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Report No: PAD1406

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT AND
INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF
US$15 MILLION

AND A PROPOSED CREDIT

IN THE AMOUNT OF
SDR 46.4 MILLION
(US$65 MILLION EQUIVALENT)

TO THE

REPUBLIC OF MOLDOVA

FOR A

LOCAL ROADS IMPROVEMENT PROJECT

October 8, 2015

Transport and ICT Global Practice
Europe and Central Asia

CURRENCY EQUIVALENTS

(Exchange Rate Effective August 31, 2015)

Currency Unit	=	MDL
MDL 1.00	=	US$0.053
US$1.00	=	MDL 19.050
Currency Unit	=	SDR
SDR 1.00	=	US$ 1.40
US$ 1.00	=	SDR 0.71235219

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ADT	Average Daily Traffic
BP	Bank Policy
CBA	Cost-Benefit Analysis
CSO	Civil Society Organization
DA	Designated Account
EA	Environmental Assessment
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EIRR	Economic Internal Rate of Return
EMP	Environmental Management Plan
ES	Environmental Specialist
ESMF	Environmental and Social Management Framework
EU	European Union
FM	Financial Management
GDP	Gross Domestic Product
GHG	Green House Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GOM	Government of Moldova
GRM	Grievance Redress Mechanism
HDM	Highway Development and Management Model
HDI	Human Development Index
ICB	International Competitive Bidding
ICT	Information and Communication Technology
IFAC	International Federation of Accountants
IFC	International Finance Corporation
IFR	Interim Financial Reports
IMF	International Monetary Fund
IRI	International Roughness Index
ISA	International Standards on Auditing
LPA	Local Public Authority
LRIP	Local Roads Improvement Project
M&E	Monitoring and Evaluation
MCA	Multi-Criteria Analysis
MCC	Millennium Challenge Corporation
MRDC	Ministry of Regional Development and Construction
MTRI	Ministry of Transport and Road Infrastructure
NCB	National Competitive Bidding
NPV	Net Present Value
OP	Operations Policy
PDO	Project Development Objective
PMC	Project Management Consultant
RAP	Resettlement Action Plan
RAMS	Road Asset Management System
RDC	Regional Development Council
RED	Road Economic Decision
RMC	Road Maintenance Company
ROW	Right of Way
RPF	Resettlement Policy Framework
RSP	Road Sector Program
SC	Steering Committee
SEE	State Ecological Expertise
SME	Small Medium Enterprises
SOE	State-owned Enterprise
SRA	State Roads Administration
TA	Technical Assistance
TLS	Transport and Logistics Strategy
VAT	Value-added Tax
VOC	Vehicle Operating Costs

Regional Vice President:	Cyril E. Muller
Country Director:	Qimiao Fan
Senior Global Practice Director:	Pierre Guislain
Practice Manager:	Juan Gaviria
Task Team Leader(s):	Maria Claudia Pachon/ Simon David Ellis

MOLDOVA
Local Roads Improvement Project

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PAD DATA SHEET

Moldova

Local Roads Improvement Project (P150357)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

0000009382

Report No.: PAD1406

Basic Information		
Project ID P150357	EA Category B - Partial Assessment	Team Leader(s) Maria Claudia Pachon, Simon David Ellis
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]	
Project Implementation Start Date 02-Nov-2015	Project Implementation End Date 31-Mar-2021	
Expected Effectiveness Date 01-Apr-2016	Expected Closing Date 31-Mar-2021	
Joint IFC No		

Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Juan Gaviria	Pierre Guislain	Qimiao Fan	Cyril E Muller

Borrower: Ministry of Finance			
Responsible Agency: State Road Administration			
Contact:	Gheorghe Curmei	Title:	Chief Manager
Telephone No.:	2221114	Email:	gheorghe.curmei@asd.md

Project Financing Data(in USD Million)			
[X] Loan	[ ] IDA Grant	[ ] Guarantee	
[X] Credit	[ ] Grant	[ ] Other	

Total Project Cost:	87.50	Total Bank Financing:	80.00
Financing Gap:	0.00		

Financing Source	Amount
BORROWER/RECIPIENT	7.50
International Bank for Reconstruction and Development	15.00
International Development Association (IDA)	65.00
Total	87.50

Expected Disbursements (in USD Million)

Fiscal Year	2016	2017	2018	2019	2020	2021	0000	0000	0000	0000
Annual	2.00	18.00	20.00	20.00	15.00	5.00	0.00	0.00	0.00	0.00
Cumulative	2.00	20.00	40.00	60.00	75.00	80.00	0.00	0.00	0.00	0.00

Institutional Data

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Cross Cutting Topics

[ ] Climate Change
[ ] Fragile, Conflict & Violence
[ ] Gender
[X] Jobs
[ ] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Transportation	Rural and Inter-Urban Roads and Highways	100		
Total		100		

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

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Rural development	Rural services and infrastructure	80

Public sector governance	Decentralization	10
Financial and private sector development	Micro, Small and Medium Enterprise support	10
Total		100

Proposed Development Objective(s)

The Project Development Objective (PDO) is to provide safe and sustainable local road accessibility to education, health and market facilities along selected corridors.

Components

Component Name	**Cost (USD Millions)**
Rehabilitation and Maintenance of Local Road Network	82.50
Institutional Strengthening	5.00

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	**Rating**
1. Political and Governance	High
2. Macroeconomic	High
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	Moderate
9. Other	
OVERALL	Substantial

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [X]
Does the project require any waivers of Bank policies?	Yes [ ] No [X]
Have these been approved by Bank management?	Yes [ ] No [X]
Is approval for any policy waiver sought from the Board?	Yes [ ] No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04		**X**

Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11		**X**
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
Institutional Arrangements	**X**		CONTINUOUS

Description of Covenant

The Borrower/Recipient, through the MTRI, shall cause the Project Implementing Entity to carry out the day-to-day management of the Project, including financial management, procurement, monitoring, evaluation and reporting, all in accordance with the Project Operations Manual.

Name	**Recurrent**	**Due Date**	**Frequency**
Institutional Arrangements	**X**		CONTINUOUS

Description of Covenant

The Borrower/Recipient, through the MTRI, shall cause the Project Implementing Entity to, no later than 45 days after the Effective Date, establish and implement, throughout Project implementation, an accessible grievance redress mechanism (Community Monitoring System), acceptable to the Bank/Association, to address grievances relating to the carrying out of the works under Part A.

Name	**Recurrent**	**Due Date**	**Frequency**
Review by the Bank of Procurement Decisions	**X**		Yearly

Description of Covenant

The Borrower/Recipient shall no later than June 30 of every year during the implementation of the project, beginning on June 30, 2016 prepare and furnish to the Bank, a procurement progress report (Procurement Report) in form and substance acceptable to the Bank.

Name	**Recurrent**	**Due Date**	**Frequency**
Institutional Arrangements	**X**		

Description of Covenant

The Borrower/Recipient shall no later than 45 days from the Effective Date, establish and maintain, throughout Project implementation, a steering committee which shall include representatives from within relevant departments, to ensure that Project activities are coordinated and implemented effectively, all under terms of reference and a composition acceptable to the Bank ('Steering Committee").

Name	**Recurrent**	**Due Date**	**Frequency**

Institutional Arrangements	**X**		CONTINUOUS

Description of Covenant

The Borrower/Recipient shall maintain throughout the implementation of the Project, a high-level Roads Sector Steering Committee which shall act as a body responsible for the strategic coordination and oversight of Project activities implemented by the Project Implementing Entity, all under terms of reference and a composition acceptable to the Bank.

Conditions

Source Of Fund	Name	Type
IBRD	Implementation Agreement	Effectiveness

Description of Condition

The Implementation Agreement has been executed on behalf of the Borrower and the Project Implementing Entity.

Source Of Fund	Name	Type
IBRD	Project Operations Manual	Effectiveness

Description of Condition

The Project Implementing Entity has adopted the Project Operations Manual in form and in manner satisfactory to the Bank.

Source Of Fund	Name	Type
IBRD	Financing Agreement	Effectiveness

Description of Condition

The Financing Agreement has been executed and delivered and all conditions precedent to its effectiveness (other than the effectiveness of this Agreement) have been fulfilled.

Source Of Fund	Name	Type
IDA	Loan Agreement	Effectiveness

Description of Condition

The Loan Agreement has been executed and delivered and all conditions precedent to its effectiveness (other than effectiveness of this Agreement) have been fulfilled.

Source Of Fund	Name	Type
IDA	Implementation Agreement	Effectiveness

Description of Condition

The Implementation Agreement has been executed on behalf of the Recipient and the Project Implementing Entity.

Source Of Fund	Name	Type
IDA	Project Operations Manual	Effectiveness

Description of Condition

The Project Implementing Entity has adopted the Project Operations Manual in form and in manner satisfactory to the Bank.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Maria Claudia Pachon	Team Leader (ADM Responsible)	Senior Transport. Spec.		GTIDR
Simon David Ellis	Team Leader	Lead Transport Specialist		GTIDR
Elena Corman	Procurement Specialist	Procurement Analyst		GGODR
Oxana Druta	Financial Management Specialist	Financial Management Analyst		GGODR
Aimonchok Tashieva	Team Member	Consultant		GSURR
Arcadii Capcelea	Safeguards Specialist	Senior Environmental Specialist		GENDR
Elena Lungu	Team Member	E T Consultant		GTIDR
Elena Segura Labadia	Counsel	Senior Counsel		LEGLE
Funda Canli	Team Member	Program Assistant		GTIDR
Iuliana Stratan	Team Member	Program Assistant		ECCMD
Jennifer Shkabatur	Safeguards Specialist	Consultant		GSU03
Luis M. Schwarz	Team Member	Senior Finance Officer		WFALA
Sandu Ghidirim	Team Member	Senior Operations Officer		GEEDR

Extended Team

Name	Title	Office Phone	Location

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required?	Consulting services to be determined

I. STRATEGIC CONTEXT

A. Country Context

1. **Moldova's economic performance has been volatile, reflecting the country's vulnerability to climatic and regional economic conditions.** In 2012, gross domestic product (GDP) contracted by 0.7 percent, as the economy was hit by a drought-induced contraction in agriculture and weaker external demand due to the Eurozone crisis. In 2013, growth rebounded, driven by a record harvest in agriculture, with GDP increasing by 9.4 percent. Growth declined to 4.6 percent in 2014. Recessions in the Russian Federation and Ukraine, together with Russia's restrictions on agro-food imports from Moldova, and a severe drought are expected to contribute to a 2 percent decline in GDP in 2015.

2. **Moldova's economic performance resulted in reduced poverty and increased shared prosperity in the past decade. However the recent unfavorable external environment has started to affect poverty outcomes.** National poverty and extreme poverty rates fell from 30.2 percent and 4.5 percent in 2006 to 12.7 percent and 0.3 percent respectively in 2013, making Moldova one of the world's top performers in terms of poverty reduction. Most of the observed poverty reduction has been driven by growth, and the main channels have been private transfers such as remittances and higher employment and earnings. However, Moldova remains one of the poorest countries in Europe and evidence suggests that the bottom 40 percent are particularly affected by weaknesses in the quality and efficiency of the health and education services and especially vulnerable to climate shocks. Moreover, the current external and domestic economic environment are likely halting progress in poverty reduction, particularly given high inflation, lower remittances inflows and the summer drought that affects rural areas in particular where most of the poor are concentrated.

3. **The steady implementation of structural reforms in Moldova is critical to boost potential growth and reduce poverty.** Key reforms to increase productivity and improve competitiveness, include improving the business environment, investing in infrastructure, and strengthening human resource development. Efficient provision of transport infrastructure and services affects the economic performance impacting economic growth and regional income distribution. The transport sector has particularly important implications for the performance of the agriculture, education and health sectors.

4. **Moldova is facing a population decline**, caused by a low birth rate, only 12.21 births per 1,000 people in 2014 (i.e., 1.56 children born per woman, which is below the replacement rate of 2.1) and high migration. The negative population trends have caused the population to decrease by almost 790,000 people since 1995. Despite inheriting from the Soviet Union a large education and health system which served local populations, the ongoing population decline and budget imperatives of the government of Moldova (GOM) have required embarking on an optimization process for the provision of basic services and improvement of quality of education and health services.

5. **Due to a declining number of school age children and as part of a plan to improve educational standards and efficiency, the GOM has embarked on a major school optimization program.** Under this program, the number of schools in rural areas is declining steadily to achieve a more efficient teacher to pupil ratio and concentrate resources into 'hub schools'. This calls for reallocation of resources from maintaining an oversized school network towards funding quality programs in consolidated schools in rural areas where most of the bottom 40 percent live. An important consequence of this is that many children in rural areas will have to travel longer distances to school. Initial assessments done during the project preparation indicate that a lack of safe access to the new hub schools is negatively impacting school attendance by children.

6. **The health sector** also is experimenting consolidation. Under the National Hospital Master Plan (2009–2018), the GOM intends to reduce the number of public hospitals in rural areas to seven or eight. Under this Plan, each hospital would cover five to six raïons. The objective is to provide higher quality services than those currently available in most public hospitals. Primary health care and emergency medical services would continue to be provided through local sub-centers. Local roads in good condition are essential for the successful implementation of this reform, as the distance from rural households to health facilities will increase.

7. **In addition to better connectivity to basic services, improvements to local roads are also critical for the agriculture sector.** Local roads improve linkages between farms and markets and help realize the full potential of the investment for the rural communities and the economy at large. Agriculture is one of the mainstays of the Moldovan economy, accounting for 12 percent of the country's GDP and employing 28 percent of the active labor force.[1] It is an important sector for exports; agro-food exports constitute 45–50 percent of total exports and the agro-processing industry adds approximately 8 percent to GDP. However, poverty in rural areas, especially among farmers and farm workers, is high at around 40 percent. By comparison, poverty in urban areas is 10 percent and in rural areas overall it is 30 percent.[2] The prospects for improving this situation focus on the high potential for growth of the agricultural sector, particularly through exports. However, this depends fundamentally on overcoming problems with product quality and market linkages. Local roads of good quality provide a critical link in this logistics chain.

B. Sectoral and Institutional Context

8. The national road network in Moldova is 3,335 km in length. The secondary and local road network is about 6,000 km.

Table 1. Road Network and Management in Moldova

Road Category	Network Length (km)	Expected Management
National roads	3,335	State Roads Administration (SRA)
Regional roads	5,987*	
Local roads		Raïons (Level 2 LPA)
Communal roads and streets	30,000 (estimate)	Mayors (Level 1 LPA)

Source: SRA 2014.

[1] World Bank Group – Moldova Partnership: Country Program Snapshot. (October 2013).
[2] Government briefing note on poverty in the Republic of Moldova (July 2010).

*About 50 percent may be designated as regional roads.

9. **The framework for transport sector development in Moldova is provided by the Transport and Logistics Strategy (TLS) for the period 2012–2022**. The TLS adopted by GOM in 2012 focuses on restoring and maintaining, instead of expanding, the country's road network. It includes provision of year-round access on local/rural roads to the national road system from all localities in the country and reducing the number of road accident fatalities by 50 percent by 2020.[3] The TLS suggests 4,185 km of local roads to be rehabilitated by 2022 (70 percent of the local road network); that is an average of about 420 km per year. The project will contribute to achieve this goal.

10. **The TLS includes a road map of reform and a ten year Road Sector Investment and Expenditure Plan (together called the Road Sector Program – RSP)**.The development partners active in the transport sector have jointly agreed to support the RSP from its approval. Based on the achievements of the GOM in the implementation of the TLS, partners have slowly increased the allocation of funds for investment in the sector following a coordinated approach. The World Bank has played a key role in the coordination and has the lead amongst development partners in the policy dialogue. This approach has contributed to the successful implementation of the RSP. For the local roads sub-sector, the Bank will support a similar approach. The proposed LRIP will support the development of a consistent framework to manage local road investments. The European Bank for Reconstruction and Development (EBRD) and European Investment Bank (EIB) have expressed a strong interest to provide up to US$ 160 million to finance investments in priority local road corridors to complement the Bank's efforts.

11. **The condition of the road network declined significantly in the post-Soviet era. However, a trend reversal in road condition is observed during the past 5 years as a result of a substantial capital improvement program and increased maintenance expenditures.** The enactment of the new Road Fund Law in December 2009 was a practical milestone in increasing maintenance funding. The GOM has recently made significant increases in the amounts allocated to the road fund and this trend is expected to continue in the future albeit at a more modest pace.

12. **Despite the overall increase, funding for the existing local road network is well below the desired levels of improvement and maintenance**. Considering that funding has been unpredictable, this has adversely impacted on the ability to plan and implement maintenance activities. Going forward the GOM will have to establish a fixed minimum percentage of the Road Fund to be allocated to local roads. Given the overall increases in the size of the road fund there is also a need to improve systems for monitoring road fund expenditures to streamline management and enhance accountability.

13. **Increasing funding for maintenance alone is unlikely to be sufficient.** There is also a need to increase the efficiency with which the available resources are spent. The unit costs of maintenance appear high by international standards and administrative costs exceed 25–30 percent of total spending. There will be a need to change management approaches, planning strategies and the procedures for implementation and maintenance.

[3]Transport and Logistics Strategy (2013–2022). Road Sector Action Plan. P. 27–28.

14. **There is scope for increased involvement of private sector contractors and small scale community contractors.** Currently, most maintenance activities are carried out by Joint Stock Maintenance Companies on a direct contract basis. These maintenance companies are gradually being transformed into more commercial organizations with the intention that they will bid for maintenance contracts on a more competitive basis. The EBRD is currently financing the reform program for the commercialization and final privatization of the Road Maintenance Companies (RMCs). The present system of maintenance is based on a series of contracts with the 12 RMCs awarded at set prices on a non-competitive basis for routine maintenance in each of the 12 regions in Moldova, each company covers one region, combined with the execution of paved road periodic maintenance through the contracting industry using open tenders. The GOM is preparing to implement pilot projects covering the introduction of Performance Based Maintenance contracting in the next cycle of maintenance procurement, with a pilot Performance Based Maintenance contract to commence around February 2016.

15. **Management of the local roads system in Moldova is in transition**. Currently, the State Roads Administration (SRA) is responsible for the network of national and local roads. Communal mayors are responsible for communal roads and municipal streets. However, as part of the GOM's planned decentralization process some local roads are in the process of being identified as 'regional roads', which refers to roads connecting at least four communities. With decentralization, the regional roads will remain the responsibility of SRA. The management of the remaining local roads will be decentralized to Level 2 Local Public Authorities (LPAs) that is, raïons. Decentralization of the network will require capacity development and a changed governance structure**.** The transfer of management of local roads to LPAs should be done in a phased way such that responsibilities are matched by adequate resources and capacity.

16. **Road safety remains a major social and public health issue in Moldova**. Government data shows significant reduction in numbers of accidents and of fatalities-and-seriously injured in 2013 as compared with similar period in 2012, and a consistent trend of moderate reduction in the general number of road accidents recorded by the GOM from 2010 to 2013. Despite this reduction, the level of road traffic safety remains low compared to European Union (EU) average, and much faster improvements are needed. Figures for 2014 show a reduction in deaths of only 0.6 percent compared to 2013. Although GOM has increased its attention to road safety reforms, including the adoption of the Road Safety Strategy and Action Plan in 2010, it should further advance on its implementation.

Table 2. Road Safety Statistics, 2011–2013

Year	Accidents (Nr)	Fatalities (Nr)	Injuries (Nr)
2010	2,921	452	3,735
2011	2,825	433	3,543
2012	2,712	441	3,510
2013	2,603	295	3,221
2014	2,564	324	3,080

Source: Ministry of Transport and Roads Infrastructure.

C. Higher-Level Objectives to which the Project Contributes

17. **The GOM's current development framework covering the period up to 2020 is described in its National Development Strategy,[4] known as 'Moldova 2020'**. The main objective of this Strategy is to achieve sustainable economic growth and reduce, in the near future, the gap between Moldova and developed European economies. With respect to the local roads, the Strategy highlights that it is needed to "increase public investment in the national and local road infrastructure, in order to reduce transportation costs and increase the speed of access".[5] The Local Roads Improvement Project (LRIP) will focus on the local roads infrastructure, with a specific objective to provide a safe and sustainable local road network in selected areas of the country.

18. **Moldova still faces important weaknesses in the quality and efficiency of its health and education services.** According to the Human Development Report, Moldova's Human Development Index (HDI) is 0.660, which gives the country a rank of 113 out of 187 countries with comparable data. Moldova's 2012 HDI of 0.660 is above the average of 0.64 for countries in the medium human development group. However, on this measure, Moldova ranks below the average of 0.771 for countries in Europe and Central Asia, signaling the need to improve access and quality of education and health, particularly in rural areas, where school enrollment and attendance rate are significantly lower than in urban areas.

19. **The project is aligned with the Country Partnership Strategy for FY 2014–2017 (Report No. 79701-MD), which supports Moldova's agenda for better access to social services in rural areas, mainly education and health, and improving access by farmers to markets and export opportunities.** The Country Partnership Strategy supports three pillars: (a) increasing competitiveness, (b) enhancing human capital and minimizing social risks, and (c) promoting a green, clean and resilient Moldova**.** Specifically, the LRIP will support the first and second pillar.

20. **The LRIP will contribute to achieving the Bank's twin goals to end extreme poverty and promote shared prosperity,** by improving local road accessibility to education, health and market facilities along selected corridors. A Poverty and Social Assessment[6] carried out as part of project preparation determined that in the communities within the area of influence of the prioritized corridors, access to services is inadequate particularly in the more isolated rural areas. Rural accessibility for people living within 2 km to 5 km of the roads is very low, specifically on unpaved roads. School attendance decreases in winter or rainy days due to impracticable roads connecting schools. Similarly, use of health services by the local population is less than optimal, and connectivity constraints are largely to blame. Accessibility of life-saving services such as ambulance and fire-trucks is low and in some instances, as rainy seasons, unworkable.

[4] Law No.166 approving National Development Strategy "Moldova 2020" adopted on July 11, 2012

[5] "Moldova 2020 - National Development Strategy: 7 solutions for economic growth and poverty reduction." p.8.

[6] Details of the Poverty and Social Assessment are in annex 6. The assessment covers four corridors that have been prioritized for rehabilitation, and are a sample of the communities that will positively benefit from the LRIP.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

21. The Project Development Objective (PDO) is to provide safe and sustainable local road accessibility to education, health and market facilities along selected corridors.

B. Project Beneficiaries

22. The project is expected to provide all-season access to economic opportunities and social services to 185,000 thousand people (6.7 percent of the total population). Rural people will benefit from improved access to better quality schools and health facilities and indirectly support improved educational and health outcomes. Improved access will also support the agricultural community by reducing spoilage from poor road conditions, improving farm gate prices and increasing opportunities to market agricultural produce for the domestic and international markets. With the improved corridors, the direct beneficiaries will have improved access to rural transport services and benefit from the consequent reductions in travel time and cost.

23. The road safety aspects of the project will reduce injuries and, particularly in villages. The 'safe village' schemes will not only improve safety but also create an improved environment for travel around the village. The focus on citizen engagement will empower rural communities to take control of their road networks and become involved with local-level planning decisions.

C. PDO-Level Results Indicators

24. The key performance indicators are:

- Number of schools connected by rehabilitated/ upgraded local roads corridors
- Number of health facilities connected by rehabilitated/ upgraded local road corridors
- Number of villages connected to regional market facilities by an improved local road corridor.
- Condition of project local roads corridors (IRI)
- Road and village sections with satisfactory post-construction road safety audits (percent)

III. PROJECT DESCRIPTION

A. Project Components

25. The LRIP will support Moldova's National Development Strategy through better access to social services in rural areas, mainly education and health, and improved access of farmers to markets and export opportunities. The project will be supported by the Bank but with opportunities for significant additional financing from other institutions within the same overall framework of support.

26. The project will comprise two components: (1) rehabilitation and maintenance of the local road network and (2) institutional strengthening. The civil works interventions will support

rehabilitation and maintenance of the local road network using appropriate standards and technology. The target network of local roads will include both the newly designated regional roads and the local roads transferred to the LPAs. The Institutional Strengthening component will develop improved systems and procedures as well as approaches to capacity building that can be replicated nationally. These improved systems and procedures would provide the common framework for scaling up the investment support by the GOM and other development partners.

27. **Component A: Rehabilitation and Maintenance of Local Road Network** (Total cost US$82.5 million of which US$75 million financed by IBRD and IDA). This component will finance the rehabilitation and upgrading of about 300 km of priority Local Roads. The focus will be to provide road access between villages and the national road network by developing cost-effective, coherent networks with good connectivity. The works will include rehabilitation and periodic maintenance works and upgrading economically and socially justified roads to a sealed standard. These will be carried out across the regional road network and in the local road network in the selected raïon(s) using a new and improved system of selection and prioritization of key local road works. An important part of the component will be road safety works in the proximity of schools and on road sections within communities. This component will finance also supervision and independent technical audits for all civil works activities. Counterpart funds (US$7.5 million) will be used to finance design works and the implementation of maintenance contracts for the improved local roads corridors and connecting access roads. The maintenance contracts under the LRIP will build on the experience of the first pilot for Performance Based Maintenance contract to be implemented in 2016 with support from EBRD. All roads financed by the project will be maintained under maintenance contracts that guarantee that the investments will be sustained over time.

28. **Component B: Institutional Strengthening** (US$5 million IDA credit). This component will finance a program of institutional strengthening to build capacity within the sector for efficiently and effectively maintaining and improving the regional and local road networks. The support to government institutions will be focused on building capacity for road network management in SRA and selected local authorities. This activity will finance a project management consultant who will support SRA in day-to-day management of the project but also provide specific services in the following areas:

(a) **Build capacity for management reform of local roads:** This activity will consist of capacity building measures to support the GOM to prepare for and implement the necessary reforms for the effective management of local roads. This will include strengthening the role of SRA in the short term, developing a sustainable model for decentralization and supporting the eventual implementation of that decentralized model.

(b) **Develop and adopt local roads planning, design and construction standards.** This activity will support the preparation of technical specifications and standardized design procedures appropriate for low-trafficked local roads. A Local Roads Design Manual will be prepared to use in the future on all local road maintenance, rehabilitation and upgrade activities.

(c) **Strengthen road fund expenditure monitoring and evaluation system.** This activity will focus on providing a broad assessment of the effectiveness of expenditures under the road fund. This activity will provide policy makers with a clear mechanism for monitoring uses of funds, resultant outcomes (i.e., road conditions) and provide some governance reassurance that road fund revenues are being used correctly and efficiently. This activity would be closely linked to the continued development of a Road Asset Management System (RAMS) in SRA. Specifically, this component supports the development of the RAMS for local roads.

(d) **Framework for local roads maintenance.** This activity will support implementation of recommendations from an ongoing EBRD-financed consultancy looking at maintenance reform. It will also finance the preparation of at least one area wide maintenance contract on a project-financed local roads corridor to demonstrate best practice. The project will finance preparation and monitoring of the contract and road fund revenues will finance the works under the contract.

(e) **Support a local roads safety program**. This activity will support the introduction of the 'safe villages' concept in project-financed local roads corridors. The 'safe villages' concept combines traffic calming measures, footway construction and an education program in schools located in villages near new improved roads, in order to prevent road accidents, especially those involving vulnerable road users such as pedestrians, children and the elderly. In addition, it will support an education campaign to promote road safety and the undertaking of local road safety audits.

B. Project Financing

29. The total cost of the project is US$87.5 million and the Bank will finance the project through an Investment Project Financing Loan/Credit with a total amount of US$80 million. The project is split into a US$15 million IBRD Loan and a US$65 million IDA Credit. Counterpart financing will be provided for US$7.5 million. The GOM will provide a waiver for the application of value-added tax (VAT) for all Bank funded activities.

C. Project Cost and Financing

30. The estimated cost of the project is US$87.5 million as summarized in the table 3 below:

Table 3: Project cost and financing

Project Components	Project cost	IBRD or IDA Financing	Counterpart Financing	% Bank Financing (exclusive of VAT)
A. Rehabilitation and Maintenance of Local Road Network	82,500,000	75,000,000	7,500,000	91
B. Institutional Strengthening	5,000,000	5,000,000	–	100
Total Costs	87,500,000	80,000,000	7,500,000	91

Total Project Costs	87,500,000			
Front-End Fees	–			
Total Financing Required	80,000,000			

D. Lessons Learned and Reflected in the Project Design

31. **Progressive approach to sector reforms.** Experience shows the importance of extensive consultations and coordination with other relevant sectors in the country, such as education, health and regional development, during preparation. In that regard, the LRIP will support Moldova's agenda for better access to social services in rural areas, mainly education and health, and improving access by farmers to markets and export opportunities. Consolidation of social infrastructure is imperative to reallocate resources to improving quality and closing the widening human capital gaps with the EU.

32. **Efficiency in technical standards.** The project will build on experience from similar projects in other countries that show the need to focus more on efficiency of rehabilitation and maintenance contracts. It will test more efficient design standards that can be mainstreamed during project implementation. Such design standards take into consideration the traffic on the roads and the current conditions to determine the most economically viable technical solution. The use of more efficient design standards will reduce the overall cost of road improvement.

33. **Re-balance capital investment and maintenance expenditures**. Experience documented in Independent Evaluation Group (IEG) evaluations of similar transport projects elsewhere indicates that low road maintenance expenditures adversely effects sustainability of road investments. A working RAMS in conjunction with an increased capacity to manage contracts, may offer significant maintenance efficiency gains. The LRIP will focus both on increasing capacity to manage maintenance contracts and enhance RAMS. The RAMS will be used to analyze and cost maintenance strategies and ensure that not only maintenance planning is done, but an associated budget is provided. The project is also going to test pilots to improve maintenance of local roads.

34. **A relatively modest investment funding can be used to leverage other external resources with a programmatic approach.** Under the previous Bank project in the national roads sector, the development of a common investment and reform program allowed other development partners to fund under the same framework. This project expects similar results. By committing to a large local roads project, the Bank expects to leverage resources form EBRD and European Investment Bank (EIB) towards investment in local roads. As in the National Roads Program, the Bank will support the development of a long-term local road sector investment strategy and solid implementation arrangements, which will provide a foundation for external partners to undertake their investments.

35. **Incorporation of additional safety measures in design of road improvement.** A ‘Safe Village’ program that includes a combination of traffic calming measures, footway construction and an education program in the village school will be implemented throughout the selected corridors. The approach considers specific concerns of local communities and these are taken on board in the designs for sections of the LRIP that pass through villages.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

36. **The Ministry of Transport and Road Infrastructure (MTRI) will be the entity responsible for implementation and supervision of the project.** MTRI will execute the project through SRA as the direct executing agency**.** The SRA will enter into a Project Agreement with the Bank by which it commits to implement the project in accordance with the Loan and Financing Agreements.

37. **Direct responsibility for the day-to-day implementation of the project will be with SRA under the Directorate of Investments** which will handle the project activities. SRA's responsibilities will include procurement, financial management, contract management, project/program monitoring and evaluation, and reporting. To strengthen SRA's capacity to carry out those functions, local qualified specialists will be hired. A total of 12 specialists, split between the Directorate of Investments[7] and the Directorate of Construction and Capital Works,[8] will be hired to supplement SRA's internal capacity to improve the capacity to manage the IFI investments, including the LRIP. The added capacity will also provide support for future project in for local roads to be financed by EBRD and EIB. A Project Management Consultant (PMC) will be procured and will work with existing SRA staff to transfer skills, organize activities, and generally increase the efficiency of the agency. The project will also use qualified international consultants for supervision of civil works.

38. **SRA Directorate of Investments currently has responsibility for the implementation of internationally funded improvements and rehabilitation of national road infrastructure.** The Investment Department will supplement and enhance its existing skill mix in SRA operational departments and work in tandem with those departments in the implementation of LRIP. SRA also benefits from a full time team of international advisors who are funded through the EC but provide support for the overall road sector investment program. These advisors will provide support during the recruitment of additional staff and the project management team.

39. **A Project Implementation Steering Committee will be established within SRA under the direction of the General Director with representatives of SRA's operational Departments**: Directorate of Investments, Directorate of Construction and Capital Works, Directorate of Road and Bridge Maintenance, and Directorate of Road Management and Records to ensure the project activities are coordinated and implemented effectively.

40. **At the GOM level a Steering Committee (SC) has been established by the Prime Minister to ensure broad government oversight and guidance for the GOM's entire RSP, including those activities funded by external partners.** The Steering Committee of four members is headed by the Deputy Prime Minister and includes the Ministers of Transport, Finance and Economy. The

[7] Three procurement specialists, three contract administrators, two financial specialists, one environmental specialist and a social safeguards specialist will be hired to the Directorate of Investments which manages all development partner projects.

[8] One road engineer for design review and one economist will be hired to enhance the capacity of the Directorate of Construction and Capital Works, which implements all projects funded with state funds. In reference with the LRIP, this Directorate will be responsible for designs of all corridors under the project.

Steering Committee meets at least twice a year to review implementation progress of the Road Sector Program and takes any high-level decisions which may be needed. It has been agreed that the Ministry of Regional Development and Construction (MRDC) will also become a member of the committee in order to assure coordination for the LRIP.

B. Results Monitoring and Evaluation

41. **Monitoring and Evaluation Arrangements.** SRA currently has a monitoring and evaluation (M&E) system that is used by all development partners to monitor project activities and the activities of the overall Road Sector Investment Program. This system will be modified to also monitor progress under the local roads program. The M&E system will monitor outputs from the project such as status of procurement activities, physical and financial progress, results of financial and technical audits and verification that completed works comply with specifications. The mid-term review of the project will be carried out by September 2018.

42. SRA is also in the process of implementing a RAMS, the operationalization for local roads which will be supported by this project. The proposed simplified RAMS for local roads will provide data on road condition, maintenance activities and allow reporting of road fund expenditures and asset values consistently. The RAMS will feed information into project monitoring reports during implementation.

43. **Technical Audits.** Annual technical audits will be procured through consultants and financed by the project. The objective of the technical audits will be to review the implementation of the project, and report on the quality of the works. The audit will verify that the works and services are delivered as specified.

44. **Impact Assessment.** This project has been selected to participate in an initiative supported by the Bank's Development Impact Evaluation unit. The initiative aims to generate high-quality and operationally relevant impact evaluation research to transform development policy and help reduce extreme poverty and secure shared prosperity. Outcomes and impact will be measured through an impact study that will be financed by the Bank as part of its corporate impact assessment program. This will provide detailed, gender disaggregated, data on beneficiaries and impacts associated with other sectors, including education and health.

45. **Post-Construction Road Safety Audits.** Road safety audits will be carried out at the end of construction to verify that all the recommended safety improvements have been implemented. In particular, the audits will verify if the 'safe village' approach has been completed.

C. Sustainability

46. **The project design is focused on the long-term sustainability of the local roads sub-sector** and will be determined by: (a) the ability of GOM to prioritize investments in local roads (i.e., location and type of investment) and (b) the capability to perform appropriate maintenance, including providing sufficient financing. The approach taken by the project will increase the sustainability of the road sector by: (a) contributing to bridging the investment gap in local roads through the rehabilitation of priority corridors in poor condition and (b) providing the tools to improve decision making, management and financing of public investments on local roads. These

tools will strengthen the capacity of the MTRI and SRA to better allocate resources, improve efficiency of public expenditure in the road sector, and move towards an increased sustainability of the road sector.

47. **The civil works to be implemented under the project will be screened for risk associated to climate change and the designs will consider the appropriate mitigation and adaptation measures.** A Climate and Disaster Risk Screening was carried out for the project using Bank-developed Screening tools. Areas in Moldova are prone to flooding as evidenced by the events of 2008 and 2010. In 2010, damage and losses to the roads sector were estimated close to US$9 million. Furthermore, road infrastructure can be at risk from extreme heat and cold temperatures. The GOM is already taking into account climate considerations, for example they have started to use a pavement mixture that performs better during periods of high heat. The engineering designs under preparation consider specific measures for areas vulnerable to climate risks, in particular flooding. In addition, the Bank will be supporting the broader adaptation needs for the Transport sector through specific Technical Assistance and a proposed Climate Change Adaptation Project in FY17. The proposed changes to the Local Roads Design Standards, will consider Climate Resilient Standards.

V. KEY RISKS

A. Risk Ratings Summary

Sl. No.	Risk Categories	Rating
1	Political and governance	High
2	Macroeconomic	High
3	Sector strategies and policies	Moderate
4	Technical design of project or program	Moderate
5	Institutional capacity for implementation and sustainability	Substantial
6	Fiduciary	Substantial
7	Environment and social	Moderate
8	Stakeholders	Moderate
	Overall	Substantial

B. Overall Risk Rating Explanation

48. **The overall risk of the project has been rated Substantial.** This rating has largely been driven by the previous experience with the implementation of a Bank-funded project in Moldova.

49. Political and governance risk to the PDO is rated high as a result of previous incidents of mis-procurement in the sector and frequent changes in the Government that could impact the government's priorities with respect to this project. Under the Road Sector Program Support Project (RSPSP), the Bank declared a mis-procurement and cancelled the corresponding part of the IDA Credit after several unsuccessful attempts by the Bank to convince the GOM to award the contracts in line with the Bank's procurement procedures. The LRIP includes additional citizen

engagement activities to promote social accountability to monitor more closely the performance of the sector. Specifically, the Bank is carrying out a call for proposals for the transport sector to be funded by the Global Partnership for Social Accountability which will further promote social accountability for this specific project. The frequent changes in the Government composition pose a challenging environment for the implementation of the project and could impact the achievement of the project's objective if the project is not supported by a broad group of stakeholders. The risk is mitigated by assuring that the corridors to be rehabilitated have been a result of broad consultations both internally in the GOM and with expected beneficiaries.

50. **Macroeconomic risk to the PDO is rated high given the fiscal constraints and the difficulty to ensure the proper counterpart and maintenance funding.** The project will closely monitor the performance of the road fund and availability of maintenance resources for the sector. In addition, the Bank leads the Development Partner Group for the Transport Sector, which reviews biannually the progress of the GOM on the implementation of the TLS. Both EIB and EBRD have conditions on their agreements regarding the availability and future increases to the road fund. This risk is directly linked to the sustainability risk described below. Furthermore, the project interventions are being designed considering the future requirements of maintenance (routine and periodic) and developed to optimize the use of funds.

51. **Institutional capacity risk for implementation and sustainability are rated substantial.** There is evidence from previous Bank projects that the implementing agency has constraints on capacity to implement and guarantee sustainability. Currently, the implementing unit shows signs of issues with staffing levels for key processing positions. The project will mitigate this risk by providing funding for SRA to increase key implementation capacity. Sustainability is hindered by the lack of a clear strategy to support the local roads sector and provide appropriate maintenance of the overall network. This risk is mitigated partly by the fact that the GOM has been able to meet the target maintenance funding for the Ministry of Transport. Furthermore, a key priority addressed in the project is developing a consistent and sustainable framework by which local roads will be developed and improved in the future.

52. **Fiduciary risk is rated substantial driven by previous procurement issues with a Bank-financed project in the Road Sector and the weak capacity to undertake concurrent complex procurements.** This risk is being mitigated by putting in place the appropriate reviews by the Bank and by assuring the implementation team has sufficient procurement specialists in place and support from the Project Management Consultant. The Bank team will also provide appropriate training in Bank guidelines to assure proper use of them.

VI. APPRAISAL SUMMARY

A. Economic Analysis

53. **Selection criteria and prioritization.** The methodology for the prioritization and economic appraisal of the present project has followed a three-stage process as follows: Stage 1 - a model of prioritization of local roads with comprehensive regional-level consultation, which identified 28 priority corridors nationwide; Stage 2 - a multi-criteria analysis was used to prioritize these corridors for improvement; and Stage 3 - the economic analysis using the Road Economic Decision

(RED) model was carried out on the selected roads to confirm viability and type of intervention. Village roads with very low volumes will be assessed based on cost effectiveness criteria.

54. **Identification of nationwide priority corridors.** The Modernization of Local Public Services Program being carried out by the MRDC with assistance from Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) has formulated a Regional Sector Program in each of the three Development Regions: North, Center and South. The RSP has conducted an extensive local road assessment and consultation exercise which has resulted in the identification of 28 priority Regional and Local Road corridors linking villages to the state road network. The MRDC and GIZ have held consultations with the Regional Development Councils (RDCs), MTRI and SRA to obtain consensus on priority corridors and approval. The 28 corridors have a total length of 1,135 km out of a total Regional and Local Road length of approximately 6,000 km.

55. **Identification of shortlist of investments for implementation.** In the course of developing the 28 local road corridors, the RSP under MRDC/GIZ developed criteria for identifying and prioritizing candidate roads. It collected physical, socioeconomic and traffic data for the 28 corridors and conducted a Multi-Criteria Analysis (MCA) to assess the relative needs and importance of each corridor. From this analysis four corridors (eight road sections) have been identified as potential candidates for a first year of investments.

56. **Economic evaluation results.** The RED model was used to confirm the viability of a sample of road sections given the various improvement alternatives being proposed (see technical appraisal for details). The economic analysis allows for the appropriate intervention to be selected considering the rate of return and cost-effectiveness. The Cost-Benefit Analysis (CBA) demonstrates that the aggregate project scenario will result in a Net Present Value (NPV) of US$14 million (2015 value), and an Economic Internal Rate of Return (EIRR) of 25 percent. Three of the selected corridors have a positive NPV and EIRR. Seven of the eight road sections inspected and analyzed lie at or above the 12 percent rate of return threshold, with positive (or very near positive) NPV values confirming the suitability of the project. One of the corridors, includes a section of new road with a very low rate of return, and further analysis showed that SRA is upgrading most of the corridor with resources from the state budget. Corridor 12 (details in the annex) is not eligible for the project given that the EIRD is below 12 percent. Every corridor eligible for financing will undergo the above economic analysis in order to determine the feasibility and to provide a transparent framework to decide on the type of intervention.

57. **The project's impact on CO_2 emissions is considered minimal.** The project will contribute to further reduced vehicle emissions because vehicles will be able to optimize speeds and thus CO_2 emission per km. The Highway Development and Maintenance (HDM-4) Road User Cost Model Version 3.0 was used to consider the CO_2 emissions of the vehicle fleet before and after the rehabilitation works. The rural roads included in the project have very low traffic, thus have limited emissions.

58. **Public sector financing and Bank value added.** Public sector financing is the appropriate vehicle for financing the rehabilitation of proposed roads because the construction costs cannot be recovered through tolls due to very low levels of traffic along the project roads. Public investment in road infrastructure is desirable because it is a way the government plays a key role in the

country's development by handling a range of issues that can only be accomplished or implemented through government actions, such as road safety regulations. The Bank's role is justified because of the project's economic and social benefits and because of the value added it brings beyond financing in areas such as: construction quality control, sustainability of road maintenance, transport planning, environmental risk management, safeguards, procurement, and financial management.

B. Technical Aspects

59. Recent traffic counts showed that most sections of local road corridors in the Development Region Central selected as priority roads for the LRIP carry between 100 and 500 Average Daily Traffic (ADT), although some road sections carry more than 1000 ADT. The many short access or feeder roads connecting single villages carry less than 100-200 ADT. Thus most of the local road network falls into the traffic range where maintaining the existing gravel surfacing or upgrading to a surface treatment is the most economic intervention and that asphalt should only be considered for the higher-trafficked road sections. Where there are existing asphalt sections through villages these will be repaired and maintained and road sections through larger villages will also include footpaths. SRA is currently undertaking a Double Bitumen Surface Treatment trial to assess the effectiveness of this lower cost pavement option, if successful it is anticipated that this would be the most widely used pavement type.

60. The options for intervention on the local roads selected for the project will be grouped under four main work items based on the findings of the initial assessments and condition inventory surveys: (a) bridges, (b) safety infrastructure, (c) drainage, and (d) pavement. Required works for road safety and drainage are constants in that these works should be carried out regardless of the intervention planned for the pavement and surfacing works. Pavement and surfacing works can vary across each road.

61. **Road safety aspects will be incorporated into both components.** The design will include provision of safety features such as guardrails, pavement markings, and sidewalks in village areas, while Component B will support road safety institutional reform. The 'Safe Villages' means the program that combines traffic calming measures, footway construction and an education program in schools located in villages near new improved roads, in order to prevent road accidents, especially those involving vulnerable road users such as pedestrians, children and the elderly.

62. **The designs will consider the potential impacts that climate change poses in Moldova, and will propose any necessary activities that mitigate the risks during the lifetime of the assets.** As described earlier, multi-year maintenance contracts will be used to cover the 300 km of roads rehabilitated by the LRIP. The contracts will include routine maintenance, aimed at preserving the asset to a defined level of service. The level of service is related to riding quality, comfort and safety, and includes winter maintenance. Emergency works will also be included as part of the contracts to make sure that in case of emergencies, response is quick and service can be reinstated within the established parameters.

C. Financial Management

63. **SRA Directorate of Investments will manage all payments, accounting, and reporting.** The FM arrangements in place for donor programs are adequate, particularly: (a) the internal control and accounting records over external-financed projects are satisfactory, (b) the accounting system is comprehensive overall and provides a good audit trail, (c) SRA staff is well acquainted with the Bank's financial management and disbursement procedures, and their performance was satisfactory under a previous operation, and (d) the audit opinions, including for 2014 financial statements prepared for the projects implemented by SRA, were always unqualified.

64. **SRA will produce quarterly consolidated un-audited interim financial reports (IFRs) and will submit them to the Bank within 45 days of the end of each quarter end, from the first disbursement and throughout the project life.** SRA will establish and manage a designated account (DA), in U.S. dollars, specifically for this project in the Single Treasury Account of the Ministry of Finance at the National Bank of Moldova, which is holding all DAs for ongoing Bank-financed projects in Moldova.

65. **There are no pending audits for the projects implemented currently by SRA.** The audit of the project will be conducted: (a) by independent private auditors acceptable to the Bank, on terms of reference (TOR) acceptable to the Bank and procured by SRA, and (b) according to the International Standards on Auditing (ISA) issued by the International Auditing and Assurance Standards Board of the International Federation of Accountants (IFAC). The annual audits of the project financial statements will be provided to the Bank within six months of the end of each fiscal year and for the project also at the project closing. The Borrower/Recipient will disclose the audit reports for the project within one month of their receipt from the auditors and acceptance by the Bank, by posting the reports on its web site (www.asd.md) or other official websites of the Borrower/Recipient. Following the Bank's formal acceptance of these reports, the Bank will make them publicly available.

66. **Given that SRA is implementing simultaneously several projects financed by different development partners, it has been agreed that SRA will be supported by two additional financial specialists to be competitively selected after project effectiveness.** Furthermore, the Project Management Consultant will provide additional expertise on Financial Management in accordance with the Terms of Reference agreed with the Bank.

D. Procurement

67. **Procurement function will be carried out by several directorates within SRA and by specific departments under each responsible directorate.** The main role however will be that of the Directorate of Investments. Each procurement activity will be prepared, tendered and administered by a group of experts (staff of SRA) from different directorates.

68. Procurement under the proposed project will be carried out in accordance with the Bank "Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" published in January 2011, revised in July 2014 (Procurement Guidelines) and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" published in January 2011,

revised in July 2014 (Consultant Guidelines) and with the latest Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits.

69. An assessment of the capacity of SRA to implement procurement activities was carried out in June 2015.The assessment concluded that SRA has the structure within the organization to manage donors-funded projects. The team assessed the risks that may negatively affect the ability of SRA to carry out procurement processes. The findings of this assessment, the risks, and the proposed mitigation measures are described in annex 3.

70. To enhance the existing capacities, SRA will hire a Project Management Consultant, funded from the project, whose role will be to work with staff of SRA to transfer skills, organize activities and generally increase the efficiency of the agency. The firm will also support SRA in managing procurement, financial management, monitoring and evaluation, and provide expertise to SRA operational departments to implement the project.

71. Given the complexity of this project and the risks identified during the assessment, as well as the existing capacity within SRA and experience with donors-funded projects, the overall risk for procurement is Substantial.

E. Social (including Safeguards)

72. **The project has a moderate risk from the safeguards perspective.** The project will not finance construction of new roads or their major upgrading. The proposed civil works will consist of road rehabilitation and maintenance within existing areas of 'Right of Way' (ROW). There will also be no impact on agricultural or grazing lands. However, OP 4.12 was triggered on a precautionary basis, since some of the roads that will be rehabilitated have not been selected yet and may require some resettlement in the future. This will be identified during the detailed design face. A Resettlement Policy Framework was therefore prepared and disclosed in country in April 2015 and on the Bank's InfoShop in July 2015. Public consultations were carried out in country.

73. **Citizen engagement.** 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. First, SRA will hold gender-representative consultations in all affected local communities every six months. As part of these consultations, SRA will inform beneficiaries of the status of rehabilitation works and other project-related activities (for example, available roads safety programs) and seek their feedback with regard to the project implementation progress. Second, as local communities live in the closest vicinity to the rehabilitated roads, they are best suited to monitor rehabilitation and maintenance works. Thus, several representatives will be selected from each affected community as part of the consultation meetings and serve as community monitors. These monitors will receive SRA monthly updates from SRA regarding the planned works in their communities, and report any issues or problems associated with the implementation of these works on the ground. Their reports will be discussed as part of the subsequent community consultations, and SRA will report to the Bank on how questions that were raised as part of the reports were addressed.

74. **Grievance Redress Mechanism.** This community monitoring system will be complemented by a grievance redress mechanism (GRM) that will be operated by SRA and will allow all

project affected beneficiaries to submit questions, complaints, or suggestions via email, phone, or regular mail. The GRM will be implemented no later than 45 days after project effectiveness. The GRM will be widely publicized in all project sites and on brochures that will be distributed to all project beneficiaries. All complaints will be registered and addressed within a predefined time period (i.e., 15 days for regular complaints and 30 days for complaints that require special actions). Quarterly reports that include the details of all complaints and ways in which they were addressed 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, and the community monitors will discuss the appeal together with SRA. The GRM will not prevent the beneficiaries from bringing their grievances to national courts.

75. **Gender.** The project will have a positive impact on gender discrepancies in rural areas. First, about one third of employed women in Moldova work in the public sector (for example, health, education, social care). Thus, by better connecting local communities to health and education facilities, the project will positively contribute to women's travel patterns. As women are the primary caregivers to their children, improved travel conditions for children going to schools will also benefit women's well-being. Further, the roads safety programs that will be offered as part of the project will help address a significant social issue in Moldovan society—the high percentage of men dying in road accidents. Death rates from road accidents reached 25 per 100,000 men in 2011, while they are significantly lower for women at 0.1 per 100,000 women (Moldova Gender Assessment, 2014). As women are less likely than men to own cars, they may be more vulnerable to road accidents as pedestrians. The roads safety programs under the project will be tailored to deal with the diverging safety problems and needs of both women and men. In order to accurately assess such problems and needs and offer targeted solutions, the project will finance during its first six months of implementation a gender-focused social survey that will assess 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. The safety programs offered as part of the project will rely on the findings of this survey. Project indicators assessing the effectiveness of safety programs will all be disaggregated by gender.

F. Environment (including Safeguards)

76. The expected environmental impacts related to air and water pollution, solid and hazardous wastes, labor security, and others, are expected to be low, site specific and mostly temporary. The impact on natural vegetation associated with operating the quarry and borrow areas, and constructing detour and access roads to the borrow material pits and quarry sites, will not be applicable here (as the existing borrow/quarry sites will be used). The project triggers OP 4.01 on Environmental Assessment as the project will support a series of activities which will generate some environmental and social impacts. The OP/BP 4.04 on Natural Habitats as well as OP 4.36 on Forests would not be triggered as the project will not support any activities which might involve conversion of natural areas and forests or impacts on them as all project activities will be implemented on ROW. Similarly, there will be no impact on physical cultural resources as all proposed activities will be implemented on existing local roads and no expansion of them will be financed.

77. In accordance with the Bank's safeguard policies and procedures, including OP/BP/GP 4.01 Environmental Assessment, the project is placed into the Bank's Category B. As at this stage the

subprojects to be financed are not yet identified, the Bank requires that client will screen all proposed subprojects to ensure that subproject beneficiaries carry out appropriate Environmental Assessment (EA) for each subproject. For this purpose the client prepared an Environment Management Framework (ESMF) which specifies rules and procedures for subprojects EA. The document covers the following: national and Bank EA rules and procedures; procedures for environmental screening; guidance for preparing subprojects Environmental Management Plan (EMP) Checklist for roads rehabilitation subprojects; possible mitigation measures for different types of subprojects; requirements for monitoring and supervision of implementing of EMPs; implementing arrangements. The ESMF was disclosed in-country in December 2014. It was submitted to the Bank Infoshop in June 2015. Public consultations were carried out in country.

Other Safeguards Policies Triggered (if required)
Except OP 4.01 and OP 4.12 no other safeguard policies will be triggered.

G. World Bank Grievance Redress

78. Communities and individuals who believe that they are adversely affected by a Bank-supported project may submit complaints to project-level grievance redress mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the Bank's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of Bank's non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework

Country: Moldova
Project Name: Local Roads Improvement Project
Results Framework

Project Development Objectives

PDO Statement

The Project Development Objective (PDO) is to provide safe and sustainable local road accessibility to education, health and market facilities along selected corridors.

These results are at | Project Level

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values					
		YR1	YR2	YR3	YR4	YR5	End Target
Number of Schools Connected by rehabilitated/upgraded local road corridors (Number)	0.00	10.00	78.00	108.00	133.00	162.00	162.00
Number of hub schools connected by rehabilitated/upgraded local roads corridors							

(Number - Sub-Type: Breakdown)							
Number of health facilities connected by rehabilitated/upgraded local road corridors (Number)	0.00	9.00	33.00	48.00	57.00	71.00	71.00
Number of villages connected to regional market facilities by an improved local road corridor (Number)	0.00	22.00	46.00	64.00	78.00	94.00	94.00
Condition of project local roads corridors (Number)	8.00	8.00	6.00	4.00	3.00	3.00	3.00
Road and village sections with satisfactory post-construction road safety audits (Percentage)	0.00			70.00	80.00	90.00	90.00
Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target

Roads rehabilitated, Rural (Kilometers) - (Core)	0.00	0.00	25.00	150.00	220.00	300.00	300.00
Number of Villages with Road Safety Improvements (Number)	0.00	0.00	5.00	40.00	60.00	70.00	70.00
Completed Sub-project Roads and access links are under Maintenance Contracts (Kilometers)	0.00	0.00	0.00	50.00	200.00	400.00	400.00
Rural Accessibility Index (Percentage)	66.00			80.00		95.00	95.00
Consistent and Transparent Local Road Prioritization Method: adopted and applied by SRA and selected LPAs (Yes/No)	No	Yes	Yes	Yes	Yes	Yes	Yes
Appropriate Design and Construction	No	No	No	Yes	Yes	Yes	Yes

Methods are adopted for local roads (Yes/No)							
Procurement Performance for Sub-project Roads: actual versus planned commitments. (%) (Percentage)	0.00	48.00	74.00	90.00	90.00	95.00	95.00
Pilot multi-year area wide maintenance contract (Text)	0		Bidding Documents Prepared	Tender Launched	Contract Awarded	Successful Implementation	Successful implementation
Effective Reporting of Local Road Maintenance Expenditures: as evidenced by SRA monthly and annual reporting. (Yes/No)	No	Yes	Yes	Yes	Yes	Yes	Yes
Number of children trained (disaggregated by gender) with road safety awareness	0.00	0.00	0.00	1,000.00	2,000.00	2,500.00	2,500.00

campaigns in project areas (Number)							
Number of girls trained in road safety awareness campaigns in project areas (Number - Sub-Type: Breakdown)	0.00						1,250.00
Consultations carried out on a bi-annual basis with participation from community monitors. (Yes/No)	No	Yes	Yes	Yes	Yes	Yes	Yes
Grievances registered that are actually addressed within required terms (Percentage)	0.00	70.00	75.00	80.00	85.00	95.00	95.00
Direct project beneficiaries (Number) - (Core)	0.00		14,261.0	88,955.0			185,000.0
Female beneficiaries (Percentage - Sub-Type:	0.00						95,000.0

Supplemental) - (Core)							
School-aged Beneficiaries (Number - Sub-Type: Breakdown)	0.00						17,000.0

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Number of Schools Connected by rehabilitated/upgraded local road corridors	This indicator will measure the number of schools that are connected to the rehabilitated corridors (within the project area of influence).	Midterm and end of Project	Survey	SRA
Number of hub schools connected by rehabilitated/upgraded local roads corridors	This indicator measures the number of hub schools out of the total schools connected by rehabilitated or upgraded corridors.	Mid-term and end of project	Survey	SRA
Number of health facilities connected by rehabilitated/upgraded local road corridors	This indicator will measure the number of health facilities connected by rehabilitated local road corridors	Mid-term and end of project	Survey	SRA
Number of villages connected to regional market facilities by an improved local road corridor	This indicator will measure the number of villages connected to regional market facilities by an improved local road corridor. Specific regional market will be determined for each corridor, and refer to	Midterm and end of project	Survey	SRA

	the main regional city within the area of influence of the corridor.			
Condition of project local roads corridors	This indicator will measure the condition improvement (average IRI<=3) of total project road corridors and connecting access roads, depending on the road surface and the level of roughness.	Annual	Survey	SRA
Road and village sections with satisfactory post-construction road safety audits	This indicator will measure and assess the road safety level for each of the corridors before and after the improvement works take place, using road safety audit compliance.	Annual Survey	Before construction and upon completion of the corridor	SRA

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Roads rehabilitated, Rural	Kilometers of all rural roads reopened to motorized traffic, rehabilitated, or upgraded under the project. Rural roads are roads functionally classified in various countries below Trunk or Primary, Secondary or Link roads, or sometimes Tertiary roads. Such roads are often described as rural access, feeder, market, agricultural, irrigation, forestry or community roads. Typically, rural roads connect small urban centers/towns/settlements of less than 2,000 to 5,000 inhabitant s to each other or to higher classes of road, market towns and urban centers.	Annual	Project Progress Reports	SRA
Number of Villages with Road Safety Improvements	Unit of measure: cumulative number. Projects completed means both works and road safety campaigns.	Surveys	Project progress reports	SRA

Completed Sub-project Roads and access links are under Maintenance Contracts	This indicator is cumulative and measures the amount of kilometers rehabilitated under the project that are under Maintenance Contracts. This includes the access roads to villages that are situated in project area but outside of direct corridor link. The contracts will be financed with resources from the Road Fund.	Annual	Project progress reports	SRA
Rural Accessibility Index	This indicator measures the percentage of rural people in the project area who live within 2 kilometers (typically equivalent to 20 minute walk) of an all-season road. An all-season road is motorable all year by the prevailing means of rural transport (often a pick up or a truck which does not have a four wheel drive). Predictable interruptions of short duration during inclement weather (e.g. heavy rainfall) are acceptable, particularly for low volume roads. This indicator will be measured in the program area. Baseline figure is for 2004. Source: World Bank	Annual	RAI methodology and survey.	SRA
Consistent and Transparent Local Road Prioritization Method: adopted and applied by SRA and selected LPAs	This indicator will measure whether a consistent and transparent prioritization method will be endorsed and used for the identification and prioritization of future local roads improvement works.	Annual	Project progress reports	SRA
Appropriate Design and Construction Methods are adopted for local roads	This indicator will assess whether the developed simplified local roads design and construction methods, developed as part of the Local Roads Design and Construction Manual are adopted. More information on the local roads design is presented in the Project Operational Manual.	Annual	Project progress reports	SRA

Procurement Performance for Sub-project Roads: actual versus planned commitments. (%)	This indicator measures the percentage of actual expenditure committed (contract value) versus planned commitment over project period based on an estimated $ 75 million reference amount.	Annual	Project progress reports	SRA
Pilot multi-year area wide maintenance contract	The indicator measures if the pilot multi-year area maintenance contract with clearly defined levels of service and adequate funding has been implemented.	Annual	Project Progress Report	SRA
Effective Reporting of Local Road Maintenance Expenditures: as evidenced by SRA monthly and annual reporting.	This indicator measures if local funding from all sources (Road Fund, Regional infrastructure development programs, raïons) are tracked and used in programming local roads works and assessment of expenditures.	Annual	Project progress reports	SRA
Number of children trained (disaggregated by gender) with road safety awareness campaigns in project areas	This indicator measures the number of schools that have participated in awareness campaigns for road safety disaggregated by gender.	Annual	Annual progress reports	SRA
Number of girls trained in road safety awareness campaigns in project areas	This indicator measures the number of girls trained in road safety awareness campaigns in project areas from the schools that have participated in the awareness campaigns.	Annual	Project Progress Reports	SRA
Consultations carried out on a bi-annual basis with participation from community monitors.	This indicator measures consultations based on commitments on citizen engagement	Every 6 months	Project Progress Reports	SRA
Grievances registered that are actually addressed within required terms	Number of grievances that are addressed in a satisfactory manner within the established response terms. This should be detailed in the operations manual. Data collected on a monthly basis based on	6 months	Project Progress Reports	SRA

	grievance system and reported on every project progress reports.			
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families who have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.	Midterm and end of project	Survey and census data	SRA
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what percentage of the beneficiaries are female.	No description provided.	No description provided.	No description provided.
School-aged Beneficiaries	This indicator measures school aged beneficiaries	Mid-Term and end of project	Census Data and Survey	SRA

Annex 2: Detailed Project Description

MOLDOVA: Local Roads Improvement Project

Snapshot of the Moldova Local Road Network

1. The Local Roads Improvement Project will support Moldova's National Development Strategy through better access to social services in rural areas, mainly education and health, and improve access by farmers to markets and export opportunities. The project will be supported by the Bank but with opportunities for significant additional financing from other institutions within the same overall framework of support. The loan amount is US$80 million (US$65 million from IDA and US$15 million from IBRD).

2. The project will comprise two components – Civil Works and Institutional Strengthening. The civil works interventions will support rehabilitation and maintenance of the local road network using appropriate standards and technology. The target network of local roads will include both the newly designated regional roads and the local roads transferred to the LPAs. The Institutional Strengthening component will develop improved systems and procedures as well as approaches to capacity building that can be replicated nationally. These improved systems and procedures would provide the common framework for scaling up the investment support by government and other development partners.

3. The project aims to rehabilitate and maintain specific 'corridors' that can improve accessibility to local communities in the area of influence. As a starting point prioritized corridors will be improved (either by providing periodic maintenance or rehabilitation). These corridors are sections of local roads that together improve accessibility for a specific area of influence. In some cases, the corridor crosses through villages directly, in others access to the corridor from the village requires one or two additional kilometers of access roads. To maximize the impact of the corridor improvement in the area of influence, the GOM has committed to include any required spot treatments in this access roads in their yearly works program. In addition, the corridors will be maintained under maintenance contracts which will include access roads. These contracts will be financed by the road fund. By both including the rehabilitation of corridors and providing all-weather access roads, the project can significantly improve the impact and provide access to rural communities which are not necessarily in the primary alignment of the corridors.

4. **Component A: Rehabilitation and Maintenance of Local Road Network** (Total cost US$82.5 million of which US$75 million financed by IBRD and IDA). This component will finance the rehabilitation and upgrading of about 300 km of priority Local Roads. The focus will be to provide road access between villages and the national road network by developing cost-effective, coherent networks with good connectivity. The works will include rehabilitation and periodic maintenance works and upgrading economically justified roads to a sealed standard. These will be carried out across the regional road network and in the local road network in the selected raïon(s) using a new and improved system of selection and prioritization of key local road corridors. An important part of the component will be road safety works in the proximity of schools and on road sections within communities. A key objective will be to provide safe access to schools

for children who have been affected by the school consolidation program. This component will also finance supervision and independent technical audits for all civil works activities. Counterpart funds will be used to finance design works and the implementation of multi-year area wide maintenance contracts for the improved local roads corridors and connecting access roads.

5. This component will be undertaken on a programmatic basis based on the identification of a rolling program of subprojects which have been prioritized as part of a project on the Modernization of Local Public Services being carried out by the MRDC with assistance from GIZ. This process has formulated a Regional Sector Program in each of the three Development Regions: North, Center and South. The objective of the RSP is to provide sustainable, safe and cost-effective year-round road connectivity in the regions in order to support their development and increase the welfare of the population. Based on project readiness the first phase of investments will focus on the Central Development Region.

6. The formulation of the Regional Sector Programs is a result of an extensive local road assessment and consultation exercise which identified 28 priority Regional and Local Road corridors linking villages to the state road network. Considerable research of social, economic and demographic conditions in the raïons and villages has gone into creating these 28 corridors. The MRDC and GIZ have held consultations with the RDC s, MTRI and SRA to obtain consensus and approval. The 28 corridors have a total length of 1,040 km out of a total Regional and Local Road length of approximately 6,000 km. Details of the 28 corridors are presented in the table below and will be the basis for the prioritizing the subprojects financed under this component.

Table 2.1. MRDC Regional Sector Program Roads

No of corridors	Assigned number to corridors	Corridor name	Length (km)	Development Region	Rayon (s)
1	1	M14 – Alexăndreni – Bădragii Vechi – Lopatnic – M14	53.80	North	Edineț
2	2	M14 – Hlinaia – Corestăuți – Halahora de Sus – M14	30.70	North	Edineț, Briceni, Ocnița
3	3	R12 – Elizavetovca – Teleşeuca – Bădiceni – R7	56.90	North	Dondușeni, Soroca
4	4	M14 – Chetrosica Veche – Frasin – Tîrnova – Țarigrad – R7	47.20	North	Edineț, Dondușeni, Drochia
5	5	R13 – Ivanovca – Izvoare – Vanţina – Ocolina – M2	35.50	North	Florești, Soroca
6	6	R53 – Cobani – Brînzeni – Petruşeni – R7	12.70	North	Rîșcani, Glodeni
7	7	R16 – Ilenuța – Limbenii Vechi – Petrunea – R15	27.30	North	Glodeni, Fălești
8	8	M14 – Flămînzeni – Bursuceni – Bocani – Făleștii Noi – R16	34.20	North	Fălești, Sîngerei
9	9	R13 – Mărculești – Rădoaia – R14 – Cozești – Cîșla – M14	64.30	North	Florești, Sîngerei, Telenești
10	10	R1 – Cornești – Sinești – Cornova – Onișcani – Răciula – R21	52.70	Centre	Ungheni, Călărași
11	11	M14 – Cucoaia Nouă – Mîndrești – R22 – Bănești – R14	25.70	Center	Telenești
12	12	R13 – Șestaci – Salcia – Japca – Sănătăuca – R19 – Cot – Socola	44.30	Center	Șoldănești, Florești

No of corridors	Assigned number to corridors	Corridor name	Length (km)	Development Region	Rayon (s)
13	13	M2 – Ţînţăreni – Chiştelniţa – Ignăţei – Trifeşti – R20	36.50	Center	Teleneşti, Rezina
14	14	M2 – Peresecina – Hîrtopul Mare – Izbişte – Ohrincea – R23	33.20	Center	Orhei, Criuleni
15	14a	R20 – Susleni - Oxentea – Molovata – Molovata Nouă – Roghi – Cocieri	45.20	Center	Orhei, Dubăsari
16	15	R1 – Bucovăţ – Negreşti – Codreanca – R20 – Mălăieşti – M2	76.20	Center	Orhei, Străşeni
17	16	R1 – Pîrliţa – Bălăneşti – Selişte – R25	40.90	Center	Ungheni, Nisporeni
18	16a	R21- Hîrjăuca - Oricova - R1 – Pîrjolteni – R25 – Lozova – M1	42.80	Center	Călăraşi, Străşeni
19	17	R3 – Ruseştii Noi – Văsieni – Horodca – M1	27.60	Center	Ialoveni
20	18	R3 – Pojăreni – Costeşti – Horeşti – Ţipala – R32	34.60	Center	Ialoveni
21	19	R59 – Delacău – Bălăbăneşti – Mereni – Chetrosu – R2	42.50	Center	Anenii Noi, Criuleni
22	20	R34 – Sîrma – Tomai – Sărăteni – Hîrtop – R3	57.20	South	Leova, Cimişlia
23	21	R26 – Mihailovca – Sagaidac – Ciufleşti – Baimaclia – R26	42.60	South	Cimişlia, Căuşeni
24	22	R32 – Cîrnăţenii Noi – Baccealia – Ursoaia – R26	38.80	South	Căuşeni
25	23	R30 – Ermoclia – Volontiri – frontiera cu Ucraina	30.70	South	Ştefan-Vodă
26	24	R34 – Ciobalaccia – Tartaul – R56 – Baimaclia – Enichioi – R37	43.30	South	Cantemir
27	25	R26 – Mihailovca – Sadaclia – Iordanovca – R3	22.40	South	Cimişlia, Basarabeasca
28	26	R38 – Moscovei – Budăi – Ciumai – Mirnoe – frontiera cu Ucraina	35.60	South	Cahul, Taraclia, Comrat
		The total length of 28 corridors	**1135.40**		

Source: MRDC and GIZ

7. The prioritized local road corridors provide the main links between villages and the national road network. Connected to these links are a series of short access roads to villages not on the main corridors. In some instances these links may provide access to consolidated schools or health facilities. It has been agreed that these links will be maintained and 'spot improved' through a road fund financed improvement and maintenance program. This maintenance program would also include any improved corridors financed under this project. This maintenance program will be financed through this component and using counterpart funds. Currently, maintenance of local roads is carried out by maintenance companies under contract with SRA. EBRD is providing technical assistance to SRA to develop performance-based contracts for maintenance. The proposed maintenance contracts for local roads under the project will begin in year 3, once the works defect liability period expires. Under Component B, the project will finance technical assistance to SRA to develop this type of contracts.

8. **Component B: Institutional Strengthening (US$5 million).** This component will finance a program of institutional strengthening to build capacity within the sector for efficiently and effectively maintaining and improving the regional and local road networks. The support to

government institutions will be focused on building capacity for road network management in SRA and selected local authorities. This activity will finance a project management consultant who will support SRA in day to day management of the project but also provide specific services in the following areas:

9. **Build capacity for reform of management of local roads.** This activity will comprise capacity building measures to support the GOM to prepare for and implement the necessary reforms for the effective management of local roads. This will include strengthening the role of SRA in the short term, developing a sustainable model for decentralization and supporting the eventual implementation of that decentralized model. The activities will include capacity building, support with legislative changes, developing and implementing road management systems.

10. **Develop and adopt local roads planning, design and construction.** This component will produce the technical specifications and standardized design procedures, appropriate for the requirements of low-trafficked local roads. Currently design procedures for local roads are the same as those for highways which results in high cost and inappropriate design standards. This work will build on the rationalized procedures which will be developed for the Operations Manual for this project. This activity will support the formal adoption of revised technical standards, design codes and a design procedure that will be approved by the MRI for future regional and local roads. Once approved training will be required to update SRA and private sector consultants on the new standards.

11. **Strengthen road fund expenditure monitoring and evaluation system.** This activity will focus on providing a broader assessment of the effectiveness of expenditures under the road fund. This would provide policy makers with a clear mechanism for monitoring uses of funds, resultant outcomes (i.e., Road conditions) and provide some governance reassurance that road fund revenues are being used correctly and efficiently. Related to this is the need for SRA to provide more realistic asset valuations for the network they manage and also account for their land holdings. This activity would be closely linked to the continued development of a RAMS that SRA is currently installing which will provide the basis for the monitoring of road fund revenues but also provide a basis for developing annual maintenance plans.

12. The RAMS should be a relatively straightforward system for capturing and storing road inventory and condition data (including for local roads). It should build on existing systems already being developed within SRA. When decentralization takes place one of the tasks of the decentralization consultants will be to provide support to the raïons in adopting local responsibility for the RAMS. Design of the RAMS must therefore take into consideration that arrangements pre- and post-decentralization, including who will be responsible for data collection and data processing, and how the RAMS will be used for supporting decisions on maintenance requirements for local roads.

13. **Framework for local roads maintenance.** This activity will consider the overall framework for local roads maintenance including the role of RMCs, private contractors and other community-based entities. The activity would follow on from some of the recommendations produced by an ongoing EBRD-financed consultancy looking at maintenance reform in the country. Experience from similar countries such as Latvia, Lithuania, Slovenia will be used to define a workable model

for Moldova. This activity would help prepare maintenance contracts and agreements that could be financed through road fund revenues or in Component A of this project. Legislation around the road fund allows for undertaking commitments over more than one year which would also allow the use of multi-year and performance-based contracts.

14. **Support a local roads safety program.** Improvements made to local and regional roads under the LRIP will lead to vehicles travelling faster through village sections, notwithstanding speed limitation signs. This will increase road safety concerns, particularly where roads are improved in the vicinity of schools and where school children alight from school buses. The project will introduce the concept of 'safe villages' with which the Bank has experience supporting in other countries. In addition, it will support an education campaign that promotes behavioral change and can maximize the impacts of the infrastructure investments in road safety. Furthermore, the project will promote close collaboration within the implementing agencies and the enforcement agencies.

Annex 3: Implementation Arrangements

MOLDOVA: Local Roads Improvement Project

Project Institutional and Implementation Arrangements

1. **The project will be implemented under the general supervision and responsibility of the Ministry of Transport and Road Infrastructure (MTRI). MTRI will execute the project through the State Road Administration (SRA) as the direct executing agency.** This delegation to SRA will be done through an Implementation Agreement. Direct responsibility for the day-to-day implementation of the project will be with SRA under the Directorate of Investments which will handle the project activities. SRA's responsibilities will include procurement, financial management, contract management, project/program monitoring and evaluation, and reporting. To strengthen SRA's capacity to carry out those functions, up to 6 local experienced specialists are being recruited through a competitive selection process. A Project Management Consultant (PMC) will be procured and will work with existing SRA staff to transfer skills, organize activities, and generally increase the efficiency of the agency. The project will also use qualified international consultants for supervision of civil works.

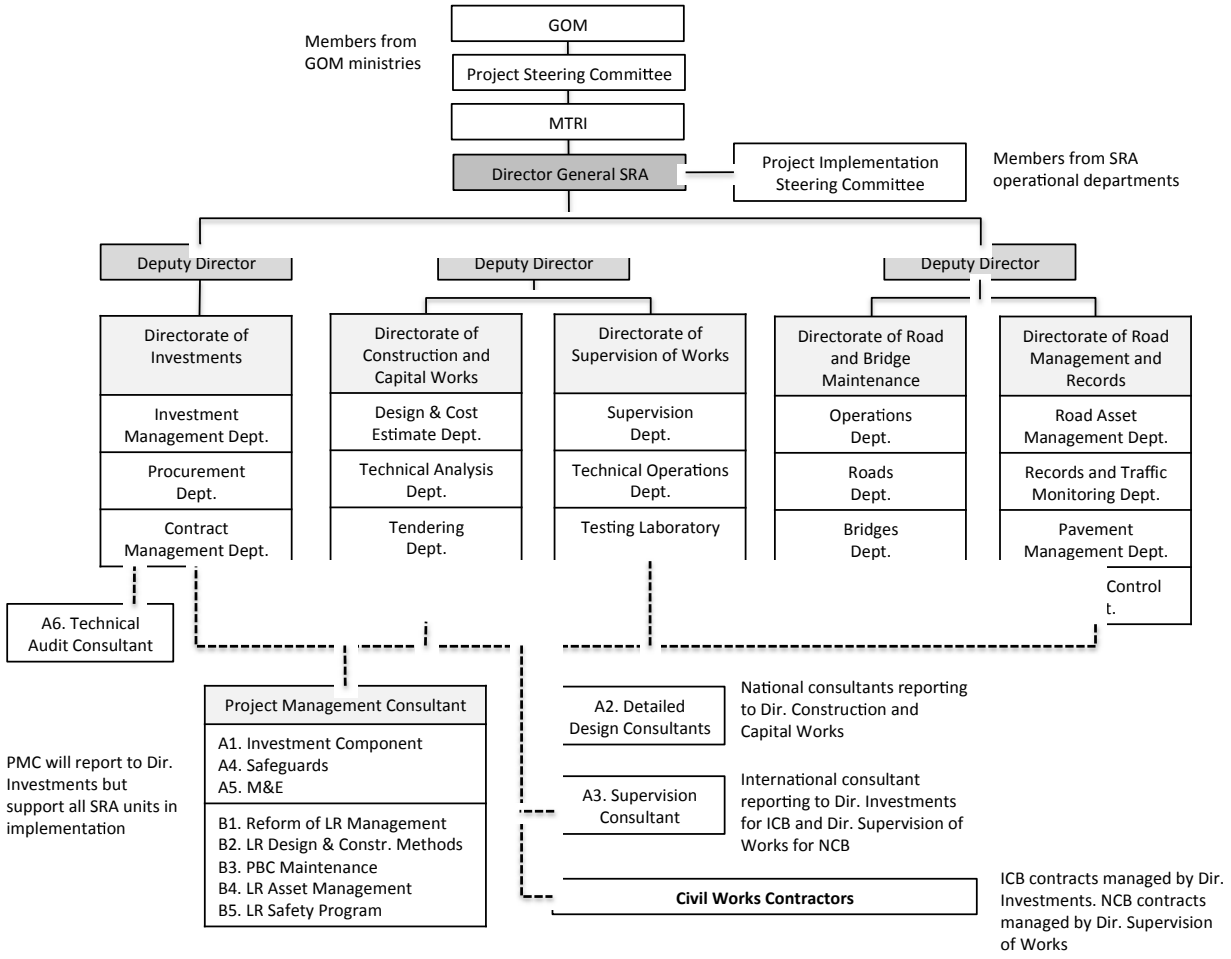
2. SRA Directorate of Investments currently has responsibility for the implementation of internationally funded improvements and rehabilitation of national road infrastructure. The Directorate of Investments will supplement and enhance its existing skill mix in SRA operational departments and work in tandem with those departments in the implementation of LRIP. SRA also benefits from a full time team of international advisors who are funded through the EC but provide support for the overall road sector investment program.

3. A Project Implementation Steering Committee will be established within SRA under the direction of the General Director with representatives of SRA's operational Departments: Directorate of Investments, Directorate of Construction and Capital Works, Directorate of Road and Bridge Maintenance, and Directorate of Road Management and Records[9] to ensure the project activities are coordinated and implemented effectively.

4. At the GOM level a Steering Committee (SC) has been established by the Prime Minister to ensure broad government oversight and guidance for the GOM's entire Road Sector Program, including those activities funded by external partners. The SC of four members is headed by the Deputy Prime Minister and includes the Ministers of Transport, Finance and Economy. The Steering Committee will meet at least twice a year to review implementation progress of the Road Sector Program and take any high-level decisions which may be needed.

[9] Ibid.

Figure 3.1. Proposed LRIP Organization Structure



Staffing Plan for SRA

5. In addition, SRA is in the process of competitively selecting the following staff to enhance the capacity of the Directorate of Investments, and the Directorate of Construction and Capital Works. The proposed additional staff are:

- For the Directorate of Investments: three procurement specialists, three contract administrators, two financial specialists, one environmental specialist (ES), and one resettlement and social safeguards specialist.
- For the Directorate of Construction and Capital Works: one road engineer for design review, and one road engineer or economist.

Financial Management, Disbursements and Procurement

Financial Management

6. The findings of the financial management assessment conclude that the proposed project FM systems and framework are adequate to support the implementation of the project. The project will rely on institutional and procedural setup established by SRA specifically for externally financed projects which were used successfully under previous Bank project. That set up is considered robust to ensure a quick, transparent and accountable flow of funds. SRA, in particular its Directorate of Investments, would be responsible for maintaining comprehensive files, accounting records, and devising financial statements in compliance with agreed format, and would ensure accurate flow of funds under the project. The overall FM risk for the Project is assessed as Moderate, with the Inherent Risk and Control Risk also assessed as Moderate.

7. SRA is capable of preparing relevant budgets. SRA project budgeting follows the established procedure for budget planning at the GOM's level. The budget execution is monitored through the regular budget reports submitted to the Ministry of Finance. The current budget is classified by categories, components, and sources of funds. Once reviewed and endorsed by the MOF, the Project budget is included in the state budget.

8. SRA holds its own accounts in Banca de Economii (commercial bank with state share) and Fincombank (privately owned commercial bank). However, according to newly adopted regulations SRA needs to select competitively its financial institution. The contract with selected institution would be valid for two years with possible two-year extension. The accounts for externally financed projects are opened at the National Bank of Moldova, and the project account would be opened there as well. The flow of funds under current projects are considered adequate.

9. SRA uses a computerized accounting system (1C, based on latest available version 8.3) which is able to satisfy SRA statutory needs as well as the needs of the projects implemented by them and financed by different donors, namely: (a) recording and processing transactions in respect of capital expenditures, road repairs and road maintenance from the road fund (State Budget), and other revenues and expenses, (b) recording project related transactions separately for each funding source, (c) preparing consolidated financial statements including trial balance, balance sheet, income statement, project financial statements, (d) periodic (weekly, monthly, quarterly) management reports including quarterly project financial monitoring reports to be submitted to the financial institutions (i.e., Bank, EIB, EBRD, European Commission [EC]), (e) maintaining an audit trail in the flow of accounting transactions, and (f) maintaining procurement monitoring and contract management data including ability to track all payments in respect of a particular contract. For financial reporting purposes, SRA uses cash basis IPSAS (for project reporting) and National Accounting Standards (for entity reporting). In addition, to satisfy EBRD requirements SRA financial statements are annually being transformed in accordance with IFRS.

10. SRA seems to have an adequate internal control system in place for implementation of the project, including adequate segregation of duties among the FM/accounting staff. SRA has established recently a separate unit of technical people who are responsible for contract management and monitoring of proper contract execution.

11. Project management oriented IFRs will be used for the project monitoring and supervision. SRA submits such reports to the donors and their format include: (a) project sources and uses of funds, (b) uses of funds by project activity, and (c) designated account statements. The same format will be used for the project needs and SRA will produce a full set of IFRs every calendar quarter throughout the life of the project. These financial reports will be submitted to the Bank within 45 days of the end of each calendar quarter.

12. There are no pending audits for the projects implemented at present by SRA. The audit of the project will be conducted: (a) by independent private auditors acceptable to the Bank, on a TOR acceptable to the Bank and procured by SRA, and (b) according to the International Standards on Auditing (ISA) issued by the International Auditing and Assurance Standards Board of the IFAC. The annual audit of the project financial statements will be provided to the Bank within six months of the end of each fiscal year; and for the project also at the project closing. If the period from the date of effectiveness of the loan to the end of the Borrower/Recipient's fiscal year is no more than six months, the first audit report may cover financial statements for the period from effectiveness to the end of the second fiscal year. The Borrower/Recipient will disclose the audit reports for the project within one month of their receipt from the auditors and acceptance by the Bank, by posting the reports on its website (www.asd.md) or other official websites of the Borrower/Recipient. Following the Bank's formal acceptance of these reports, the Bank will make them publicly available according to the Bank Policy on Access to Information. The cost of the project audits will be financed from the proceeds of the Project.

Disbursements

13. SRA will establish and manage a DA specifically for this project in the Single Treasury Account of the Ministry of Finance at the National Bank of Moldova, which is holding all DAs for ongoing Bank projects in Moldova. The project's Designated Account will be managed by SRA. Project funds will flow from the Bank, either: (a) via the DA to be maintained in the Treasury, which will be replenished on the basis of SOEs or full documentation, or (b) on the basis of direct payment withdrawal applications and/or special commitments received from SRA. Withdrawal applications that document funds used from the DA will be sent to the Bank on a monthly basis. The following disbursement methods may be used under the project: (a) direct payment, (b) reimbursement, (c) designated account, and (d) special commitment. The DA ceiling is proposed to be established at US$4,000,000, which will be finalized and reflected in the Disbursement Letter.

Procurement

14. Procurement under the proposed project will be carried out in accordance with the Bank "Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" published in January 2011, revised in July 2014 (Procurement Guidelines) and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" published in January 2011, revised in July 2014 (Consultant Guidelines) and with the latest Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits.

15. An assessment of the capacity of the State Road Administration (SRA) to implement procurement activities was carried out in June 2015. The team assessed the risks that may negatively affect the ability of SRA to carry out procurement processes. The assessment reviewed the organizational structure for implementing the project. This structure allows SRA to manage donor funding given their large donor funded programs. The Directorate of Investments within SRA will have the overall responsibility for the implementation of the project, however, supplementing and enhancing the existing skill mix in SRA operational departments and working in tandem with other relevant departments.

16. While SRA has extensive experience with donor-funded projects, though less with Bank-funded projects, the agency will enhance its existing capacities by hiring a PMC whose role will be to work with staff of SRA to transfer skills and generally increase the efficiency of the agency. The firm will also support SRA in managing procurement, financial management, and monitoring and evaluation functions and provide expertise to SRA operational departments to implement the project. It is expected that the firm will include at least one key expert in its team with knowledge of Bank procurement policies and procedures who will advise and guide SRA during the preparation of the Bidding Documents/Requests for Proposals and evaluation of bids/proposals process.

17. As part of the capacity assessment the team identified several risks for which mitigation measures were proposed.

(i) *Risk:* Earlier misprocurement experience with the same agency in Roads Sector Program Support Project. *Mitigation Measure:* Given the experience under another Bank-funded project, the Bank will closely monitor the procurement process by prior reviewing large value procurement to make sure that the process was fair and transparent.

(ii) *Risk:* Limited knowledge of SRA staff of Bank procurement policies and procedures. *Mitigation Measure:* While it is expected that the PMC will provide guidance to SRA staff on procurement, the Bank team offers to deliver training on Bank procurement to the relevant personnel of SRA. The Bank will also encourage SRA staff to attend procurement-related training/events organized in the region.

(iii) *Risk:* The complexity of the proposed project and the limited experience of SRA with Bank-funded projects, specifically with procurement procedures, may lead to delays in procurement at the initial stages of project implementation. *Mitigation Measure:* There are several way to mitigate this risk, such as: PMC experts will guide and support SRA through the procurement process and contract management and the Bank team will provide guidance and recommendations to SRA throughout the process.

18. Given the complexity of the project and the risks identified during the assessment, as well as the existing capacity within SRA and experience with donor funded projects, the overall project risk for procurement is Substantial.

Procurement Arrangements

19. **Procurement of goods, works, and non-consulting services.** Goods, works and non-consulting services procured under the project would include, among others, mixed program of physical works comprising basic access improvements, periodic maintenance and local road improvements. Under International Competitive Bidding (ICB) procedures, procurement will be done using the Bank Standard Bidding Document for Procurement of Small Works. For complex procurement, the Bank Standard Bidding Document for Procurement of Works will be used. Goods and non-consulting services contracts below US$100,000 and works contracts below US$200,000 may be procured through shopping procedure in accordance with the provisions of paragraph 3.5 of the Procurement Guidelines. For procurement of IT systems by applying Shopping procedures, SRA will follow the procedures set forth on the Bank website (www.worldbank.org/procure). When soliciting quotations, SRA would include in the shortlist the authorized suppliers (the list is available on the Bank's website). In addition, other suppliers or local dealers may be added to the shortlist, upon checking their credentials with respective manufacturers. All ICB contracts are subject to the Bank's prior review.

20. **Procurement of consulting services.** Consulting services under the project are of various size and complexity. These would include, among others: project management consultant; baseline survey and impact studies on project beneficiaries; detailed design and supervision activities for all road rehabilitation and maintenance works as well as independent technical audits of the civil works. Selection will be done using the Bank Standard Request for Proposals. The employment of technical experts will be conducted through the selection of individual consultant in accordance with the provisions of the Section V of the Consultant Guidelines. In case the service is required from a consultancy firm, Quality- and Cost-Based Selection (QCBS) method will be applied in accordance with the Section II of the Bank's Consultants Guidelines. For the contracts below US$300,000 equivalent Selection Based on Consultants' Qualification method may be used in accordance with paragraph 3.7 of the Consultants' Guidelines. The short list can comprise entirely national consultants, if the contracts with the firms are below US$300,000 equivalent. All QCBS contracts are subject to Bank's prior review.

21. **Procurement of design services.** It is expected that design services at the initial stages of project implementation will be procured from SRA funds. According to paragraph 1.8 of the Consultant Guidelines, in procuring consulting services not financed from Bank loans but included in the project scope of the loan agreement, the Borrower/Recipient may adopt other rules and procedures. In such cases, the Bank shall satisfy itself that: (a) the procedures to be used will fulfil the Borrower/Recipient's obligations to diligently and efficiently implement the project, and will result in the selection of consultants who have the required qualifications, (b) the selected consultant will carry out the assignment in accordance with the agreed schedule, and (c) the scope of services is consistent with the needs of the project.

22. **Procurement of logistical and organizational services** for various events organized under the project would be done using Shopping procedures. Training activities in the form of study tours, or participating in national or international workshops shall be procured in accordance with the procedures agreed with the Bank. SRA will develop a Training Plan which will be prior reviewed by the Bank. Each request to attend an event listed in the Training Plan or other events

not listed in the plan will be submitted to the Bank together with the proposed list of participants, agenda of the event and the estimated budget with the breakdown of costs.

23. **Filing and records keeping.** Filing of procurement related documents, and records keeping under the project, will be done by SRA. Procurement progress reports will be submitted to the Bank as per Financing/Loan agreements provisions.

24. **General Procurement Notice (GPN).** The GPN will be prepared and submitted to the Bank after negotiations. The Bank will arrange for its publication in UN Development Business online (UNDB online) and on the Bank's external website. The GPN will contain information concerning the Borrower/Recipient, amount and purpose of the loan, scope of procurement reflecting the Procurement Plan, and the name, telephone (or fax) number, and address(es) of the Borrower/Recipient's agency responsible for procurement, and the address of a widely used electronic portal with free national and international access or website where the subsequent Specific Procurement Notices will be posted.

25. **Procurement Supervision.** Routine procurement reviews and supervision will be conducted by the Procurement Specialist. In addition, one supervision visit is expected to take place per year during which ex-post reviews will be conducted. The project team recommends to post-review at least 10 percent of contracts subject to post review. Procurement documents will be kept readily available for Bank's ex-post review during supervision missions or at any other point in time. A post review report will be prepared, shared with SRA/MTRI and filed in the procurement post review system.

Table 3.1. Major Procurement Packages

No.	Contract (Description)	Estimated Cost, US$	Procurement Method	Review by Bank	Planned	Bid Documents to the Bank	Contract Signing	Contract Completion
1	Improvement of L376 road, Drujba-Radeni-Hoginesti, km 13+141 - km 34+250	4,750,000.00	NCB	Prior	Planned	August 30, 2015	February 15, 2016	August 30, 2017
2	Improvement of L376 road Cornesti-Drujba km 0+000 - km 13+141 and L405 road R21-Oniscani, km 0+000 - km 9+962	4,600,000.00	NCB	Post	Planned	April 11, 2016	September 9, 2016	August 30, 2017
3	Improvement of L314 road, M2-Peresecina-Hartipol Mare-Ohrinncea-R23 km 0+000 - km 26+430	4,752,000.00	NCB	Prior	Planned	April 11, 2016	September 9, 2016	December 30, 2017
4	Improvement of L390 road, R25-Silesti-Prilita-R1 km 0+000 - km 41+800	7,560,000.00	ICB	Prior	Planned	April 11, 2016	September 9, 2016	March 9, 2018
5	Project Management Consultant	4,910.00	QCBS	Prior	Planned	September 15, 2015	March 30, 2016	March 15, 2020
6	Supervision Consultant	3,800.00	QCBS	Prior	Planned	September 15, 2015	March 30, 2016	March 15, 2020
7	Technical Audit	125.00	CQS	Prior	Planned	February 15, 2016	October 31, 2016	December 31, 2020

Note: CQS – Consultants' Qualification

Environmental and Social (including safeguards)

26. **Institutional arrangements and EA capacity.** The proposed Project will be implemented by SRA, being assisted by a PMC. Its responsibilities would include: procurement, financial management, contract management, project and program monitoring and evaluation, and reporting, as well as ensuring that all subprojects are subject to the EA as well as the civil works are implemented in accordance with the approved EMPs. SRA has extensive experience in successfully implementing Bank and other IFI projects (for example, Bank, EBRD, EIB implemented and/or roads rehabilitation projects in the country during last decade). It has in its staff an ES, being responsible for coordination of all project safeguards issues. Similarly, the PMC will hire an ES which would be responsible for the ESMF implementation. The Bank team will continue closely monitor ESMF implementation, providing, when needed, relevant assistance.

27. **SRA Environmental and Safeguards Specialist.** The main responsibilities of SRA ES would include coordination of all related to EA activities and ensuring the ESMF provisions are fully followed during the subprojects EA and their implementation. The ES will be also responsible for relevant EA capacity building activities as well as for integrating EA issues into the project documents. The ES may be trained through visiting of similar Bank projects abroad in order to gain and improve relevant experience and skills or by participating at Regional Safeguards workshops periodically organized by the Bank.

28. **SRA Environmental Specialist concrete duties.** Among the main duties are the following: (a) *Institutional Capacity Building and environmental information dissemination*: (i) finalize and publish environmental guiding documents and regulations for the road sector and in particular: Practical Code for roads architectural design; Guide: environmental protection requirements within roads construction and rehabilitation; Practical Code in Construction: environmental protection regulation for roads design, construction, rehabilitation and maintenance; Operational Manual: Roads and Environment, (ii) organize workshops and dissemination of the published environmental guiding documents for specialists from the sector and for other interested parties; organize on annual basis national workshops on the project environmental matters, (b) *Integration of the ESMF/EMPs requirements into project documents:* (i) inclusion of environmental requirements in the Project Operational Manual, (ii) inclusion of EMPs or their major provisions into construction contracts, both into specifications and bills of quantities, (c) *Ensuring the high quality of EA for selected subprojects:* (i) selectively reviewing the subproject EA documents and if needed, providing comments and recommendations, (ii) keeping contacts with and ensuring subproject EA approval by the State Ecological Expertise, (iii) organizing jointly with the PMC ES all subproject EA documents disclosure and public consultation in the participating local councils, (d) *Ensuring compliance of the construction/rehabilitation activities with the ESMF and approved EMPs*: (i) conducting periodical and selective visits to the project sites and checking EMPs implementation, (ii) reviewing the contractors and PMC progress reports, and (iii) interacting, when needed with the environmental and construction inspectors on the ground.

29. **The PMC Environmental Specialist.** The day to day EA activities will be the main responsibilities of the PMC ES, including the compliance with the ESMF and EMPs and monitoring of the impact during the project implementation phase. His/her duties will include the following: (a) *Environmental Screening and identification of required types for Environmental*

Assessments: (i) screening of road subprojects' and approving environmental category and specification of details for environmental assessment, (ii) coordinating, when needed, the findings of screening and project environmental categorization with State Ecological Expertise (SEE) with respective divisions of ME and clarification of needs for preparation of Environmental Impact Assessment (EIA) report or EMP Checklist or other documentation for SEE, (b) *Preparing EIA report and/or EMPs and organizing, if needed their State Ecological Expertise:* (i) ensuring that required environmental documentation (EIA report or EMP Checklist or other documentation for SEE) for each selected subproject (or parts of roads) for rehabilitation is prepared, (ii) reviewing the draft EA documents and making sure they are prepared in conformity with ESMF requirements, (iii) ensuring that implementation of mitigation measures and carrying out of monitoring are included in the financial plan for road subprojects, and (iv) ensuring that EIA report or EMP, when needed, are presented to SEE for its review and approval in conformity with national requirements, (c) *Integration of environmental requirements in contracts issued for carrying out of rehabilitation works:* (i) to present at the pre-qualification meetings of contractors the full set of environmental requirements to be followed by the contractors with use of general framework for subproject evaluation and management, (ii) to exam contractors proposals (in the light of environmental protection requirements) and identify the gaps not covered by the proposed measures or budget, (iii) to prepare the environmental clauses which will be included in the contractor's contracts for implementation of road subprojects, (iv) to ensure that sub-contracts proposed by the contractors are prepared for agencies which provide goods and services (particularly, for those providing and producing constructional materials – borrow materials, asphalt plants and so on) and have respective valid licenses and environmental permits in conformity with national environmental requirements, (d) *Supervision and monitoring:* (i) to organize and ensure that public participates in discussion on EMP reports for selected subprojects, (ii) to supervise independently or jointly with the State Ecological Inspectorate the mitigation and environmental protection measures stipulated in EMP for each subproject selected for rehabilitation of roads, and (v) to ensure implementation of the monitoring plan of subprojects as well as establishing of baseline for subprojects and efficiency of mitigation measures, (e) *Reporting:* (i) to prepare semi-annual reports on the progress of implementation of measures proposed by the EMPs, (ii) to prepare outline and requirements for contractors reports related to the implementation of mitigation and environmental protection measures and to analyze completed reports, and (iii) to present the effects of mitigation and environmental protection measures applied for overall public by specific publication or/and by annual seminars.

30. **Prior review by the Bank.** The EA documentation for the first two Category B subprojects approved by SRA will be subject to prior review and approval by the Bank.

31. **Contractors' responsibilities.** The actual subprojects implementation will be carried out by selected contractors. They have to operate in full compliance with national environmental legislation and with the EMP requirements. Further, the contractors are obliged to follow regulative requirements of the national law related to occupational health and safety; environmental protection. They will also be requested to designate a person in charge of environmental and safety issues and for implementing the EMP.

32. **ESMF disclosure and consultation.** SRA has disseminated the draft summary ESMF to the Ministry of Transportation and Road Industry, of Environment and Health and other relevant

agencies for their review and comments. The full document in English and its Executive Summary and main supporting tables in Romanian on December 1 and 8, 2104 have been posted on SRA website for its access to wide public (www.asd.md). On December 18, 2014, SRA organized a public consultation on the draft ESMF. After the consultation, draft document was revised considering inputs from consulted parties. The final ESMF is posted on SRA website and disclosed in the Bank's InfoShop.

Monitoring & Evaluation

33. **Project monitoring during the course of implementation will be carried out by SRA** under the close supervision from the MTRI. SRA shall provide the necessary FM reporting inputs, semi-annual management reports, in a format satisfactory to the Bank, covering implementation progress and key issues will be submitted to the Bank one month after the end of each calendar semester. Summary annual report, in a format satisfactory to the Bank, will be submitted to the Bank within 60 days of the end of each project year. The reports will be supplemented by regular implementation support missions by the Bank team and by regular monitoring of the project implementation. The midterm review is planned for September 2018. The MTRI will assess progress towards achieving the PDO and will pay special attention to the progress on the institutional strengthening activities under the project.

Role of Partners

34. The dialogue on sustainability of the road sector would require coordination between IFIs and consistency in policy dialogue. The EIB is planning to contribute to a local roads program at the request of the GOM. The project preparation included extensive consultation with the GIZ and an agreement in principle was reached to have a common platform for prioritization of investments. In additional the dialogue and coordinated technical assistance to support progress towards sustainability of the road sector will continue.

Annex 4: Implementation Support Plan

MOLDOVA: Local Roads Improvement Project

Strategy and Approach for Implementation Support

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.

- **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 Guidelines; (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 safeguards.** 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 safeguards specialists will provide guidance to SRA 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 unit on various aspects of interventions.
- **Operation.** The TTL of the project will lead the project team in conducting regular implementation support of the project. The local transport specialist will coordinate with the client and other project team members the provision of timely guidance and support to the client.

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 and safeguards specialists and at least once annually also financial management. Particular focus will be put on supervising the implementation of the Institutional strengthening component.

4. Capacity regarding environmental and social safeguards 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 in the course of EMP and RFP preparation and works supervision.

5. 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.

Table 4.1. Resource Estimate

Time	**Focus**	**Skills Needed**	**Resource Estimate**
0–12 months	Technical review of the bidding documents	Road engineer	3 SWs
	Procurement review of the bidding documents	Procurement specialist	4 SWs
	Financial management and disbursements	Financial Management Specialist	4 SWs
	Environmental supervision	Sr. Environmental Specialist	2 SWs
	Social supervision	Social Specialist	3 SWs
	Support with project supervision and coordination	Sr. Transport Specialist	10 SWs
	Project implementation monitoring	Local Transport Specialist	15 SWs
	Task management	TTL, Senior Transport Specialist Local Transport Specialist	10 SWs 10 SWs
12–48 months	Technical review of documents	Road Engineer	3 SWs
	Environmental supervision	Sr. Environmental Specialist	2 SWs
	Social supervision	Social development Specialist	3 SWs
	Support with project supervision coordination	Sr. Transport Specialist	4 SWs
	Financial management and disbursements	Financial Management Specialist	4 SWs
	Review of procurements	Procurement Specialist	4 SWs
	Project implementation monitoring	Local Transport Specialist	10 SWs
	Task management	TTL, Senior transport Specialist Local Transport Specialist	1010 SWs SWs

Note: SW- Staff Week

Table 4.2. Skills Mix Required

`Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leader	10/year	Fields trips as required	Regionally based
Senior Transport Specialist, CO-TTL	10/year	Fields trips as required	HQ based
Local Transport Specialist	25/year		CO based
Project Assistant	15/year		CO based
Civil Engineer / STC	3/year	Fields trips as required	
Procurement	4/year	Fields trips as required	CO based
Social Specialist	1.5/year	Fields trips as required and two missions p/a.	Regionally based
Environment Specialist	2/year	Fields trips as required and two missions p/a.	Regionally based
Financial Management specialist	4/year		CO based

Note: CO – Country Office

Annex 5: Local Roads Economic Analysis

MOLDOVA: Local Roads Improvement Project

1. The methodology for the prioritization and economic appraisal of the present project has followed a three-stage process as follows:

- Stage 1 - a model of prioritization of local roads with comprehensive regional level consultation identified 28 priority corridors nationwide
- Stage 2 - a multi-criteria analysis was used to prioritize these corridors for improvement
- Stage 3 - an economic analysis using the RED model was carried out on the selected roads to confirm viability, very low volume village roads will be assessed based on cost effectiveness criteria.

2. **Stage 1 - Identification of nationwide priority corridors.** The Modernization of Local Public Services being carried out by the MRDC with assistance from GIZ has formulated a Regional Sector Program in each of the three Development Regions: North, Center and South. The objective of the road component of the sector program is to provide sustainable, safe and cost-effective year-round road connectivity in the regions in order to support their development and increase the welfare of the population. The RSP has conducted an extensive local road assessment and consultation exercise which has resulted in the identification of 28 priority Regional and Local Road corridors linking villages to the state road network. Considerable research of social, economic and demographic conditions in the raïons and villages has gone into creating these 28 corridors. The MRDC and GIZ have held consultations with the Regional Development Councils (RDCs), MTRI and SRA to obtain consensus and approval. The 28 corridors have a total length of 1,135 km out of a total Regional and Local Road length of approximately 6,000 km.

3. A consultation exercise which resulted in the identification of 28 priority local road corridors linking villages to the national road network was conducted. The 28 corridors have a total length of approximately 1135 km representing about 20 percent of the total local road network. Details of the 28 corridors are presented in Table 2.

Table 5.1. MRDC Local Road Corridors

No of corridors	Assigned number to corridors	Corridor name	Length (km)	Development Region	Rayon (s)
1	1	M14 – Alexăndreni – Bădragii Vechi – Lopatnic – M14	53.80	North	Edineț
2	2	M14 – Hlinaia – Corestăuţi – Halahora de Sus – M14	30.70	North	Edineț, Briceni, Ocnița
3	3	R12 – Elizavetovca – Teleşeuca – Bădiceni – R7	56.90	North	Dondușeni, Soroca
4	4	M14 – Chetroșica Veche – Frasin – Tîrnova – Ţarigrad – R7	47.20	North	Edineț, Dondușeni, Drochia
5	5	R13 – Ivanovca – Izvoare – Vanţina – Ocolina – M2	35.50	North	Florești, Soroca
6	6	R53 – Cobani – Brînzeni – Petruşeni – R7	12.70	North	Rîșcani, Glodeni
7	7	R16 – Ilenuța – Limbenii Vechi – Petrunea – R15	27.30	North	Glodeni, Fălești

No of corridors	Assigned number to corridors	Corridor name	Length (km)	Development Region	Rayon (s)
8	8	M14 – Flămînzeni – Bursuceni – Bocani – Făleștii Noi – R16	34.20	North	Fălești, Sîngerei
9	9	R13 – Mărculești – Rădoaia – R14 – Cozești – Cîșla – M14	64.30	North	Florești, Sîngerei, Telenești
10	10	R1 – Cornești – Sinești – Cornova – Onișcani – Răciula – R21	52.70	Center	Ungheni, Călărași
11	11	M14 – Cucoaia Nouă – Mîndrești – R22 – Bănești – R14	25.70	Center	Telenești
12	12	R13 – Șestaci – Salcia – Japca – Sănătăuca – R19 – Cot – Socola	44.30	Center	Șoldănești, Florești
13	13	M2 – Țînțăreni – Chiștelnița – Ignăței – Trifești – R20	36.50	Center	Telenești, Rezina
14	14	M2 – Peresecina – Hîrtopul Mare – Izbiște – Ohrincea – R23	33.20	Center	Orhei, Criuleni
15	14a	R20 – Susleni - Oxentea – Molovata – Molovata Nouă – Roghi – Cocieri	45.20	Center	Orhei, Dubăsari
16	15	R1 – Bucovăț – Negrești – Codreanca – R20 – Mălăiești – M2	76.20	Center	Orhei, Strășeni
17	16	R1 – Pîrlița – Bălănești – Selișteа – R25	40.90	Center	Ungheni, Nisporeni
18	16a	R21- Hîrjăuca - Oricova - R1 – Pîrjolteni – R25 – Lozova – M1	42.80	Center	Călărași, Strășeni
19	17	R3 – Ruseștii Noi – Văsieni – Horodca – M1	27.60	Center	Ialoveni
20	18	R3 – Pojăreni – Costești – Horești – Țipala – R32	34.60	Center	Ialoveni
21	19	R59 – Delacău – Bălăbănești – Mereni – Chetrosu – R2	42.50	Center	Anenii Noi, Criuleni
22	20	R34 – Sîrma – Tomai – Sărăteni – Hîrtop – R3	57.20	South	Leova, Cimișlia
23	21	R26 – Mihailovca – Sagaidac – Ciuflești – Baimaclia – R26	42.60	South	Cimișlia, Căușeni
24	22	R32 – Cîrnățenii Noi – Baccealia – Ursoaia – R26	38.80	South	Căușeni
25	23	R30 – Ermoclia – Volontiri – frontiera cu Ucraina	30.70	South	Ștefan-Vodă
26	24	R34 – Ciobalaccia – Tartaul – R56 – Baimaclia – Enichioi – R37	43.30	South	Cantemir
27	25	R26 – Mihailovca – Sadaclia – Iordanovca – R3	22.40	South	Cimișlia, Basarabeasca
28	26	R38 – Moscovei – Budăi – Ciumai – Mirnoe – frontiera cu Ucraina	35.60	South	Cahul, Taraclia, Comrat
		The total length of 28 corridors	**1135.40**		

Source: MRDC and GIZ (Two additional corridors have been identified.)

4. **Stage 2 - Identification of shortlist of investments for implementation.** In the course of developing the 28 local road corridors, the criteria for identifying and prioritizing candidate roads. It collected physical, socioeconomic and traffic data for the 28 corridors and conducted a Multi-Criteria Analysis (MCA) to assess the relative needs and importance of each corridor. The criteria included road length and condition, population, schools, health facilities, businesses affected by the road, and construction costs. From this analysis four corridors (eight road sections) were identified as initial priorities for which to undertake further analysis.

5. The criteria, indicators, indicator values and method of scoring are in Table 2 below.

Table 5.2. Proposed Local Roads Prioritization Model

Criteria	Indicator and unit	Value			Weight (see text)	Score = Value x Weight
		= 1 if	= 2 if	= 3 if		
Technical criteria						
a) Investment cost	Cost of investment (US$000/km)	>200	100–200	<100	1	0 to 3
	Cost per person served ($/person)	>200	150–200	<100	3	0 to 9
b) Traffic	Current traffic (vehicles/day)	<200	200–300	>300	1	0 to 3
c) Road condition	Passable: all weather/very difficult/not passable (0/1/2)	All-weather passable	Passable but very difficult	Not all-weather passable	2	0 to 6
	Risk of short-term asset loss proxy measure (IRI before project)	<5	5–10	>10	2	0 to 6
Non-technical criteria						
d) National integration	Link to national network	cul-de-sac	indirect	direct	1	0 to 3
e) Social services	Connections to schools (no.)	<10	10–30	>30	1	0 to 3
	Connections to health care facilities, emergency services operational bases, town administrations (no.)	<10	10–20	>20	1	0 to 3
f) Trade and business facilitation	Specific access to local business/commercial centers (no.)	<30	30–40	>40	1	0 to 3
Total score						Sum

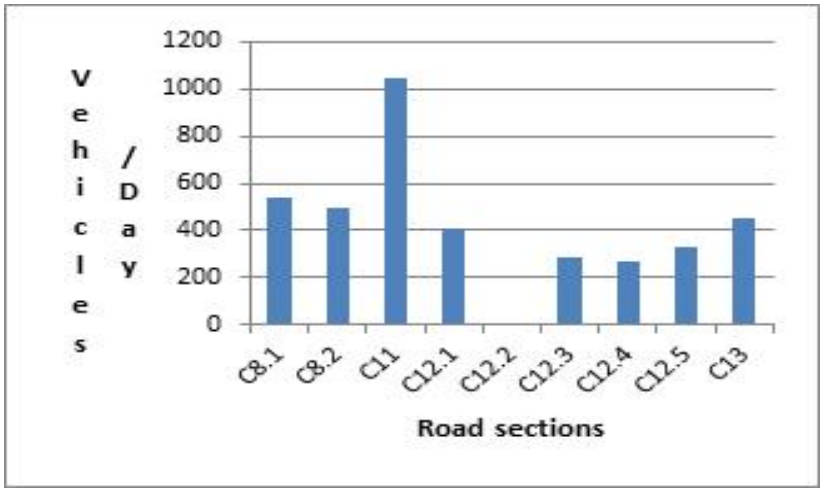
Source: Consultant

6. **Stage 3 - Economic analysis using the RED model.** The RED model was used to confirm the viability of the eight road sections given the various improvement alternatives being proposed (see technical appraisal for details). The CBA demonstrates that the aggregate project scenario will result in a Net Present Value (NPV) of US$14 million (2015 value), and an EIRR of 25 percent. Table 9 below shows the details. Four road sections inspected and analyzed lie above the 12 percent rate of return threshold, with positive (or very near positive) NPV values confirming the suitability of the project. This represents 3 full corridors. The analysis conducted for this project, showed that several sections of Corridor 12 are currently under rehabilitation with state budget. One road section (C12.5) has a negative NPV, due to the particularly high cost of its rehabilitation and need to upgrade from an earth road, this sections does not meet the economic requirements to be part of the LRIP.

7. The economic analysis below refers to the road Corridors C8, C11, C12, C13, which make up the set of roads under consideration for the first phase investment component. As such it can serve as a case study for the later sets of roads included in the overall program.

8. **Traffic flows.** During April 2015 traffic counts were carried out for each road corridor at locations chosen to represent typical traffic flows. The summary results are shown below.

Figure 5.1. Traffic Flows by Road Section



Source: SRA Consultant traffic counts

9. The normal traffic may be expected to grow with or without the project as a function of national economic development. The growth rate has been forecast on the basis of incomes, represented by GDP/capita. Conservatively, we have assumed an income-traffic growth elasticity of unity. GDP/capita growth has been adopted from the IMF published data for Moldova.[10] According to this, GDP/capita growth grew at a rate of 11percent between 2004 and 2014. It is forecast to fall slightly during the current year (2015) and then resume growth until 2020 at a rate of 8percent. Thereafter we assume a growth rate of 3 percent. These trends are applied to all categories of traffic.

10. To this normal traffic growth rate we add generated traffic according to VOC elasticity in accordance with the RED model (elasticity 1.1). No additional induced traffic is foreseeable. Some diversion of traffic from other routes or modes may occur on some individual road sections but is not considered to be significant and is not included in the analysis.

11. Surveys during meetings with local have indicated that Chisinau is the most usual travel destination. Most trips are made by bus, as shown in the following tables.

[10] IMF Quarterly Report end 2014

Table 5.3. Travel Destinations

Ungheni	Cornești	Chișinău	Călărași	Rădeni	Fălești	Cruglic	Orhei	Strășeni	Nisporeni
5	1	25	5	1	1	1	2	1	5
11%	2%	53%	11%	2%	2%	2%	4%	2%	11%

Source: Consultant's survey

Table 5.4. Means of Transport

Vehicle type		
Car	Minibus	Bus
5	35	2
12%	83%	5%

12. **Vehicle ownership and operating cost inputs.** Fuel costs have been derived from posted pump prices from which have been deducted taxes. These latter comprise excise duties of US$473 per ton on diesel and US$508 to 680 per ton on gasoline depending on grade, and VAT 20 percent. The resultant economic prices are US$0.41 per liter and US$0.39 per liter for gasoil and diesel respectively. RED VOC model inputs are shown in the following table:

Table 5.5. RED VOC Model Inputs

Item	Car Medium	Goods Vehicle	Bus Light	Bus Medium	Truck Medium	Truck Articulated
Economic Unit Costs						
New Vehicle Cost (US$/vehicle)	23,223	30,600	39,343	78,685	75,188	104,914
Fuel Cost (US$/liter for MT, US$/MJ for NMT)	0.41	0.39	0.39	0.39	0.39	0.39
Lubricant Cost (US$/liter)	2.4	2.4	2.4	2.4	2.4	2.4
New Tire Cost (US$/tire)	46	321	66	394	478	581
Maintenance Labor Cost (US$/hour)	1.31	1.31	1.41	2.56	1.63	2.56
Crew Cost (US$/hour)		1.14	1.56	2.34	1.47	2.34
Interest Rate (%)	12	12	12	12	12	12

Sources: Consultant's enquiries to Transport and Road Workers Union of Moldova, MD tax code, and others.

13. **Time values.** Time values for travelers have been estimated from GDP per capita income data available (US$2.51/hour)11, and the Consultant's survey on travel motives. The latter are summarized in the following table:

Table 5.6. Travel Motives

Motives	Leisure	Work	School	Healthcare	Other
Proportion of travelers (%)	13	36	20	21	11

Source: Consultant's survey

[11] International Monetary Fund, World Economic Outlook Database, April 2015 for GDP per capita, http://www.imf.org/external/pubs/ft/weo/2015/01/weodata/index.aspx
http://www.tradingeconomics.com/moldova/wages

14. These have been analyzed and aggregated to derive[12] the following values

Table 5.7. Time Values for Travelers

Motive	US$/hour
Commercial or work motives	2.50
Non-work	0.88
Weighted average	1.47

Source: Consultant, as provided in text

15. **Crash costs.** Moldova is reputed to suffer from some of the highest rates of road crashes in Europe.[13] Nationally it is estimated that Moldova loses over 2 percent of its gross domestic product in road crashes. Annually, about 500 persons are reported to be killed and more than 2000 are severely injured as a consequence of road accidents. Any detailed studies appear to be limited to main roads.[14] Some serious crash sites along project roads are evidenced by markers placed by families of victims. The project has noted and reported the location of these and foreseen crash attenuation measures there and at similar locations across the project network.

16. No project localized statistical record of accidents has been found making it hazardous to assign with any degree of certainty a numeric value to the reduction in accidents that can be expected from the measures the project would implement. However it is possible to gauge the order of magnitude of fatalities and serious injuries. IRAP[15] proposes that the value of a life be taken as equal to 70*GDP per capita in the case of middle and high income countries and 100*GDP per capita for lower income countries such as Moldova. Contemporaneous serious injury outcomes are estimated as ten in number for every fatality recorded, and the cost of a serious injury is estimated as 25 percent of the value of a life. On the basis of Moldovan GDP per capita[16] a fatality and contemporaneous serious injuries incidents jointly impose a cost of US$780,000/fatality recorded. This estimate is reported to highlight the very expensive potential costs of crashes on the project roads, and the benefits of attenuating their occurrence, uncertain though the frequency of the benefit may be.

17. **Green House Gas (GHG) Emission Analysis.** The project's impact on CO_2 emissions is considered minimum. The HDM-4 Road User Cost Model Version 3.0 was used to consider the CO2 emissions of the vehicle fleet before and after the rehabilitation works, and considered for the economic analysis. GHG emissions are estimated to increase in 926 tons per year for a sample of corridors for a total of 140 km (average per kilometer of road is 7 tons per year). The full program is expected to rehabilitated 300 km of rural roads. The prioritized corridors are expected to have similar characteristics, thus the increase in GHG emission is considered to be an average of 2,000 tons per year for the roads rehabilitated under the LRIP. The rural roads included in the

[15] See Transportation Cost and Benefit Analysis II – Travel Time Costs Victoria Transport Policy Institute (www.vtpi.org), Table 5.2.6-1.
[13] www.eurorap.org. European Road Assessment Program.
[14] www.eurorap.org, www.irap.org. International Road Assessment Program (IRAP).
[15] International Road Assessment Program report "The True Cost of Road Crashes: Valuing life and the Cost of Serious Injury as summarized in Table 5.3.6 – 18 to 6.20.
[16] Source: IMF for 2014, current basis.

project have very low traffic, thus have limited emissions. When aggregated, the impact is very small.

Table 5.8. GHG Emission Estimate for Sample Priority Corridors

Corridor	ADT	Length	GHG Emission Existing (t/yr)	GHG Emission Forecast (t/yr)
C8.1	540	24.5	1,073	1,234
C8.2	495	17.8	715	822
C11	1044	23.6	1,999	2,299
C12.1	413	6.9	231	266
C12.2	283	4.4	101	116
C12.4	270	8.1	177	204
C12.5	329	12.9	344	396
C13	452	41.8	1,533	1,763
		Total	6,174	7,100

18. **Improvement Options Considered.** There are variations in the proposed interventions depending on actual conditions: for example, some village sections already have asphalt pavement, side drains and footpaths while others have gravel pavement, side drains but no footpaths, in which case the improvement costs are different.

Table 5.9. Proposed Works and Unit Cost Estimates

No.	Existing	Typical Proposed Works	Cost (US$/km)
1	Rural - Asphalt	Patch and seal cracks in pavement. Reconstruct isolated local failures.	6,400
2	Rural - Gravel	Overlay with 250mm crushed limestone and surface with Double Bitumen Surface Treatment.	166,360
3	Rural - Gravel	Overlay with 250mm crushed limestone and surface with 50mm hot rolled asphalt.	214,859
4	Village - Asphalt	U-drain lined side drains and kerbs on both sides, 1.5 m wide, 100 mm thick RCC footpath on one side. Remove existing asphalt and replace with 50mm crushed limestone road base and 50 mm hot rolled asphalt.	314,231
5	Village – Gravel	U-drain lined side drains and kerbs on both sides, 1.5 m wide, 100 mm thick RCC footpath on one side. Place 250 mm crushed limestone roadbase and 50 mm hot rolled asphalt.	375,370

Source: Consultant

19. The CBA demonstrates that the aggregate project scenario will result in a NPV of US$14 million (2015 value), and an EIRR of 25 percent. All eight road sections inspected and analyzed lie at or above the 12 percent rate of return threshold, with positive (or very near positive) NPV values confirming the suitability of the project. One road section (C12.5) has a negative NPV, due to the particular high cost of its rehabilitation, and as mentioned earlier will be excluded from the LRIP.

20. In addition, sensitivity analysis has been undertaken to assess the robustness of the results to unforeseen variation in key parameters of the project, which in this case, were identified as the investment costs and the forecast rate of traffic growth. The analysis tested the impact on the performance criteria of a 25 percent increase in investment cost, a 25 percent reduction in the forecast growth of traffic on the roads, and both occurring at the same time. The results of the sensitivity analysis reveal that the project is sensitive to the specified variation in the key parameters, to a similar degree. A lowest ERR of 7 percent occurs with both negative sensitivity impacts occurring simultaneously.

21. **Cost-effectiveness.** The project road network incudes quite extensive village sections where improvement costs per kilometer are higher due to factors such as the limited Right of Way width, need to provide access to residences, drainage, curbs, footpaths, accommodation of utilities, signage and other safety measures. These alternate with rural sections. We have therefore derived and reported also a Cost-Effectiveness indicator for all roads. This indicator supplements the CBA. Where village conditions might predominate over rural along a road section, this would be the more appropriate measure of a section's validity for inclusion in the project.

Table 5.10. Summary Economic Analysis Indicators

									Sensitivity Analysis						
Section	Start / End	Category (Pre-dominantly)	Length (km)	Economic Cost (million US$)	Economic Cost (million US$/km)	Traffic (2015 AADT)	$NPV_{12\%}$ million US$	ERR	ERR-25% traffic	ERR +25% invest-ment cost	ERR -25% traffic &+20% cost	Number of villages served	Corridor Population	Population/km	Cost per capita (US$/person
C8.1	Cornesti - Radeni	Bitumen	24.5	2.79	0.114	540	1.61	22%	18%	17%	13%	14	11,589	473	241
C8.2	Radeni Raciula	Gravel	17.8	3.56	0.200	495	0.38	14%	12%	11%	8%	8	8,149	458	436
C11	Perescina Ohnicea	Gravel	23.6	3.78	0.160	1044	6.64	41%	34%	32%	27%	9	16,863	715	224
C13	Piriliter Seliste	Bitumen	41.8	5.87	0.140	452	4.50	24%	23%	18%	18%	10	14,661	351	401
C12.1	Bacovat R1 - Bacovat P2	Gravel	6.9	1.35	0.195	413	0.10	14%	11%	10%	8%	3	5,387	781	250
C12.3	Greblesti P1 - Greblesti M14	Gravel	4.4	0.88	0.199	283	0.09	14%	12%	11%	9%	6	6,979	1,586	125
C12.4	Lupa-ReceaM14 - East	Gravel	8.1	1.29	0.159	270	0.12	14%	11%	10%	8%	3	2,579	318	499
C12.5	Morozeni - Malaesti	Gravel	12.9	3.02	0.235	329	-0.02	12%	10%	9%	7%	3	2,171	169	1,393

Note: AADT – Annual Average Daily Traffic

Annex 6: Poverty and Social Impact Analysis

MOLDOVA: Local Roads Improvement Project

1. Drawing on the Poverty and Social Assessment[17] carried out as part of project preparation, this annex identifies socio-demographic conditions, mobility patterns, and poverty figures of the target population in the area of influence of the LRIP. The main aim of the exercise was to understand the needs, demands, preferences, capacities and constraints of the population in communities in the project area of influence, particularly in terms of accessibility to public services, road safety issues, gender, and poverty. Recommendations from this analysis have been incorporated into project preparation and design. This annex is organized in three sections: First, to understand the economic and social trajectory that Moldova has followed in the last decade, poverty and shared prosperity metrics are presented. Second, drawing on consultations and policy recommendations obtained through the Poverty and Social assessment, the annex describes basic socioeconomic parameters of the beneficiary population, as well as the critical mobility and accessibility constraints in selected project areas. Third, the annex concludes by discussing how the poor and bottom 40 percent are likely to benefit from the proposed road rehabilitation, maintenance, and road safety interventions and briefly describing how the project's impact on selected socioeconomic and transportation related outcomes will be measured.

Poverty and Shared Prosperity in Moldova: A Snapshot

2. Despite experiencing GDP of 4.3 percent on average in the 2005–2014 period and after experiencing the highest cumulative GDP growth relative to the pre-crisis year of 2007 compared to all its regional partners, Moldova's macroeconomic performance has been characterized by excessive volatility. In 2012, GDP contracted by 0.7 percent, as the economy was hit by a drought-induced contraction in agriculture and weaker external demand due to the Eurozone crisis. In 2013, growth rebounded, driven by a record harvest in agriculture, with GDP increasing by a whopping 9.4 percent. However growth declined to 4.6 percent in 2014 and is expected to fall in 2015 by 2 percent in response to the looming deterioration in global economic conditions, particularly in Russia and Western Europe. Contraction of consumption and investment is projected to be deeper, reflecting the country's vulnerability to climatic and global economic conditions.

[17] The Poverty and Social Assessment of the Local Roads Improvement Project was carried out between December and May in villages of the prioritized four corridors. The purpose of the study was to identify key project stakeholders analyzing how they could be affected both positively and negatively, with particular attention paid to accessibility of educational, health and public services, road safety issues, gender and poverty. The study included fieldwork and focus group discussion to examine livelihood and income patterns, difficulties that the project population faces, and factors that have resulted in the marginalization of certain groups or entire villages which are geographically at remote distance from basic development services, among other aspects. The consultation approach was designed to conduct one meeting for 2–3 representative communities. The study's findings are summarized in this annex and the full report is contained in the Project Files.

3. Macro-volatility has slowed down improvements in living standards, even though poverty declined, income of the B40 grew and inequality decreased in 2008–2013. The national poverty and extreme poverty rates18, fell from 30.2 percent and 4.5 percent in 2006 to 12.7 percent and 0.3 percent respectively in 2013 (figure 6.1), making Moldova one of the region's top performers in terms of poverty reduction. Furthermore, the bottom 40 percent benefited from higher income growth than the average, with their incomes growing at an annual rate of 5 percent compared to 1.9 percent of the total population in 2008–2013, which, again places Moldova favorably in relation to most of its neighbors (figure 6.2). However, when considering the ECA regional poverty line of US$5 a day in PPP, at 39 percent, Moldova's poverty rate becomes close to double the 23 percent ECA average in 2013.

Figure 6.1. Evolution of Poverty in Moldova 2000–2013

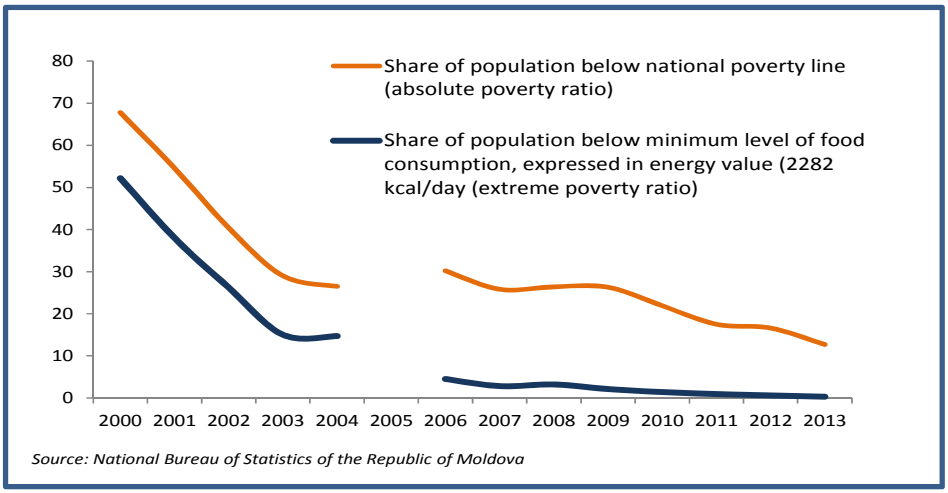
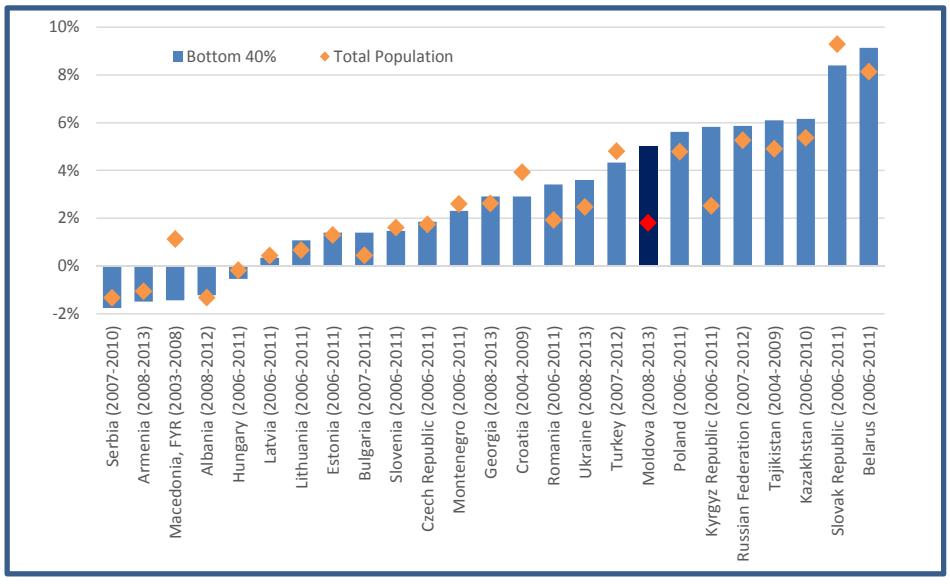


Figure 6.2. Evolution of Shared Prosperity in Moldova and ECA (Different periods)



[18] The extreme poverty rate is expressed as the share of population below the minimum level of food consumption, expressed in energy value (2282 kcal per day).

4. Notwithstanding these remarkable achievements, the country still faces important sources of risk and volatility. First, the welfare indicators for cities and the countryside differ significantly. For instance, the poverty headcount in rural areas is almost three times the one observed in cities (22 percent versus 7 percent). Despite the increasing reliance on agriculture and the substantive decline in poverty, farmers and agricultural workers account for 40 percent of Moldova's poor.

5. Second, while unemployment remains low at 5.1percent, overall the B40 percent became more dependent on unearned income. Indeed, income growth among the less well-off was driven by pensions, remittances and labor income, primarily from agriculture, as opposed to off-farm productive employment. Data for 2012 suggests that 20 percent of those in the B40 live in pensioner only households, evidencing an increasing reliance on social transfers.

6. Third, Moldova still faces important weaknesses in the quality and efficiency of its health and education services. According to the Human Development Report, Moldova's HDI is 0.660, which gives the country a rank of 113 out of 187 countries with comparable data. Moldova's 2012 HDI of 0.660 is above the average of 0.64 for countries in the medium human development group. However, on this measure, Moldova ranks below the average of 0.771 for countries in Europe and Central Asia, signaling the need to improve access and quality of education and health, particularly in rural areas, where school enrollment and attendance rate are significantly lower than in urban areas.

7. Finally, Moldova is facing a demographic decline, caused by a low birth rate of only 12.21 births per 1,000 people according to 2014 statistics (i.e., 1.56 children born per woman, which is below the replacement rate of 2.1). The negative trends in the birth rate and high rates of migration abroad has caused a population decline in the 1997–2006 period by 76.800 persons overall, while the urban population decreased with 46.100 persons and rural 30.700 persons. Population decline could have serious implications for the economy and for poverty reduction, particularly in the more remote areas, as local residents may have to travel further to reach the facilities they want.

8. Because the fall in rural poverty has not kept pace with that of urban areas, a more integrated approach for promoting rural development is needed to address the multiple sources of vulnerability observed in the countryside. Poor condition of roads is a serious constraint to economic growth and thus it perpetuates poverty. A high proportion of the poor live in rural areas isolated by distance and terrain from employment and economic opportunities, markets, healthcare, and education. The road network in the country is still constrained in both coverage and quality, and suffers from lack of maintenance. Road network constraints are considered one of the main reasons for unequal development of the different regions of the country, particularly in the South and Central regions where poverty is highest. The next sub-section discusses existing mobility and accessibility constraints along the prioritized four corridors, identifying the main socio-demographic characteristics of the targeted project beneficiaries.

Socio-demographic profile and mobility patterns in the LRIP area of influence

9. Data collection for the Poverty and Social Assessment took place throughout villages located along the four priority corridors of the LRIP. The total population of the project area is estimated to be 57673 people with women slightly outnumbering men. Findings from the focus group

discussions and in depth interviews demonstrate that a non-trivial share of the population lives below the national poverty line with several others remaining vulnerable to shocks which may push them back to poverty. Most of the labor force is employed in the agricultural sector (particularly women) or the informal sector and salaries typically range between 1000 and 1500 per month which is just above the subsistence level. Much like it happens in most of rural Moldova, a significant share of the population derives their income from transfers and remittances from abroad. For example, consultations in the commune of Boghenii Noi found that as many as 60percent of the population are pensioners. Comparable figures are observed across several communes. A great share of the labor force, particularly men, live abroad most of the low agricultural season and send remittances to their families. For instance, the share of the population which left the country to work abroad is about 10 percent in the commune of Dereneu and 12 percent in the commune of Oniscani, but the percentage may be as high as 20 percent in Balanesti. Finally, a common trend observed is that population is steadily declining fueled by urban or international migration together with an aging population and a low replacement rate.

10. While the reasons explaining these findings are multiple and at times structural rather than merely circumstantial, inadequate connectivity in the project area may be one of the factors underlying the relatively disadvantaged livelihood conditions or rural communities. Indeed, people from the consulted project communities identified poor transport connectivity as one of the main perpetuators of poverty. The three main causes identified for this were:

- **Roads in bad conditions impede finding better income generating opportunities:** Connectivity of the local road network is poor, including connectivity between raïons and economic zones. This hinders mobility of people for jobs in towns or neighboring villages, obstructs trade and economic development, and perpetuates poverty.

- **Access to services is inadequate in rural areas**: Rural accessibility for people living within 2 km to 5 km of the roads that have been pre-selected for the LRIP is very low, specifically on unpaved roads. In some villages school attendance decreases in winter or rainy days due to impracticable roads which connect the school. Similarly, use of health services by the local population is less than optimal, and connectivity constraints are largely to blame. Accessibility of life-saving services such as ambulance and fire-trucks is low and in some instances, as rainy seasons, unworkable.

- **Lack of maintenance of the tertiary and secondary road network negatively affects agricultural productivity and distorts prices:** Without adequately maintained roads trucking companies must incur higher transport costs and thus sell inputs for agricultural production at less competitive prices. High transport costs reflected in the final price of inputs may deter farmers from buying these inputs or accessing new technologies. Similarly high transport costs may prevent farmers from selling their produce in more distant markets for higher farm-gate prices, at an immense expense to their profitability.

11. Consultations in the project area of influence also confirmed that women face additional disadvantages in terms of their daily mobility and the potential to access well paid employment opportunities. Women from the consulted villages are overwhelmingly employed in agriculture and the service sectors. There are fewer women who have an enterprise or a farm registered in

their own name. Several women expressed their desire of finding better paid jobs but their inability to do so either because the town they lived in was not connected to larger population centers of because they simply lack the means or resources to travel to nearby destinations. Such marked division of labor accentuates gender-based inequalities will normally slow economic growth and poverty reduction simply because it hinders the participation of the female population and thus ignoring human resources of a large share of population. Moreover, in many cases, women do not access the medical care they need because their villages lack adequate health centers and the conditions of the access roads are so deteriorated that it is very difficult to travel to nearby cities with improved health facilities. For instance, participants of focus groups discussions in Alexeevca manifested the importance of local roads, in specific for pregnant women to travel to maternity hospitals in larger urban centers, where the facilities are adequate. The rehabilitation of the road is crucial for them to get in time to medical services which exist only in the raïons center and which poses risks on lives of women and their future infants.

12. While road accident statistics for the project's catchment area are not available, the focus group discussions and meetings held in the four prioritized corridors flagged road safety as a key concern for the population in the project area. Pedestrians and other vulnerable road users at risk of being killed or seriously injured by passing vehicles and the risk may be higher in rural areas lack of a paved road or roads in bad conditions signals managers of tucking companies to assign the oldest vehicles, which increases the risks of accidents. Anecdotal evidence exists illustrating that the same argument is used by drivers to refuse driving to the village center and thus picking up passengers from meeting points far from the village, forcing people to walk through the forest, posing additional security risks especially for women. Better sign posting such as limiting speed in zones close to educational institutions is needed, as well as measures to ensure the safety of non-motorized road users.

13. Overall, the existing transport infrastructure deficiencies in the area of influence of the LRIP coupled with a relatively high number of people killed on roads each year (13.8 per 100,000 population) unambiguously affect development. Lack of adequate infrastructure – not only roads and bridges, but also paths, trails and sidewalks –makes it difficult for poor people to fully develop themselves and achieve economic freedom. As such, a well maintained primary road network and road safety measures like the ones envisioned in the LRIP are a prerequisite for Moldova to prosper and for low-income populations to sustainably escape poverty and manage risk.

Expected Project Contribution to the Twin Goals

14. The rehabilitation of the local roads will have an unambiguously positive impact on communities in all corridors. The consulted villages listed a wide range of benefits which will be brought by the rehabilitated road. Moreover, the participants were reluctant to mention any negative impact, saying that they would resist all inconveniences caused by temporary closure of access or noise of construction machinery. Some of the positive impact resulting from road rehabilitation and listed by the participants of focus-group discussion are listed below:

- The rehabilitation of the road will improve access to basic services such as education, healthcare and public services, social and community services. Ambulances and fire-fighters

coming from other villages may also be able to reach their destinations faster and with less inconveniences.

- Poor people near the poverty line will have higher mobility and accessibility to both public services and income opportunities.
- The road will increase accessibility of specialized medical services for people with disabilities who pass periodic treatment in Chisinau and people depending on life-sustaining facilities such as dialysis, which is available only in Chisinau;
- Passenger transportation services should improve (modern and newer mini-buses will be added onto selected routes) plus travel time will reduce, including local travel between the villages, and rural-urban travel especially for women and elderly
- Travel costs should drop, as expressed by fewer costs for vehicle maintenance and repair and fuel consumption, allowing some transport companies to charge lower prices for forwarding freight, hence ensuring higher incomes from agriculture due to access to markets, transportation of agricultural produce to markets without loss, better access for cold-storage trucks and thus better agri-sales.
- Expansion in agricultural production, diversifying the rural economy, promoting new technologies.
- Positive impact of the rehabilitated infrastructure on foreign direct investment, domestic investment and economic growth in the area of influence.
- Mobility for young specialists such as teachers, doctors, as well as highly specialized professionals who would be less reluctant to commute for work from towns to rural areas.
- Road safety considerations included in project design are anticipated to reduce road related serious injuries and deaths among all road users and have a positive distributional outcome.

15. Some of the above mentioned postulates and hypothesis will be validated through a rigorous impact evaluation aimed at quantitatively measuring the impact of the feeder road investments and the road safety interventions on a number of welfare indicators. The impact evaluation design for the LRIP will incorporate lessons learned from the existing literature on rural roads projects together with innovative designs and research questions aimed at better assessing the impact of local roads rehabilitation on market development, prices, access to health and education, and welfare of the poor and bottom 40 percent. Moreover, the assessment will examine the transformational impact that selected targeted interventions could have on road safety through a carefully planned experimental design.

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

- What is the impact of road improvements on education and health through improved accessibility to hubs?

- What is the impact of improved roads on traffic fatalities?
- What is the impact of road safety campaigns on traffic fatalities?

17. More generally, the impact assessment will help to fill in existing knowledge gaps surrounding the contribution of transport projects to poverty reduction, concomitantly building the capacity for evidence-based decision making across project implementing units in the transport sector. Ultimately, the impact evaluation will test whether the project has fostered income growth among the poor and the bottom 40 percent of the country's population, demonstrating that, while transport alone cannot reduce poverty, well targeted and implemented transport interventions in addition to other measures may have a long-lasting distributional effects.

Annex 7: Map

MOLDOVA: Local Roads Improvement Project