. Currently, it satisfies the statutory accounting and reporting requirements established by the MoF for public institutions. Additionally, both entities will keep accrual accounting as required by local legislation.

6. **Internal control.** The existing internal control system at the SRA and MCS is appropriate and can provide reliable and adequate controls over FM and disbursement processes and procedures. These include controls for safeguard of assets, segregation of duties, authorization of transactions, review and approval of invoices, contract management, and others. The internal control system as well as additional reporting and auditing requirements will be specified in detail in the FM chapter of the POM.

7. **Staffing.** SRA staff are familiar with FM and disbursement requirements under the projects financed by the World Bank. Their FM capacities are assessed as satisfactory. MCS has no recent experience with implementing the WB projects, so they may need to hire a qualified accountant who will support FM matters. Otherwise, the WB team can provide on-board training for the existing staff to be involved in the project.

8. **Project IFRs**. The IFRs will be used for project monitoring and supervision. MCS will prepare and submit their financial reports to the SRA which will consolidate them into project IFRs. The IFRs, to be prepared on cash basis, will include: (a) Project Sources and Uses of Funds, (b) Uses of Funds by project components and subcomponents, (c) Designated Account Statements, (d) A Statement of the Financial Position, and (e) SOE (Statement of Expenditures) Withdrawal Schedule. These financial reports will be submitted to the World Bank within 45 days of the end of each quarter, with the first reports under the proposed project being submitted after the end of the first quarter of initial disbursement.

9. **External audit.** SRA will be responsible for arranging the independent annual financial audit of the project. The costs of the audit will be covered by the project proceeds. The audits will follow the International Standards on Auditing issued by the International Auditing and Assurance Standards Board. An independent private audit firm acceptable to the World Bank will be selected based on the Terms of Reference agreed with the Bank. The annual audit reports will be provided to the World Bank within six months of the end of each fiscal year and at project closing. The borrower has agreed to disclose the audit reports for the project within a month of their receipt from the auditors and acceptance by the World Bank, by posting the reports on its official website. Following the World Bank's formal receipt of these reports from the borrower, the World Bank will make the audit reports publicly available according to the World Bank Policy on Access to Information.

10. **Disbursement and flow of funds**. The SRA and MCS will establish separate DAs in the loan currency specifically for this project, in the National Bank of Moldova, which is acceptable to the World Bank. The project disbursements as well as DAs and associated operating accounts will be managed individually by the SRA and MCS with respect to the components they are responsible for. For this purpose, both entities will have access to the World Bank's Client Connection platform. The operating accounts (opened in the Treasury of the MoF) will be used for payments in local currency obtained through conversion of DA currency. The expenditures paid from the DA will be documented to the World Bank through State Owned Entreprises (SOEs). Withdrawal applications documenting funds utilized from the DA will be sent to the World Bank in line with the agreed schedule. DA ceiling will be provided in the Disbursement and Financial Information Letter (DFIL). In addition to the DA, the project funds will flow from the World Bank through the direct payment method, reimbursement method, and/or special commitments. Detailed instructions on withdrawal of loan proceeds with respect to these methods will be provided in the DFIL. The MoF will authorize designated officials of the SRA and MCS to withdraw funds from the project financing account. The DA will be audited annually in conjunction with the audit of the project financial statements.

Procurement

11. **Project Procurement Strategy for Development (PPSD).** Based on the Project requirements, operational context, economic aspects, technical solutions, and market analysis, a PPSD has been developed for the Project. The PPSD identifies the following types of activities: (a) consulting services; (b) goods; (c) works; and (c) non-consulting services. Relevant market analysis has been carried out for different procurement packages and informed the decision on packaging of procurement activities. The list of major contracts with estimated cost, selection method and planned dates is provided below.

12. **Proposed procurement approach.** The project is financed from three sources: IBRD, IDA and Counterpart Funding where all the funds (excluding operating cost) will be used for procurement. Works will total approx. USD (US DOLLARS) 166m, followed by goods, IT (Information Technology) and non-consulting services in the amount of approx. USD 10.5 m and consultancy services in the amount of approx. USD 10.5 m. *Civil works:* the major civil works contracts include road upgrading, interventions complementary to road works, non-motorized transport infrastructure, remediation of road safety "black spots", modernization, construction of BCPs. The largest civil works contracts are those related to the selected corridors. The PPSD suggests that the upgrading of the three corridors be tendered separately for each corridor with the package being split into contracts (lots). The cost estimate per package varies between USD 33.6 m and USD 54.4 m. Civil works for two corridors will be procured using the international market approach applying the Request for Bids method (two envelopes with rated criteria). One corridor will be procured by applying the Request for Proposals for works (Design and Build) without Initial Selection as justified through the PPSD, international market approach. Other civil works are of a smaller value (ranging between USD 1 m and USD 9.6 m per contract) and will follow the national market approach. The market analysis concluded that there is a strong local market for these works. *Consulting services:* Consulting services are of a different nature and complexity. These include: (i) services related to civil works (feasibility studies, technical designs, supervision services); (ii) communication and awareness campaigns; (iii) setting up of the OPBRC system; (iv) road safety audits. The value of these contracts varies between USD 40,000 and USD 1.5 m. The largest consulting services

contracts are those for supervision of works. The project will also design and implement a female internship program. Most of the contracts will follow the national market approach and the PPSD confirmed the availability of the local market for the required services. However, several contracts will require international expertise and irrespective of the cost estimate, these will need to be tendered using the international market approach. These are the contracts for the road works supervision services, elaboration of selected feasibility studies and technical designs. In addition, the setting up of the OPBRC system would require international experience as well, given that such contracts have not been implemented in Moldova in the past. Procurement of consulting services will primarily apply the Quality and Cost Based Selection. Several contracts will apply the Least Cost selection method given their standard nature and the small-value contracts will apply the Consultants Qualification-based Selection method. *Goods and IT:* Major contracts for supply of goods, IT systems and non-consulting services include: (i) procurement of equipment in BCPs; (ii) technical assistance to operationalize the RAMS. The value of these contracts varies between USD 200,000 and USD 7 m (the largest being the procurement of scanners in BCPs). Contracts for the supply of equipment in BCPs will follow the international market approach. There are several contracts which will follow the national market approach given their comparatively smaller value and availability of a strong local market in the respective area. Although market research finds a significant number of potential consultants/suppliers/contractors in Moldova for the types of expenditures needed, the participation of reputable and qualified international firms will be beneficial to Project implementation. Therefore, the WB recommends that the Project approaches international markets for larger-value contracts and for those critical for the Project. For procurement following the international market approach, the WB's Standard Procurement Documents should be used.

13. **Procurement under Contingent Emergency Response Component (CERC).** It was agreed that, once the CERC is triggered, the SRA and MSC will revise the PPSD to include a section applicable to the CERC. The CERC-PPSD will focus mainly on complex contracts and new or innovative procurement, rather than on smaller, routine contracts. The strategy will describe, among other things, how procurement opportunities and risks will be managed in emergency circumstances and how suppliers and contractors will be motivated to bid and incentivized to perform. Procurement arrangements under the CERC will be streamlined. The World Bank's oversight and due diligence for procurement will be done through augmented implementation support with close monitoring, increased procurement-related post review, and/or third-party procurement reviews. Given that the CERC is contingent, and event driven, no Procurement Plan for the CERC can be prepared ex ante.

14. **National Procurement Procedures (NPP).** Public procurement regulations in Moldova were assessed and it is concluded that the NPP cannot be used at this stage. The new Public Procurement Law (PPL) No. 131, which entered effect on May 1, 2016, is better adjusted to the EU Directives. While the PPL provides a good basis for the public procurement system and properly draws the legal framework for a sound public procurement system, the law has not been fully implemented/applied, and there are still critical areas which require major reforms, including the e-procurement system. The Government has developed the National Program for the Development of the Public Procurement System for 2023–2026 and embarked on major reforms in this sector. Given the ongoing and planned reforms, as well as various technical issues with the current e-procurement system, the PPSD suggests that the project adopts the Standard Procurement Documents developed by the World Bank or any other procurement documents agreed with the World Bank for procurement following the national market approach.

15. **Complaint handling mechanism.** The project is required to ensure recording of procurement-related complaints in the STEP system. The World Bank, MCS, and SRA will use STEP to track complaints. The MCS and SRA will be responsible for performing the following actions in STEP: (a) promptly record all complaints relating to procurement process; (b) for procurement process complaints received on contracts subject to the World Bank's prior review, submit the MCS/SRA's proposed response to each complaint before issuing it to the complainant(s); (c) record the MCS/SRA's response to the procurement process complaints upon issuance to the complainant(s); and (d) promptly register requests for debriefings and update STEP with the record of the debriefings to interested parties. Procurement-related complaints arising in connection with contracts where the World Bank's Standard Procurement Documents are required to be used will be handled in accordance with Annex III of the Procurement Regulations. Procurement-related complaints under national market approach contracts will be handled in accordance with the procedures defined in the POM.

16. **Systematic Tracking of Exchanges in Procurement (STEP)**. STEP will be used under the project. All procurement transactions for post and prior review contracts under the project must be recorded in/processed through the World Bank's planning and tracking tool - STEP. This ensures that comprehensive information on procurement and on the implementation of all contracts for goods, works, non-consulting services, and consulting services awarded under the project are automatically available. This tool will be used to manage the exchange of information (such as bidding documents, bid evaluation reports, no-objections, and other procurement documents) between PIUs and the Bank.

17. **Procurement documentation.** All documentation with respect to each procurement will be retained by the MCS and SRA according to the requirements of the Legal Agreement. The MCS and SRA will furnish such documentation to the World Bank upon request for examination by the World Bank or its consultants/auditors. Documents about procurement subject to post-review will be furnished to the World Bank upon request.

18. **Procurement prior review thresholds.** The procurement prior review thresholds will be set by the World Bank based on the project's procurement risk level. All contracts at or above the set thresholds are subject to international advertising and the use of the World Bank's Standard Procurement Documents. Use of certain procurement approaches—specifically best and final offer, procurement processes involving contract negotiations, competitive dialogue, and sustainable procurement—are not foreseen under the project, but these approaches will be subject to the World Bank's procurement prior review, irrespective of the contract value, if the decision is taken during project implementation to apply them. The applicable thresholds are defined in table 1.2 and will be specified in the Procurement Plan.

Table 1.2. Prior Review Threshold

Type of Procurement	Method Threshold (US$, millions)	Prior Review Threshold
Works (including turnkey, supply and installation of plant and equipment, and public-private partnership)	Open International ≥ 10 Open National < 10 Request for Quotations < 0.4	All contracts above US$15 million equivalent
Goods, information technology, and non-consulting services	Open International ≥2 Open National < 2 Request for Quotations < 0.2	All contracts above US$4 million equivalent
Consulting firms	Selection Based on Consultants' Qualifications < 0.3 Least Cost Selection and Fixed Budget Selection - in justified cases Quality- and Cost-based Selection and Quality-based Selection - in all other packages National Consultant Ceilings < 0.5	All contracts above US$2 million equivalent
Consulting - individuals	No threshold	All contracts above US$400,000 equivalent
Direct selection Thresholds defined above for the respective expenditure	No threshold	As per paragraphs 6.46 and 7.26 of the Procurement Regulations

Note: Based on the procurement performance of the proposed project, these thresholds may be subsequently modified.

List of major contracts to be financed under the project

Description	Estimated Cost (USD Mln)	Planned Contract Signing	Implementing Agency
A1.1 Road upgrading along local corridors (8.1 and 8.2)	33.6	Year 1	SRA
A1.2 Road upgrading along local corridors (24)	54.3	Year 1	SRA
A1.3 Road upgrading along local corridors (8.1 and 8.2)	47.4	Year 1	SRA
Upgrade of the access road to the Albita-Leuseni BCP	9.9	Year 2	SRA
Construction of the new BCP in Ungheni	8.3	Year 2	SRA
Procurement of 2 X-ray scanners	6.8	Year 1	MCS
Upgrade of the access road to the Albita-Leuseni bridge	9.9	Year 2	SRA

ANNEX 3: Gender in the Transport Sector in Moldova

1. **The labor market in Moldova exhibits sizeable gender gaps.** For example, in 2022, 36.8 percent of women and 44.7 percent of men 15 years and above were employed[17]. There is a divide between where women and men work and the type of jobs they do. Women are concentrated in health, education, and social services, while men are concentrated in typically male-dominated sectors, such as energy, transport, and construction. For example, only 7.8 percent of those employed in construction, 27.2 percent – in transport and storage[18], and 31 percent – in information and communication technologies (ICT)[19] were female, respectively. Occupational segregation contributes to a gender pay gap: on average, in Moldova, women earn about 14 percent less than what men earned when their median monthly earnings were compared[20].

2. **One of the critical aspects in attracting women to transport jobs, including road construction, is to nurture a "female talent pipeline" in these sectors.** This can be done by raising the profile of transport sector professions among females and fostering cooperation between employers and education institutions to increase young women's enrolment in Science, Technology, Engineering, and Math (STEM) fields and establishing a transition path from education to employment. In the 2017-2018 academic year, only about 22 percent of those graduating from STEM fields were women, with only 4 percent and 11 percent from this pool studying fields of engineering and technology, respectively[21]. Besides addressing the issue of the limited number of qualified women entering these sectors, there are other more invisible reasons for gender-based employment gaps, such as gender stereotypes that influence the educational choices of girls at an early stage, and the male-dominated work culture in many sectors – resulting in limited career stewardship and opportunities for women in those workplaces.

3. **To promote women's employment in the sectors where they are underrepresented, the project will design and implement a female internship program.** MRDI will offer to at least 25 female university students in their last year and graduates up to six-month paid internships in transportation, construction, and ICT fields by partnering with the Technical University of Moldova. The Ministry will lead the design and overall implementation of the program and will place most of the interns within the PID and the Moldova Railways and some - in its own workforce, in line with the national legislation regulating internships. The project will finance activities related to (i) setting up a collaboration (likely a Memorandum of Understanding) between the ministry and the university, (ii) designing the internship program (orientation, interns' tasks, expected outcomes, and the end of the program evaluation), (iii) providing onboarding training to the interns and the capacity building to the SRA, Railways and the ministry staff who will mentor the interns

[17] Gender Statistics. National Bureau of Statistics of the Republic of Moldova.
[18] Ibid.
[19] Women and men in ICT in Moldova, 2019. National Bureau of Statistics of the Republic of Moldova. https://eufordigital.eu/wp-content/uploads/2020/02/studiu-gen-TIC.pdf
[20] Ibid. Gender Statistics. National Bureau of Statistics.
[21] Robu Mariana, 2020. Enrollment of Women in STEM. Eastern European Journal of Regional Studies. https://csei.ase.md/journal/files/issue_62/EEJRS_Issue_62_129-137_ROB.pdf

and providing of an internship allowance of up to 1,000 USD per month to the selected interns. The interns will be provided with a recognition certificate specifying the duration and scope of the work fulfilled in the project. Lastly and importantly, the ministry will ensure that at least 15-20 percent of the interns (4-5) successfully graduating from the internship program are offered employment within these three entities. The details of the implementation arrangements will be reflected in the POM.

4. **The internship program and the subsequent employment of women in these entities could challenge stereotypes that are barrier to the employment of women and signal that these entities (the ministry, SRA, and Railways) are equal opportunity employers keen to support gender diversity in their workforce.** This intervention could facilitate strengthening education-employment pathways between these entities and the university/ies and create an opportunity for the sector to access a broader pool of women who will gain hands-on experience and improve their job prospects through the internship.

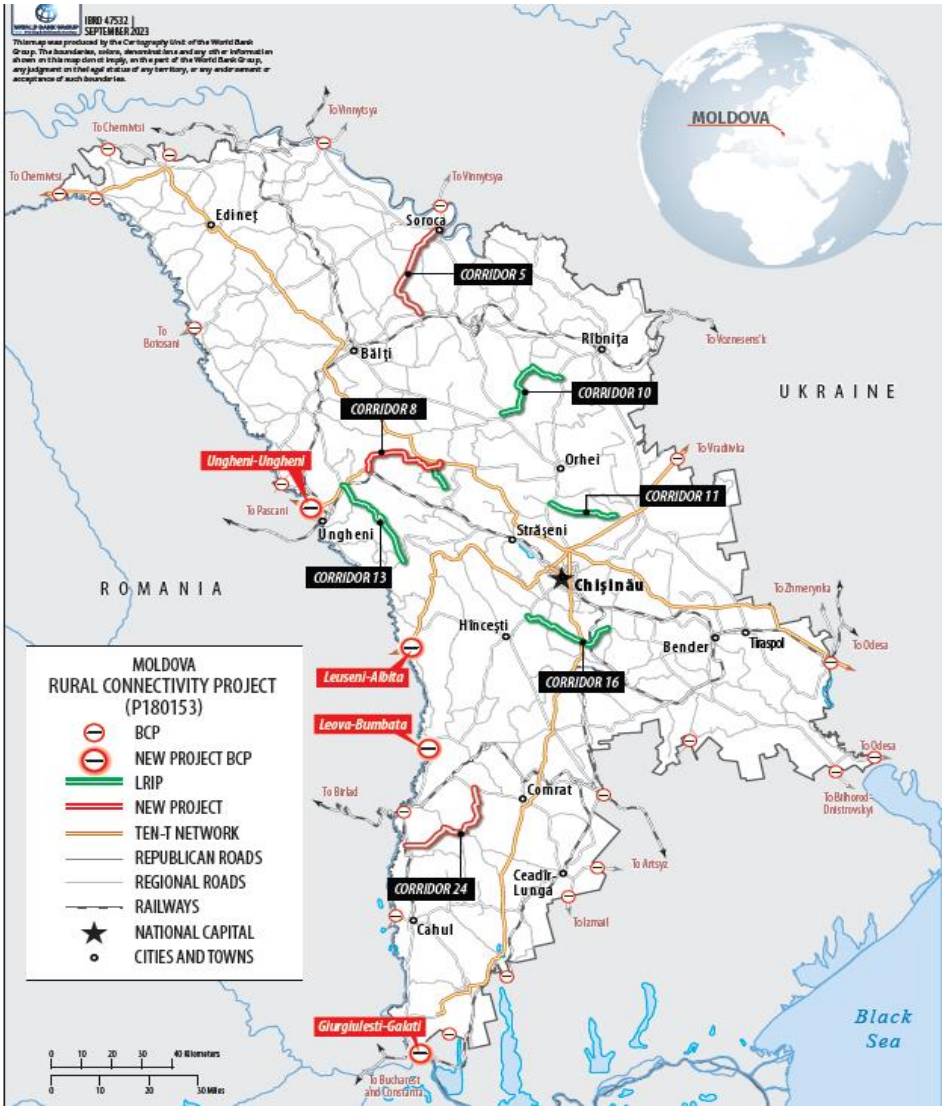
Female last-year university students and graduates recruited for the 6-month paid internship program at MIRD, SRA, and Railways in the areas of engineering, ICT, and other similar male-dominated fields (Number)	0	25
Females employed permanently in MIRD, SRA, and Railways in roles that are male dominated, e.g., engineers, and ICT specialists following their graduation from the internship program (Number)	0	4

ANNEX 4: Summary of Cost and Financing

	Description	Total Cost, EUR	Costs to Each PIU, EUR		Financing, EUR		
			SRA	MCS	IBRD	IDA	GOM
A. Linking local communities with economic opportunities		***133,848,700***	***133,848,700***	***-***	***69,996,700***	***5,600,000***	***58,252,000***
A.1	*Climate resilient local road links*	*124,605,000*	*124,605,000*	*-*	*60,753,000*	*5,600,000*	*58,252,000*
A.2	*Community inclusion & accessibility*	*1,846,000*	*1,846,000*	*-*	*1,846,000*	*-*	*-*
A.3	*Safer roads for Moldova*	*3,692,000*	*3,692,000*	*-*	*3,692,000*	*-*	*-*
A.4	*Project Supervision (A1,A2 and A3)*	*3,705,700*	*3,705,700*	*-*	*3,705,700*	*-*	*-*
B. Facilitating trade and expanding Solidarity Lanes		***37,976,399***	***23,192,401***	***14,783,998***	***18,988,200***	***-***	***18,988,200***
B.1	*Construction and Road access to BCPs Ungheni/Iasi*	*14,856,492*	*12,686,834*	*2,169,658*	*7,428,246*	*-*	*7,428,246*
B.2	*Solidarity Lane customs facilitation & BCP upgrades Giurgiulesti*	*4,600,000*	*-*	*4,600,000*	*2,300,000*	*-*	*2,300,000*
B.3	*Road access and modernization of Leuseni/Albita BCP*	*18,519,907*	*10,505,567*	*8,014,340*	*9,259,954*	*-*	*9,259,954*
C. Building delivery capacity and project management support		***3,415,100***	***3,230,300***	***184,800***	***3,415,100***	***-***	***-***
C.1	*Project audit*	*923,000*	*923,000*	*-*	*923,000*	*-*	*-*
C.2	*OPBRC TA; RAMS*	*923,000*	*923,000*	*-*	*923,000*	*-*	*-*
C.3	*Female internship program*	*184,600*	*184,600*	*-*	*184,600*	*-*	*-*
C.4	*Incremental operating costs, project management, and staff development*	*1,384,500*	*1,199,700*	*184,800*	*1,384,500*	*-*	*-*
	Front End Fee (FEF)	*231,000*	*231,000*	*-*	*-*	*-*	*-*
	TOTAL	***175,240,199***	***160,271,401***	***14,968,798***	***92,400,000***	***5,600,000***	***77,240,200***
	GRAND TOTAL	***175,471,199***	***160,502,401***	***14,968,798***	***92,400,000***	***5,600,000***	***77,240,200***

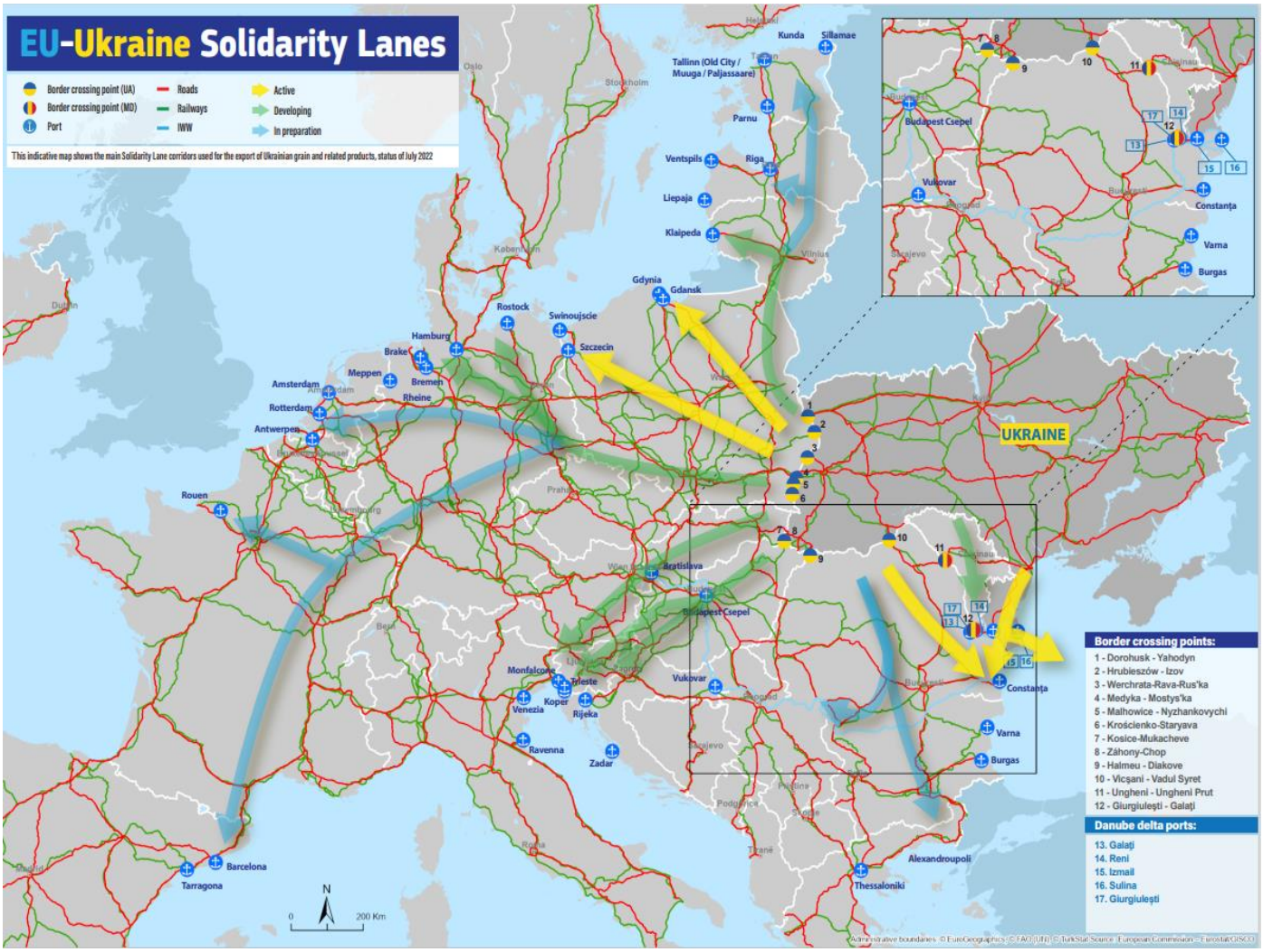
ANNEX 5 MAPS

MAP OF PROPOSED PROJECT LOCATIONS



MOLDOVA ROAD NETWORK QUALITY, INTERNATIONAL ROUGHNESS INDEX, 2022

EU-UKRAINE SOLIDARITY LANES



ANNEX 6 Assessment of OPBRC and Design and Build Contracting Models

An assessment of the Risks to implement OPBRC in Moldova and Recommended Mitigation Measures

Introduction and Background:

1. The use of Performance-based Contracts (PBCs), increased over the last 20-25 years, mainly because they provide a more equitable risk sharing between Employer and Contractor. In addition, they come with significant cost savings compared with the more traditional FIDIC Red Book-based contracting methods. A State of Florida-study, comparing the results between the two contract types, found that out of the 431 contracts reviewed, the 56 PBCs had smaller cost overruns and less completion delays than the pool of traditional contracts. *(Batelle, Performance-based contracting for the Highway Construction Industry, February 2003)*. World Bank experience also confirms significant cost savings where PBCs have been piloted and implemented. Such savings come from both improved and streamlined design practices and improved work methods with the transfer of design and construction risks to the contractor.
2. The introduction of two specific options of PBCs, Output and Performance-Based Road Contracts (OPBRC) and Design-Build contracts (DBCs), in the Moldovan road sector could bring significant benefits to Government. The recently completed LIRP *(Implementation Completion Report (ICR), December 2023, World Bank)* noted significant contract completion delays and cost overruns using the more traditional approach. Taking these lessons into account and, given the positive results the Bank experienced in Projects where either/both OPRC and DBC were supported, this Project was designed to assist the Moldovan Government with the introduction of OPRCs and DBCs.

Implementation Risks identified:

3. The Bank reviewed the preparation progress and noted that the introduction of OPBRCs and DBCs will generate specific risks, that, if not mitigated, would impact future Project implementation.
4. Legal environment:
    a. Assessment Finding: The current Public Finance Act (Act No 181 of 25 July 2014) and its Regulations (HG652 of 6 September 2023) restricts the duration of multi-annual contracts to a maximum of three years. Staff of the Ministry of Finance as well as the Ministry of Infrastructure and Regional Development confirmed these requirements. The MOF is also assessing a potential amendment to these requirements to incorporate the longer contract periods (5 and 7 years respectively) allowed under EU-procurement rules. However, such a change in the Moldovan legislation is not urgent at this stage and could take time to be approved and promulgated.

       The original intention to implement a pilot OPBRC under the Project could therefore lead to significant implementation delays. The support for DBCs would not be affected, as these contracts are of shorter duration and should be completed within the allowed three-year contract period.

    b. Recommended Mitigation: The Project should

i. Support the SRA with the introduction and use of DBCs for all the works activities. Since there will be several contracts to be implemented, the Client would gain considerable experience during the Bid preparation, procurement, and contract implementation phases.

ii. Agree to delay implementation support for OPRCs until the legislative environment is conducive for the implementation of longer-term contracts.

iii. Assist the MIRD and the MOF, if required, during the process to amend the legislative requirements.

5. Institutional Environment: The Project will be jointly implemented by the SRA and the MSC. The SRA will have responsibility for implementing all road works activities while the works implementation at the respective Border Crossing Points will be shared between the PIUs of the two Agencies.

   a. Assessment Finding: The two Agencies have not implemented either DBCs or OPBRCs before, leading to concerns of implementation delays, potentially caused by the initial lack of understanding of the contracting methodology.

   b. Recommended Mitigation: The Project should support the PIUs and their parent Agencies/Ministries during this critical phase of implementation through the following actions:

      i. Convening workshops to explain the requirements and benefits of these contracting methodologies.

      ii. Support specific and focused study tours to provide opportunities for knowledge exchange.

      iii. Support attendance of international training programs for, at least, the core implementation staff.

      iv. Provide continuous technical implementation support during project implementation, both through virtual meetings and regular supervision.

         1. During bid document preparation and bid evaluation stages, support the PIUs through regular technical meetings where questions are clarified as they arise.

         2. After contract signature, provide for quarterly/semi-annual technical meetings, attended by contractors, monitoring consultants, SRA/MCS and, where possible, Bank expert. These meetings would be ideal to raise and discuss contractual matters that may require contract amendments across all contracts. The Bank's involvement can be downscaled over time, especially as the other three parties get more "comfortable" with their responsibilities.

6. Private Sector (Contracting and Consulting Industry): The Project held an introductory workshop in the benefits and principles of OPBRCs. It was well-attended with active participation from several local and international contractors already operating in Moldova. There were several concerns raised on specific contractual requirements, e.g., the need for the contractor to subcontract a consulting firm to develop a design acceptable to the SRA, the change from Bills of Quantities to Performance Standards and the risks associated with longer-term contracts.

   a. Assessment Finding: The Moldovan Road Contracting sector consists of small to medium-sized domestic companies with limited resources to invest in new equipment or to adapt to a range of different technical solutions (*LIRP ICR)*. In addition, there are several larger international contractors that already work in Moldova. These companies are also familiar with PBCs in general and the associated risk transfer.

The introduction of DBCs will place additional contract implementation responsibility on the successful contractors, as they will have to manage a design consultant as subcontractor in the initial stages of the contract. There may even be internal design changes required during works implementation, requiring further consulting inputs.

b. Recommended Mitigation: The Project should undertake the following.

   i. Continue with information workshops on the technical and contractual aspects of DBCs.

   ii. Support an additional workshop during the bidding period to focus on critical aspects of the bid documents.

   iii. Carefully package the works to ensure maximum participation from eligible bidders.

DESIGN AND BUILD CONTRACT – INDICATIVE IMPLEMENTATION PLAN