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Report No: PAD1465

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$40 MILLION

TO

GEORGIA

FOR A

SECONDARY ROAD ASSET MANAGEMENT PROJECT

February 26, 2016

Transport and ICT Global Practice
Europe and Central Asia

CURRENCY EQUIVALENTS

(Exchange Rate Effective January 14, 2016)

Currency Unit	=	Georgian Lari (GEL)
US1.00	=	2.41 GEL
1.00 GEL	=	US$0.41

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AADT	Average Annual Daily Traffic
ADB	Asian Development Bank
CENN	Caucasus Environmental NGO Network
CO	Country Office
CPAR	Country Procurement Assessment Report
CPI	Consumer Price Index
CPS	Country Partnership Strategy
CQS	Consultant Qualifications
CSPA	Competition and State Procurement Agency
DA	Designated Account
DB	Design-Build (contract)
DLI	Disbursement-Linked Indicator
DLP	Defect Liability Period
EBRD	European Bank for Reconstruction and Development
ECA	Europe and Central Asia
EIRR	Economic Internal Rate of Return
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessments
ESMF	Environmental and Social Management Framework
EU	European Union
EWHIP-4	Fourth East-West Highway Improvement Project
FA	Fixed Assets
FBS	Fixed-Budget Selection
FEWHIP	First East-West Highway Improvement Project
FIDIC	International Federation of Consulting Engineers
FM	Financial Management
FMM	Financial Management Manual
FPU	Foreign Project Unit
GDP	Gross Domestic Product
Ge-GP	Georgian E Government-Procurement
GEL	Georgian Lari
GeoRAP	Georgia Road Assessment Program
GIS	Geographic Information System
GOG	Government of Georgia
GPN	General Procurement Notice
HDM-4	Highway Development and Management Model
HQ	Headquarters
IBRD	International Bank for Reconstruction and Development
IC	Individual Consultants
ICB	International Competitive Bidding
IE	Impact Evaluation Studies
IEG	Independent Evaluation Group
IFAC	International Federation of Accountants
IFR	Interim Unaudited Financial Report
IPF	Investment Project Financing
IPSAS	International Public Sector Accounting Standards
iRAP	International Road Assessment Programme
IRI	International Roughness Index
ISA	International Standards on Auditing
JICA	Japan International Cooperation Agency
km	Kilometer
KRRIP	Kakheti Regional Roads Improvement Project
LCS	Least-Cost Selection
MOESD	Ministry of Economic and Sustainable Development
MRDI	Ministry of Regional Development and Infrastructure
NBG	National Bank of Georgia
NCB	National Competitive Bidding
NGO	Non-Government Organization
NPV	Net Present Value
OECD	Organization for Economic Cooperation and Development
PAD	Project Appraisal Document
PDO	Project Development Objectives
PfR	Program for Result
PP	Procurement Plan
PRAMS	Procurement Risk Assessment and Management System
QBS	Quality-based Selection
QCBS	Quality and Cost-Based Selections
QER	Quality Enhancement Review
RAP	Resettlement Action Plan
RD	Roads Department
RFP	Request for Proposals
RAMS	Road Asset Management System
RPF	Resettlement Policy Framework
RUSS	Road User Satisfaction Surveys
SAOG	State Audit Office of Georgia
SEWHIP	Second East-West Highway Improvement Project
SLRP-I	(First) Secondary and Local Roads Project
SLRP-II	Second Secondary and Local Roads Project
SLRP-III	Third Secondary and Local Roads Project

SME	Small and Medium Enterprises	TRRC	Transport Reform and Rehabilitation Centre
SOE	Statement of Expense	TSA	Targeted Social Assistance
SORT	Systematic Operations Risk- Rating Tool	TTL	Task Team Leader
SRAMP	Secondary Road Asset Management Project	UNFCCC	United Nations Framework Convention on Climate Change
SSS	Single-Source Selection		
TA	Technical Assistance	VAT	Valued-Added Tax
TEWHIP	Third East-West Highway Improvement Project	WB	World Bank
TOR	Terms of Reference		

Regional Vice President:	Cyril E. Muller
Country Director:	Mercy Miyang Tembon
Senior Global Practice Director:	Pierre Guislain
Practice Manager:	Juan Gaviria
Task Team Leader:	Natalya Stankevich

GEORGIA
Secondary Road Asset Management Project

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PAD DATA SHEET

Georgia

Secondary Road Asset Management Project (P149953)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

0000009382

Report No.: PAD1465

Basic Information		
Project ID	EA Category	Team Leader(s)
P149953	B - Partial Assessment	Natalya Stankevich
Lending Instrument	Fragile and/or Capacity Constraints [ ]	
Investment Project Financing	Financial Intermediaries [ ]	
	Series of Projects [ ]	
Project Implementation Start Date	Project Implementation End Date	
19-Mar-2016	31-Dec-2021	
Expected Effectiveness Date	Expected Closing Date	
1-Jul-2016	31-Dec-2021	
Joint IFC		
No		

Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Juan Gaviria	Pierre Guislain	Mercy Miyang Tembon	Cyril E. Muller

Borrower: GEORGIA

Responsible Agency: Roads Department of the Ministry of Regional Development and Infrastructure (RDMRDI)

Contact:	Mr. Irakli Litanishvili	Title:	Deputy Chairman
Telephone No.:	995-3237-6603	Email:	info@georoad.ge

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

Total Project Cost:	48.00	Total Bank Financing:	40.00
Financing Gap:	0.00		

Financing Source	Amount
Borrower	8.00
International Bank for Reconstruction and Development	40.00
Total	48.00

Expected Disbursements (in USD Million)

Fiscal Year	2017	2018	2019	2020	2021	2022	0000	0000	0000	0000
Annual	3.39	13.77	12.20	5.09	4.74	0.81	0.00	0.00	0.00	0.00
Cumulative	3.39	17.16	29.36	34.45	39.19	40.00	0.00	0.00	0.00	0.00

Institutional Data

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Cross Cutting Topics

[X] Climate Change
[ ] Fragile, Conflict & Violence
[X] 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 %
Public Administration, Law, and Justice	Public administration-Transportation	2	70	0
Transportation	Rural and Inter-Urban Roads and Highways	98	37	0
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	%

Public sector governance	Public expenditure, financial management and procurement	10
Public sector governance	Managing for development results	10
Financial and private sector development	Regulation and competition policy	10
Trade and integration	Trade facilitation and market access	35
Rural development	Rural services and infrastructure	35
Total		100

Proposed Development Objective(s)

The Project Development Objectives are (i) to improve road users' access to social services and markets through the project roads in a sustainable manner, and (ii) to enhance road asset management for the secondary roads network in Georgia.

Components

Component Name	**Cost (USD Millions)**
Road Asset Improvement and Preservation	46.4
Enhanced Secondary Roads Asset Planning and Management	1.5

Systematic Operations Risk- Rating Tool (SORT)

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

Compliance

Policy

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

Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04	**X**	
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11		**X**
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	Recurrent	Due Date	Frequency
Loan Agreement Schedule 2, Section I, A. 5		01-September-2016	

Description of Covenant

No later than 60 days from the Effective Date, TRRC shall hire an accountant, with terms of reference, qualifications and experience satisfactory to the Bank.

Name	Recurrent	Due Date	Frequency
Loan Agreement Schedule 2, Section I, D. I	X		Continuous

The Borrower shall ensure that the Project is carried out in accordance with the provisions of the ESMF, EMP(s), RPF and RAP(s). The Borrower shall not assign, amend, abrogate or waive the ESMF, EMP(s), RPF and/or RAP(s) or any provision thereof, without the prior approval of the Bank.

Name	Recurrent	Due Date	Frequency
Loan Agreement Schedule 2, Section II, C. 3	X		Yearly

Description of Covenant

No later than ninety days after the end of each calendar year during Project implementation, and 30 days before the Closing Date, the Borrower shall furnish to the Bank a complete Independent Performance Audit Report including all the findings and results from the Independent Performance Audit, as well as the certifications from the Independent Project Auditor.

Conditions

Source Of Fund	Name	Type
IBRD	Project's Operations Manual	Condition of Effectiveness

Description of Condition		
The Project's Operations Manual has been adopted by the Borrower, through RD, in a manner and substance acceptable to the Bank.		
Source Of Fund	**Name**	**Type**
IBRD	Project Implementation Agreement	Condition of Effectiveness

Description of Condition
The Project Implementation Agreement between RD and TRRC has been executed by, and is binding to, the parties thereto, in a manner and substance satisfactory to the Bank.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Natalya Stankevich	Team Leader (ADM Responsible)	Transport Specialist	Transport Specialist/Institutional Development	GTIDR
Mustapha Benmaamar	Team Member	Senior Transport Specialist	Program Coordination	GTIDR
Ari Johannes Kalliokoski	Team Member	E T Consultant	Transport Specialist	GTIDR
Oceane Keou	Team Member	E T Consultant	Transport Specialist	GTIDR
Joseph Melitauri	Team Member	Senior Operations Officer	Operations Officer	GEEDR
Rodrigo Archondo-Callao	Team Member	Senior Highway Engineer	Transport Economist	GTIDR
Maria Carolina Monsalve	Team Member	Senior Transport Economist	Transport Economist	GTIDR
Andres Mac Gaul	Team Member	Senior Procurement Specialist	Procurement Specialist	GGODR
Sandro Nozadze	Procurement Specialist	Procurement Specialist	Procurement Specialist	GGODR
Galina Alagardova	Financial Management Specialist	Financial Management Specialist	Financial Management Specialist	GGODR
Darejan Kapanadze	Safeguards Specialist	Senior Environmental Specialist	Environmental Specialist	GENDR
Jorge E. Villegas	Safeguards Specialist	Senior Social Development Specialist	Social Development Specialist	GSURR
Nino Metreveli	Safeguards Specialist	E T Consultant	Social Development Specialist	GSURR

Jose C. Janeiro	Team Member	Senior Finance Officer	Finance Officer	WFALA
Ignacio Jauregui-Zabalaga	Counsel	Senior Counsel	Counsel	LEGLE
Marie Antoinette Laygo	Team Member	Program Assistant	Project Support	GTIDR
Militsa Khoshtaria	Team Member	Program Assistant	Project Support	ECCGE
Vusala Mamed Asadova	Team Member	Senior Program Assistant	Project Support	ECCAZ
Giang Thanh Huong Le	Team Member	Program Assistant	Project Support	GTIDR

Extended Team

Name	Title	Office Phone	Location

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Georgia	T'bilisi	Tbilisi	X		
Georgia	Shida Kartli	Shida Kartli	X		
Georgia	Guria	Guria	X		
Georgia	Mtskheta-Mtianeti	Mtskheta-Mtianeti	X		
Georgia	Racha-Lechkhumi and Kvemo Svaneti	Racha-Lechkhumi and Kvemo Svaneti	X		

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required ? Consulting services to be determined

I. STRATEGIC CONTEXT

A. Country Context

1. ***Economic growth moderated from 4.8 percent in 2014 to an estimated 2.5 percent in 2015[1].*** The growth slowdown was largely driven by a weaker external environment. The geo-political risk emanating from the Russia-Ukraine crisis, the slowdown in Georgia's main trading neighbors many of which are significantly dependent on Russia and also on hydrocarbons, and the protracted slowdown in the EU have had a big impact on Georgia--the main channel of transmission has been lower exports and remittances. Weaker performance in 2015 is in contrast to 2014 when growth had picked up as a result of greater policy certainty and the opening up of the Russian market. Economic growth over the past decade, more generally, was fueled by large foreign capital inflows and significant policy reforms during the pre-crisis years, and by high public capital spending during the post-crisis recovery period. With strong revenue performance during the year and despite higher expenditures on health and flood reconstruction works, the fiscal deficit in 2015 is expected at 3 percent of GDP.

2. ***Georgia continues to have one of the highest poverty rates in the ECA region despite poverty rates considerably falling since the peak observed in 2010.*** The recent drop in poverty from 46.7 percent in 2010 to 32.3 percent in 2014, as measured by the US$2.5/day poverty line, was led by increased earnings for the already employed and increases in social assistance, while employment creation has only played a limited role. Unlike in previous years when the consumption of the bottom 40 percent of low-income population did not grow, between 2010 and 2014, the bottom 40 percent enjoyed annual consumption growth of 8.3 percent, above the 6.4 percent observed for the whole country. Unemployment fell to 12.4 percent in 2014, though urban and youth unemployment remain persistently high at 22 and 31 percent, respectively. Rural areas still lag behind and register poverty rates (43 percent) more than twice as large as urban areas (21 percent). Inequality has remained high, with the Gini coefficient remaining close to 0.40.

B. Sectoral and Institutional Context

3. ***Roads are key to the wellbeing of most Georgians.*** On main roads the country has prioritized key East-West Highway Corridor investments and is achieving substantial improvements in connectivity to global markets. Regarding secondary roads, about half of the country's population relies on them as they live in villages and smaller towns and 75 percent of them derive their livelihoods from agriculture. The latter rely on secondary roads to: (i) access the markets and socio-economic centers, (ii) improve their living standards, and (iii) explore new job opportunities. A reliable transport network, through increased spending on roads, is needed to alleviate poverty disparities among the country's regions, provide a platform for the integration of the rural economy, as well as catalyze private investment and create jobs. Improved secondary roads reduce costs of accessing markets and services, increasing access for the poor and isolated regions, generate direct employment opportunities linking jobs with people and contribute to

[1] IMF. "IMF Staff Statement at the End of a Review Mission to Georgia". December 8, 2015. Press Release No. 15/552.

closing the gender gap. Financing road improvements benefits especially farmers in Georgia's lagging regions with high agriculture potential.

4. ***Road assets are an important country asset and Secondary Roads a very significant part of it.*** Georgia's road sector represents a large national asset, including a network of about 21,824 km, including 1,528 km of international roads (including 88 km of 4-lane motorways in the East-West corridor), 5,296 of secondary roads and around 15,000 of local roads. Responsibility for road infrastructure policy and planning in Georgia lies with the Ministry of Regional Development and Infrastructure (MRDI), while management of the international and secondary roads is the responsibility of the Roads Department (RD). Management of local roads is the responsibility of municipalities since 2007 when the Government decentralized certain administrative and budgetary functions. In the road sector, the Government supports a policy-based, efficient, and long-term strategic investment as its main priority. Infrastructure improvement remains at the top of the government's agenda as reflected in the investment and sectoral plans. RD's asset management capacity has substantially improved in the past decade.

5. ***Important efforts are needed by the Government of Georgia (GOG) and RD to ensure sustainable asset management and preservation of the secondary road network.*** International roads are generally in good condition with 86 percent of roads (2014) with a low international roughness index (IRI) below 6 which denotes good or fair condition. The share of secondary roads in good and fair conditions has increased from 30 percent in 2004 to around 60 percent in 2015 as a result of major rehabilitation efforts in the past decade. About 1,100 km (or a third of the totally rehabilitated secondary roads) were financed by the World Bank during 2004-2015. However, there is still a secondary road rehabilitation and safety improvement backlog and the need to preserve the recently rehabilitated and improved assets. RD has been implementing a number of important policy reforms that address institutional capacity for road asset management, improved procurement, safeguards, and enhanced road safety (Annex 7).

6. ***Climate change risks for the country*** (Annex 8). With their increased frequency in Georgia, landslides, rockfall and flash floods have been causing serious damages to road infrastructure, as well causing damages to or loss of properties and human lives. Adaptation to the adverse impacts of climate change is one of the main priorities for the Government. Consequently, while RD keeps monitoring road sections prone to natural disasters as part of the overall asset management approach, it has acknowledged an immediate need of carrying out a comprehensive vulnerability assessment of roads to climate change, as well as developing and executing climate resilient measures for the most vulnerable road sections.

7. ***Road Sector Finance.*** Road sector expenditures (construction, rehabilitation and maintenance) on international and secondary roads has been significantly increased from 0.7 to 2.30 percent of GDP during 2004-2015, focusing on capital expenditures of the East-West Highway Corridor. Routine maintenance, including winter maintenance, remains underfunded in relative and absolute terms with expenditures averaging about US$17 million per year (between 2007-2014) for both international and secondary roads which represents less than US$2,500 per km per year and is less than the international comparator range of US$4,000 to US$8,000 per

km. Resolving the maintenance funding and ensuring that recent improvements in implementation of maintenance be sustained are a major challenge for the Government.[2]

8. ***Secondary Road Program***. RD is currently developing a Five-Year rolling Program for Improvement and Preservation of the Secondary Road Assets for 2016-2020. The objective of this Program is to promote sustainable Road Infrastructure Development providing efficient transportation, ensuring short and long-term benefits for all road users. This Five-Year Program will target the rehabilitation and periodic maintenance of about 970 km of secondary roads and routine maintenance of the entire secondary road network. The total capital and maintenance works are estimated at GEL500 million (US$300 million[3]). The key objective of this Program is to outline strategies for reducing the existing rehabilitation backlog and increasing the share of secondary roads in good and fair condition under the projected budget allocations for the given period. This Project will contribute to strengthening RD's capacity in preparing multi-year programs and annual plans for the secondary road network.

9. ***Road safety***. Road safety audits of new designs and regular road safety inspections of existing road assets are mainstreamed in RD's implementation practices, leading to timely and relevant implementation of road safety engineering countermeasures. While those measures has improved safety of women and children on the roads, who are predominantly pedestrians, they have also contributed to the safety of male drivers, who have been a majority of road accidents victims. As a result, engineering measures, in combination with improved enforcement, emergency services response, and education campaigns, has contributed to around 16 percent reduction in the fatality rate against a 2.6 fold increase in traffic in the past decade. RD as a member of Georgia's Road safety Working Group, participated in drafting the new (Second) Road Safety Strategy and Action Plan for 2016-2020, which was supported under the Fourth East-West Highway Project (EWHIP-4) and was presented at the workshop in October 2015 with the participation of all government stakeholders, NGOs and donors. In the next few months, RD is to pilot international road assessment program (iRAP) on the international and secondary roads in Guria region under the Bank-funded SLRP-III, with the purpose of incorporating its outputs, i.e., Safer Roads Investment Plan, into the design of the second pilot output- and performance-based road contract (OPRC) under this Project. At present, RD is working with the financial support of the Asian Development Bank (ADB) on the harmonization of design, construction and maintenance standards.

10. ***To increase the cost-efficiency of its work program execution, RD has started moving into output based performance-based contracting with a focus on long-term assets preservation***. RD has successfully piloted a design-build contract which was developed based on the OPRC approach under the Bank-funded Kakheti Regional Roads Improvement Project (KRRIP) and SLRP-II. These pilot design-build contracts have started building the capacity of the local industry in implementation and management of contracts with more risks transferred to

[2] MRDI's Annual State Budget for 2015 allocated roughly GEL 0.96 billion (about US$460 million) for infrastructure development, including GEL568 million (about US$ 300 million) for improvements of international and secondary roads under RD's responsibility. Programmatic funding for the improvement of Georgia's main highway corridor – East-West Highway corridor – remains a top priority of the MRDI's Action Plan.

[3] Using exchange rate of May 2015, when RD started drafting its Multi-Year Rolling Program.

contractors. The first pilot OPRC contract is to be implemented in Kakheti region under SLRP-II starting from 2016.[4] Considering the positive feedback from the private and public sectors on the pilot design-build performance-based contracts under KRRIP and SLRP-II, RD is confident that this first pilot OPRC will also be successful. RD also acknowledges a number of advantages of the OPRC approach, namely transfer of more risks to the private sector, more accurate estimates of annual maintenance costs, and long-term savings as a result of regular and adequate routine maintenance up to the expected levels of service. Thus, RD intends to scale up this innovative contracting approach to another region under SRAMP.

C. Higher Level Objectives to which the Project Contributes

11. ***RD's draft Five-Year Rolling Program for 2016-2020 for Improvement and Preservation of the Secondary Road Assets has an emphasis on rebalancing of capital investment and maintenance of the secondary road network.*** The Five-Year Rolling Program which is still in a draft format and to be finalized under the financial support of the ongoing SLRP-III aims to (i) promote economic development of the country, by taking into consideration the immediate and future socio-economic development plans and policies of the Government; (ii) facilitate greater mobility, reduce travel times and costs, and improve accessibility; and (iii) meet current and expected future transport needs, by gradually eliminating backlog and improving service levels for people with adequate maintenance for newly rehabilitated road sections. The objective of this Program is "*to promote sustainable road infrastructure development providing efficient transportation, ensuring short and long-term benefits for all road stakeholders*".

12. ***SRAMP will directly support the implementation of RD's Five-Year Program*** through improving its programming and planning processes and mainstreaming efficient contracting approaches to eliminate the existing backlog and ensure adequate maintenance of the secondary road network (970 km). The implementation of this Program is to be financed primarily from the GOG's budget. The Bank's loan in the amount of US$40 million over a five-year period will represent a contribution of around 10 percent to the Five-year program but has the potential to have significant impact on the overall efficiency of the Program. Once the preparation of the Program is finalized and country systems in the multi-year programming and annual planning are further improved under the support of this Project, GOG through RD will use a programmatic approach to finance the full implementation of this Program.

13. ***The Project is also in line with the strategic directions identified in the current 2014-2017 Country Partnership Strategy (CPS).*** The CPS identifies two strategic pillars: (i) strengthening public service delivery to promote inclusive growth; and (ii) enabling private sector led job creation through improved competitiveness. The proposed Project will contribute to the first pillar by enhancing the capacity of RD in roads asset management and maintenance. By improving roads infrastructure, connectivity between regions, and access to socio-economic centers, the Project will contribute to the second pillar of improved competitiveness. It will support the generation of substantial short-term employment while laying down the basis for

[4] The first tender had to be cancelled due to underestimated costs of the proposed scope of works and inclusion of significant length of gravel roads in poor condition. However, lessons learnt from this experience were incorporated in the revised bidding documents which were successfully re-tendered in 2015.

increased permanent job creation and income growth. It is estimated that about US$2,500 of investment directly creates one person-month of employment in Georgia's road sector[5], while this project is expected to create about 17,000 person-months of medium- and short-term employment. Road investments in Georgia have also been shown to have positive economy wide impacts.[6] In addition, the Project will reduce travel time and vehicle operating costs, increase traffic volume and improve traffic safety in rural areas. It will also address vulnerability by improving access for the poor to markets, services, and job opportunities. Besides, this project is supporting the Government's objective to tackle weather-related impacts, as identified in the Intended Nationally Determined Contributions submitted in December 2015 to the United Nations Framework Convention on Climate Change (UNFCCC), by improving country's preparedness and adaptive capacity through, among others, the implementation of climate resilient measures along identified project road sections that reduce vulnerability of highly exposed communities.

14. ***SRAMP is well aligned with the World Bank's strategic goals of reducing poverty and enhancing shared prosperity.*** Through rehabilitation and maintenance of secondary roads, the Project will support the development of Racha-Lechkhumi, Mtskheta-Mtianeti, Shida Kartli, and Guria, which are the poorest regions in Georgia. The poor condition of secondary roads restricts access to markets and social services for local villagers and deters job seekers from expanding their income-generating opportunities beyond their villages and towns. Inadequately maintained and vulnerable to climate change roads make journeys outside the village unsafe and unreliable; they also affect essential social functions and economic activities. The main project beneficiaries will include road users and local communities who will benefit from improved connectivity to public amenities and services, reduced travel time, reduced vehicle operating costs, and reduced road crash risks. Perhaps more importantly, benefits would accrue to local population, who could experience positive outcomes in income, consumption, health and education resulting from the Project. The mobility and accessibility gains resulting from the Project will contribute to promoting growth, alleviating poverty, boosting the incomes of the bottom 40 percent, and enhancing social inclusion.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

15. The Project Development Objectives are: (i) to improve road users' access to social services and markets through the project roads in a sustainable manner, and (ii) to enhance road asset management for the secondary roads network in Georgia.

B. Project Beneficiaries

16. ***The primary project beneficiaries will include road users of and communities living along the project secondary roads***. The project area covers four regions, namely Mtskheta-

[5] Estimation is based on the calculations of jobs created in KRRIP.
[6] World Bank. "Georgia Assessing Economy-Wide Indirect Impacts of East-West Highway Investments through CGE Modeling." August 2015.

Mtianeti, Racha-Lechkhumi and Shida Kartli, which are the poorest ones in the country, and Guria, which is a bit more developed than the other three but most ready for the second pilot OPRC (Annex 6). Road users are expected to benefit from improved conditions of the project roads through reduced travel time and vehicle operating costs, and improved road safety. The project is also expected to offer more long-term direct employment opportunities in low-skilled routine maintenance activities in Guria region and short-term opportunities in rehabilitation activities in Racha-Lechkhumi, Mtskheta-Mtianeti, and Shida Kartli regions. In the medium to long run, communities will also benefit from more reliable access to socio-economic centers which offer employment opportunities outside agriculture and social services to enhance health and education. Road safety features are anticipated to have a positive distributional outcome. Because the majority of road traffic fatalities in Georgia are among males who are often the primary breadwinners of low-income households, the Project will also contribute to improving road safety on equity grounds.

17. ***The secondary group of the project beneficiaries will include RD and the local construction industry***. Through technical assistance, RD will further enhance its capacity in secondary road assets planning, budgeting, execution and monitoring. The project is expected to further boost the capacity of the local construction industry for managing and implementing of contracts with an increased range of risks transferred to the private sector and getting prepared for longer-term public-private partnerships, including OPRC.

C. PDO Level Results Indicators

18. ***The achievement of the PDO will be assessed*** through monitoring and evaluation of the following PDO level results indicators:

(i) Share of secondary road network in good and fair condition (Improved access and sustainable manner);
(ii) Travel time to socio-economic centers or district centers on project roads (Improved access); and
(iii) Preparation of fully-costed Five-Year Rolling Program for Improvement and Preservation of Secondary Road Assets by using RAMS and multi-criteria analysis on an annual basis (Enhanced road asset management).

III. PROJECT DESCRIPTION

19. The proposed Project is designed as a results-based Investment Project Financing (IPF), with disbursement linked indicators for almost 100 percent of the loan. This Project will support RD in improving the condition and safety of about 320 km (240 km through OPRC and about 80 km through design-build contracting approaches) and further mainstreaming sustainable road management practices and a road safety system. Broadly, this will be achieved through: (i) scaling up a five-year OPRC to Guria, another region in addition to Kakheti, (ii) further stimulating the growth of the local industry through involvement in the execution of design-build performance-based contracts, (iii) integrating of innovative planning practices related to such aspects as climate

resilience, road safety (i.e., use of GeoRAP[7]) and management of other structures (e.g., bridges, tunnels) into RD's overall road assets management, and (iv) ensuring the mainstreamed use of the improved methodology for multi-year programming and annual planning for sustainable secondary road assets preservation and improvement. The Project will also contribute to the implementation of RD's Five-Year Rolling Program. More detailed Project description is provided in Annex 2.

A. Project Components

20. ***The Project has two components with a total investment of US$48 million (including IBRD financing of US$40 million)***:

Component 1: Secondary Road Assets Improvement and Preservation (Estimated Cost US$46.4 million; IBRD financing: US$38.66 million).

21. ***The objective of this component is two-fold: (i) to support the improvement and preservation of secondary roads assets and (ii) improve access of Georgians to social services and economic activities in less connected and poor regions*** through innovative performance-based contracting methods: output- and performance-based road [rehabilitation and maintenance] contract (OPRC) and design-build (DB) contracts. This is a DLI-based component, and its financing is linked to the achievement of agreed disbursement linked indicators (DLIs; see below the respective DLIs). This support will consist of three Sub-components:

(a) **Sub-component 1.1: Improvement and Maintenance of Secondary Roads in Guria through OPRC** (Estimated Cost US$ 19.40 million; IBRD financing: US$16.17 million). This Sub-component will support the scaling up of OPRC to Guria. It will finance a single five-year OPRC with sufficient length of roads under rehabilitation and periodic maintenance in order to attract the private sector.

(b) **Sub-component 1.2: Rehabilitation and Improvement of Secondary Roads Assets through Design-Build Contracts** (Estimated Cost US$22.80 million; IBRD financing: US$18.99 million). This Sub-component will provide support to the implementation of RD's design-build sub-program, which is estimated at US$28 million for the period of 2016-2020. The Project will finance about 80 km of the design-build sub-program, while 20 km will be financed by GOG's budget outside the scope of this Project.

(c) **Sub-component 1.3: Supervision and Monitoring Services of Civil Works** (Estimated Cost US$4.2 million: IBRD financing: US$3.5 million). This sub-component will finance two separate contracts for the provision of the monitoring and supervision services of OPRC and DB contracts.

Component 2: Enhanced Secondary Road Assets Planning and Management (Estimated Cost US$1.5 million; IBRD financing: US$1.25 million).

[7] Georgia Road Assessment Program system is being developed based on the International Road Assessment Program (iRAP) system under SLRP-III and may be adjusted in a certain way that Georgia's RD could use it easily to monitor, plan and manage road safety on its network. GeoRAP is suggested as its short name.

22. ***The objective of this component is to support institutional reforms aimed at integrating innovative management practices in RD's overall road assets management and enhancing RD's capacity in multi-year programming and annual planning for secondary road assets*** on a country level, not project level. It is a DLI-based component, and financing will be linked to the achievement of the agreed DLIs. This Component will build on a number of activities which are being implemented under the ongoing Bank-funded projects and involve (i) the development of RAMS under SLRP-II, (ii) improvement of RD's methodology for and the preparation of a five-year rolling program and annual plans for the secondary road assets, and (iii) piloting of International Road Assessment Program (iRAP) under SLRP-III. This Component will support the following activities:

(a) **Sub-component 2.1. Enhancement of RAMS and Improved Assets Programming and Planning** (Estimated Cost US$0.2 million; IBRD financing: US$0.17 million). This Sub-component will finance a Technical Assistance (TA) to support enhancement of RAMS and strengthen the capacity of a Bridge Management Unit**.**

(b) **Sub-component 2.2. Integrated Road Safety Management** (Estimated Cost US$0.1 million; IBRD financing: US$0.08 million). This Sub-component will finance (i) scaling up the use of Georgia Road Assessment Program (GeoRAP) to Mtskheta-Mtianeti, Racha-Lechkhumi and Shida Kartli regions, and (ii) a road safety awareness and education campaign in Guria region.

(c) **Sub-component 2.3. Climate Resilience Support** (Estimated Cost US$1.2 million; IBRD financing: US$1.0 million). This Sub-component will finance an assessment of the vulnerability of secondary roads (about 200 km) in Racha to climate change, mapping of the most vulnerable road sections, development and implementation of priority climate resilient measures.

23. ***Components 1 and 2 are designed to link disbursements to defined results through DLIs***, which are defined as follows:

- ***DLI 1.1: Project Roads rehabilitated and periodically maintained under OPRC***. Targets will be met when a pre-defined length of periodic maintenance and/or rehabilitation is completed on project roads under OPRC.
- ***DLI 1.2: Routine maintenance targets achieved under OPRC***. Regular routine maintenance will be carried out on project roads under the five-year OPRC. Targets will be achieved if the targets of the pre-defined levels of services of routine maintenance are achieved.
- ***DLI 1.3: Targets of the Design-build Sub-program achieved.*** Targets will be met when a pre-defined length of rehabilitation is completed under the design-build sub-program financed from both the Bank-funded SRAMP and GOG's budget outside SRAMP scope (i.e., parallel financing).
- ***DLI 2.1: Preparation of fully-costed Five-Year Rolling Program using the improved methodology***. Targets will be achieved if there is evidence that a fully-costed Five-Year Rolling Program for rehabilitation and maintenance of secondary road assets is updated on an annual basis, uses the improved methodology for multi-year programming and annual

planning based on the multi-criteria analysis and annually collected data on traffic, and condition of road and structure assets from the enhanced RAMS.

- ***DLI 2.2: Integration of road safety in asset management.*** Targets will be achieved if there is evidence that the newly developed GeoRAP is scaled up to the other project regions and there is improvement in Star Rating in Guria region.
- ***DLI 2.3. Introduction of climate resilience practices in RD's road asset management.*** Targets will be achieved if there is evidence that the assessment and mapping of vulnerability of Racha's secondary road network to climate change is completed, and priority climate resilience measures are developed and implemented.

24. ***The independent performance audit, including verification of the delivery of results (DLIs) under Components 1 and 2***, and assessment of adequate use of the respective country systems and World Bank's guidelines under this project, will be conducted by the State Audit Office of Georgia[8] (SAOG), in accordance with Terms of Reference included in Annex 3 (paragraphs 56-60), or, if requested by the Bank, by a Project Audit Consultant. The Government is committed to finance this activity under the state budget.

25. ***The instrument choice considered "Program for Results (PforR)", standard "Investment Project Financing (IPF)" and "Results-based IPF with DLIs".*** The proposed Project is designed as a results-based IPF with disbursement-linked indicators (DLIs). This financing instrument is a major difference between this Project and its predecessor projects. The proposed Results-based IPF with DLIs is considered as a more appropriate instrument than PforR or IPF for several reasons. First, the Road Sector Financing Strategy is being prepared through the technical assistance of the Fourth East-West Highway Project (EWHIP-4) and RD's Five-Year Rolling Program for Secondary Road Assets Improvement and Preservation is in a draft version and will be finalized under the support of the ongoing SLRP-III in 2016. Once the Road Sector Strategy and Five-year Program are finalized, they will enable donors and the GOG to collaboratively participate in financing elements of the Sector Strategy and Secondary Road Assets Program, using a PforR financing instrument. Second, country systems needed for PforR are already in place but need further improvement, including country system and management practices for multi-year programming and annual planning. Third, the implementing agency's technical, fiduciary and safeguards capacity is adequate and sound enough to deliver a results-based project.

26. ***DLI-based financing will incentivize RD to promote institutional reforms.*** The reforms will aim at strengthening the country's system in multi-year programming and annual planning, integrating road safety and climate resilience into asset management practices and scaling-up innovative output- and performance-based contracting methodologies for improvement and preservation of the secondary road network. Under the results-based IPF approach, disbursement will be tied to the achievement of DLIs pertaining to both components 1 and 2.

[8] SAOG is independent in its activities and independent in terms of its institutional subordination, funding, operation and organizational setting. SAOG reports to the Parliament. Source: Source: The State Audit Office of Georgia. http://www.sao.ge/en

B. Project Costs and Financing

27. ***The Project's total costs are estimated at US$48.0 million***. Financing consists of an IBRD Loan in the amount of US$40.0 million and of the government's co-financing in the amount of US8.0 million (17 percent of the project costs). The Project indicative cost breakdown is presented in Table 1 below.

28. ***Withdrawals will be made through semi-annual loan advances based on:*** (i) semi-annual rolling cash flow forecasts of Interim Financial Reports (IFRs), (ii) documentation of previous advances and (iii) for some advances, documentation of previous advances in parallel with the confirmation of the DLIs achievement. The use of quarterly IFRs will allow for loan advances to provide regular and consistent levels of liquidity to implement Project activities. Both IFRs produced at the end of each quarter and annual Independent DLI Audit reports will be used to: (i) validate and certify achievement of DLIs, (ii) recognize expenditures incurred and reported as eligible, and (iii) convert prior advances into disbursements - in part or in total, depending on whether the DLIs have been partially or completely achieved. Almost 100 percent of the Bank's Loan will use results-based disbursement based on DLIs.

Table 1. Project Cost and Financing

Project Components	Project Cost, US$ Million	IBRD Financing, US$ Million	IBRD Financing, %
Component 1. Secondary Road Assets Improvement and Preservation	**46.40**	**38.66**	**83**
1.1. OPRC in Guria	19.40	16.17	83
1.2. Design-Build Contracts	22.80	18.99	83
1.3. Monitoring and supervision of OPRC and Design-Build Contracts	4.2	3.5	83
Component 2. Enhanced Secondary Road Assets Planning and Management	**1.50**	**1.25**	**83**
2.1. Enhanced of RAMS and Improved Assets Programming and Planning	0.20	0.17	83
2.2. Integrated Road Safety Management	0.10	0.08	83
2.3. Climate Resilience Support	1.20	1.00	83
Front-end Fee	0.10	0.10	100
TOTAL (including VAT)	**48.00**	**40.00**	**83**

C. Lessons Learned and Reflected in the Project Design

29. The implementation of a series of SLRP-I, II and III and KRRIP projects primarily targeting rehabilitation of secondary and local roads and Independent Evaluation Group's (IEG) evaluations of similar transport projects in other countries have drawn a number of important lessons for the design of this Project:

- ***Rebalancing of capital investment and maintenance expenditures is required to ensure sustainability of road investments***. Experience documented in 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 modern OPRC practices may offer significant maintenance efficiency gains. SRAMP will ensure through the use of a relevant DLI that RAMS with annually collected data is used to analyze and cost maintenance strategies for multi-year programming on an annual basis, to ensure not only that maintenance planning is done, but an associated budget is provided.

- ***Support to building the capacity of local municipalities in local roads management is better provided through regional development or municipal infrastructure projects managed by the Municipal Development Fund within MRDI***. Thus, further capacity building of local municipalities is separated from new road projects implemented by RD, who is neither responsible for the local roads network nor has any legal connection with municipal governments. However, RD remains a suitable partner to provide technical oversight for capacity building to municipalities. Unlike a series of SLRP project, SRAMP will not engage with local municipalities but enhances its focus on further strengthening the capacity of RD, the only project implementing agency and main road manager in Georgia.

- ***The impact of a roads project in a specific region is much more significant than that of a project targeting many smaller road sections all across the country***. The experience of the Kakheti Regional Roads Improvement Project (KRRIP) and a series of SLRPs has shown that a project concentrated only on one region brought more significant development to the region and boosted its local economy (e.g., increase in tourism, agriculture and winery production). In addition, it contributed to the economy of scales. Learning from this experience, SRAMP is concentrated on four regions only - three poorest and one, which is a bit more developed than the other three, instead of supporting the rehabilitation and maintenance of smaller road sections scattered all across the country.

- ***Institutional reforms require incremental and sequential implementation and are often not completed by the closing date of a Bank-funded project***, because it takes a lot of time to gain political consensus, build ownership, change the mindset, and re-design some of the reforms to adjust to new circumstances. For instance, the development of RAMS spilled over from the completed First East-West Highway project to the ongoing SLRP-II due to several failed or unresponsive tenders and several re-designs to simplify requirements. The scope of RAMS consultancy was revised and redesigned several times prior to the eventual successful tendering.

- ***Institutional strengthening components should be designed to emphasize the focus on reforms.*** Similar results-based IPFs in the ECA region such as *Serbia Road Rehabilitation and Safety Project* and *Albania Results-based Road Maintenance and Safety Project* show the institutional strengthening component may encounter challenges. For this reason, DLIs are being used to incentivize RD to focus on the reforms. As the pace of the reform must be realistic and in accordance with the Government's strategic objectives, the Project DLIs have been designed to be both simple and achievable.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

30. ***RD will be responsible for overall management and implementation of SRAMP***. RD has a well-established track record in managing World Bank funded projects since 1996. RD's Deputy Chairmen are vested with project management functions, being supported by the Foreign Projects Unit (FPU) – responsible for procurement, monitoring and evaluation, by TRRC – responsible for financial management and by other units responsible for planning, road safety, and safeguards management. FPU will be in charge of daily management of project implementation and provision of procurement services, technical oversight of institutional activities with the support of the relevant technical units of RD, and monitoring and evaluation of project activities. RD's Road Administration Division and Maintenance and Rehabilitation Division will take the lead in the implementation of Component 2. Further details can be found in Annex 3.

B. Results Monitoring and Evaluation

31. ***The Project will continue to use the agreed Bank-financed monitoring and evaluation arrangements.*** RD, through FPU, will be responsible for monitoring, evaluating and reporting the project results in quarterly progress reports. FPU has a dedicated Monitoring and Evaluation sub-unit, which will retain adequate capacity (Head of this sub-unit, two staff members and one consultant) to monitor progress of project implementation towards the achievement of the project results. The Results Framework in Annex 1 lists the outcome and intermediate project indicators for the Project and each component, and some of them are defined as DLIs. This Results Framework will serve as the basis for project monitoring. FPU will be responsible for collecting the data required for monitoring and evaluation, which will in turn be reviewed by RD management. Quarterly reports, which will present key findings of monthly progress reports (on civil works contracts only), monitoring indicators, implementation status of the requirements set in ESMF and RPF, and other aspects of project management, will be prepared by FPU. Monthly progress reports will be prepared by the Supervision and Monitoring Consultant for civil works and submitted to RD and will inform the preparation of quarterly progress reports. A mid-term review of the Project is scheduled for November 2018. Further details can be found in Annex 3.

32. ***Independent Performance Audits of project performance, including verification of results will be carried out in February of each calendar year.*** The main objective of this exercise will be to verify the achievement of the project results (DLIs) in the previous fiscal year, assess and report on the use of the systems in the project, compliance as defined in the Project Operations Manual (POM) and other project documents (ESMF, RPF, Procurement Plan, etc.), shortfalls in performance, if any, causes of those shortfalls and actions to remedy them. The first independent performance audit, including verification of DLIs, is to be carried out in February 2018 and will cover the period starting from the Effective date up to December 31, 2017. Independent performance audits, including verification of DLIs, will be conducted by SAOG, in accordance with Terms of Reference included in Annex 3 (paragraph 56-60), or, if requested by the Bank, by a Project Audit Consultant.

C. Sustainability

33. ***This Project is designed to help RD focus on the implementation of efficient road management practices for the secondary road network.*** Regular maintenance of road assets provides continuity and preservation, and thus promotes sustainability of assets. Postponing routine maintenance by three years results in three times higher repair costs than routine maintenance costs, while postponing maintenance by five years results in 18 times higher repair costs[9]. Considering the existing backlog, it is unaffordable for Georgia to allocate inadequate maintenance budget. RD is to take a multi-pronged approach to ensure sustainability of its secondary road assets through: (i) improving its multi-year programming and annual planning processes through the use of enhanced RAMS to optimize road maintenance strategies and forecast road expenditures on annual basis, and direct involvement of local governments and municipalities in the selection and prioritization processes; (ii) use of OPRC to introduce a cost-effective form of contracting aimed at preserving the secondary road assets; and (iii) use of design-build performance-based contracts to mainstream a cost-effective form of contract delivering design and rehabilitation services which meet road users' expectations and further strengthen the capacity of the local construction industry to manage and implement contracts with an increased range of risks transferred to the private sector in the preparation for longer-term public-private partnerships, including OPRC.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

34. ***This Project will be the first results-based project for RD and Georgia, hence the project's technical design and fiduciary risks are rated as substantial***. Furthermore, while representing opportunities in terms of incentivizing reforms, the use of DLIs for disbursement based on post reviews may create some risks of misunderstanding and delays in disbursements in the early phases, which will need to be closely monitored and timely addressed. To ensure clear understanding of DLI definitions and targets, the Bank and RD teams jointly developed the DLI framework for the Project. The use of quarterly instead of semi-annual IFRs and very specific targets of DLIs will allow for loan advances to provide regular and consistent levels of liquidity to implement the Project activities and prevent any delays in disbursement. RD needs to strengthen the capacity of the recently-hired Head of the Procurement sub-unit, procurement consultant and procurement assistant. TRRC needs to hire an accountant to provide support for the preparation of quarterly IFRs. Both entities will need to remain fully staffed throughout project implementation.

35. ***The Project overall implementation risk is nonetheless rated as Moderate***. This rating reflects RD's solid capacity in the management and implementation of Bank-funded road projects. RD's experience in contracting, fiduciary and safeguards management under conventional road sector projects has a proved track record. The implementing agency has also built some capacity in managing innovative performance-based contracting modalities through successfully piloting design-build contracts and gaining useful experience from the thorough

[9] Burningham, S.; Stankevich, N. 2005. "Why Road Maintenance is Important and How to Get it Done." Transport Note TRN-4. World Bank. 2005.

assessment of the first previously cancelled pilot OPRC tender, its revision and retendering, and from participating in international training on OPRC.

VI. APPRAISAL SUMMARY

A. Economic Analysis

36. ***The selection of candidate roads was conducted using two steps.*** As a first step, RD used a set of criteria to select the project's candidate roads for rehabilitation. These criteria included poverty level, density of population, level of demand of local population and the continuity of traffic based on the secondary road sections rehabilitated under SRLP I and II. The selected secondary roads carry an average daily traffic (AADT) in the range of 300-2,000 vehicles depending on the road condition of a section. As a second step, an economic evaluation of each road section, which is candidate for rehabilitation, was carried out using the World Bank's Highway Development and Management Model (HDM-4), which computes the project-alternatives in terms of net present value of benefits (NPV), at a given discount rate, compared to the without project-alternative. The economic analysis led to the conclusion that the Project is viable. The detailed economic analysis is presented in Annex 5.

37. ***The economic evaluation shows positive returns on investment and minor increase in CO2 emissions.*** For the Guria OPRC contract, the economic evaluation shows that the return on the contract investment is satisfactory with an Economic Internal Rate of Return (EIRR) of 22.0 percent and Net Present Value (NPV) of US$ 27.3 million, at 10 percent discount rate. The economic evaluation of the design-build sub-program was done only for four candidate roads and the return on investment was also found satisfactory. The economic evaluation shows that the return on the contracts investments is satisfactory for the candidate road sections. The EIRR varies from 14.7 to 35.6 percent, with an overall EIRR of 23.2 percent. An increase of project costs by 15 percent together with a decrease in benefits by 15 percent decreases the overall EIRR to 19.1 percent. There will be a modest increase in CO2 emissions after the rehabilitation works of 0.4 percent on the OPRC and 4.5 percent on the design-build contract.

38. **Development Impact.** The Project will contribute to eliminating extreme poverty and boosting the welfare of the bottom 40 percent of the population. Improvement of conditions and safety of about 320 km (240 km through OPRC and about 80 km through design-build contracts) will provide better access for around 100,681 people in 91 towns and villages in the four project regions. Most of these villages or towns are located in regions, which rank low in terms of accessibility and are amongst the poorest in the country, with poverty rates higher than the national average. It is likely that the Project will also address the transport needs of low-income road users and promote local development in the areas of influence through greater access to economic opportunities. Financing road improvements and improving connectivity in these lagged regions with high agriculture potential could directly benefit farmers by increasing farm's gate prices and improving and expanding access to markets. A baseline survey report was already prepared and a follow-up survey is underway for the on-going SLRP-II. An ex-post evaluation is being carried out, with the use of national data sources such as the Household Budget Survey, to reflect SLRP-II's contribution to poverty reduction and its shared prosperity outcomes.

39. **Public sector financing.** Public sector financing is the appropriate vehicle for financing the preservation of the project roads because of the large periodic maintenance and rehabilitation costs that cannot be recovered through tariffs. Public investment in road infrastructure 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 asset management, setting up road maintenance standards, addressing road safety issues and controlling axle loads.

40. **World Bank's Value Added**. The World 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: multi-year programming and annual planning of road asset management, integration of road safety and climate resilience in asset management, construction quality control, sustainability of road maintenance, road safety, transport planning, and environmental risk, safeguards, procurement, and financial management. The overall World Bank's added value is to contribute to mainstreaming efficient road management practices into the country system.

B. Technical

41. ***The Project will support the development and implementation of a cost effective multi-year programming*** that rebalances capital investment and maintenance expenditures for the secondary network, delivers maintenance to the secondary road network at specified levels of service, and supports the safe operation of the secondary road network. Road maintenance is the result of a number of operations and activities aimed at preserving the structural and functional features of the road network. Road maintenance planning and management is a continuous activity and requires updated and focused information on asset inventory and condition. Data collection and analysis for secondary road assets under the Project will be supported through TA to enhance and upgrade the RAMS, while periodic and routine maintenance activities will be implemented through an area level contract spanning the secondary road network in Guria region. TAs will be implemented to support the institutional reforms aimed at improving RD's capacity in multi-year programming and annual planning for secondary road assets integrating road safety and climate adaptation practices into RD's road asset management.

42. ***The Project will support scaling up performance-based contracting modalities*.** It will finance about several design-build contracts (developed based on the OPRC model) and one output- and performance-based rehabilitation contract (OPRC). In both types of contracts, payment for a deliverable is explicitly linked to the Contractor successfully meeting or exceeding specific and clearly pre-defined levels of service that are measured through a set of performance indicators. Performance-based contracting approach has been chosen for this Project because the implementing agency has realized significant cost savings from the first pilot design-build performance-based contracts. RD has recently successfully retendered the first pilot OPRC in Kakheti region which it finds a more cost-efficient option to ensure sustainability of maintenance of road assets. Overall, RD believes these two types of innovative contracts are more effective than traditional contracts in meeting the service levels that really matter to the road users.

43. ***The Bank's Standard Bidding Documents for OPRC type contracts and design-build contracts*** developed based on the same Bank's Standard Bidding Documents for OPRC type contracts will be used in Component 1. The OPRC will be five years long and will cover about

60 km of rehabilitation and periodic maintenance, and 240 km of routine maintenance of the secondary road network in Guria region, and emergency works, which will reinstate the roads after damage in case of any force major events or accidents.

44. The duration of design-build contracts will vary between 16 - 30 months (excluding DLP), depending on the length and scope of contracts. The design-build contracts will include the preparation of detailed design and execution of rehabilitation works on about 80 km of 4 road sections in three regions - Mtskheta-Mtianeti, Racha-Lechkhumi and Shida Kartli, where performance-based contracts for roads have not been used yet. Improvement and rehabilitation works will be executed within the roads' existing horizontal alignment, with bridge and culvert repairs where appropriate.

45. ***Detailed designs of rehabilitation works will undergo road safety and climate resilience audits.*** Designs of all project contracts will incorporate road safety engineering countermeasures. In addition, the detailed design of the OPRC will incorporate the road safety engineering recommendations of the iRAP assessment to be soon carried out on Guria's road network under the financial support of SLRP-III. Climate resilient measures (e.g., strengthened embankments, fibre-reinforced concrete culverts of greater capacity in vulnerable areas, etc.) will also be developed and incorporated in the designs of the OPRC and design-build contracts in mountainous areas. OPRC monitoring consultant, design-build contracts supervision consultant and RD will carry out road safety and climate resilience engineering audits to ensure that proper engineering measures have been integrated in the designs.

C. Financial Management

46. ***Financial Management function will rest with TRRC, a specific body designated for financial management of foreign-funded road projects under RD***. TRRC will work with Treasury Service of Ministry of Finance of Georgia in the administration of the project's Designated Account (DA) to be established in foreign currency as Treasury Account of the Ministry of Finance of Georgia with National Bank of Georgia, and with RD in the performance of its financial management responsibilities with regards to this Project. In addition, the country's budget system will be used for this project. For all other FM elements the TRRC's respective systems are going to be used for this particular project. As the on-going SLRP-II and III projects and other highway projects with TRRC's involvement demonstrate, these FM arrangements have been satisfactory and will remain in place during the project implementation.

47. ***The Project is designed to utilize the approach of results-based disbursement, through the use of DLIs***. The use of quarterly IFRs will be used to report eligible expenditure. TRRC's capacity needs to be strengthened through hiring of a consultant to provide support in the preparation of quarterly IFRs. The annual financial statements covering the Project (both DLI-based components and non DLI-based components) will be subject to a financial audit. The audit will be contracted to a private audit firm and its reports will be submitted to the Bank not later than six months after the end of the subject fiscal year/period. The financial audit will not serve the purpose of assessing whether DLIs were achieved or not, because that aspect will be covered by the annual independent DLI audits. Further details can be found in Annex 3.

D. Procurement

48. ***RD's FPU will retain its responsibility for procurement.*** This project will be implemented by RD who has been managing and implementing Bank-funded roads projects since 1996. The decision making structure of RD with regards to procurement issues remains the same as in other Bank-funded road projects. The Tender Commission which consists of all Deputy Chairmen and nearly all Heads of Divisions reviews the evaluation results presented by the Evaluation Group and makes the final recommendations which, in case of prior reviews, are conveyed by FPU to the Bank for review and clearance. The average time from opening the bids to the signing of civil works contracts has been less than 30 days. The implementation arrangements remain unchanged from SLRP-II and SLRP-III. Procurement capacity assessment has been undertaken in PRAMS (Procurement Risk Assessment and Management System). Further details on procurement capacity is provided in Annex 3.

49. ***Procurement will be carried out according to the World Bank's Guidelines***: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants, January 2011, revised July 2014, and the Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers, January 2011, revised July 2014; and the provisions stipulated in the Loan Agreement.

E. Social (including Safeguards)

50. ***The Resettlement and Environment Unit in the RD is responsible for managing environmental and social impacts related to road projects***, including land acquisitions and resettlements. RD's capacity to manage environmental and social safeguards is considered satisfactory based on RD's track record and experience in the completed and on-going roads projects financed by the World Bank. This capacity has been further strengthened by the creation of a dedicated Resettlement and Environmental Unit on April 1, 2013.

51. **Social Impact**. Based on the results achieved under SLRP-I (closed in 2012) and the ongoing SLRP-II and SLRP-III, the SRAMP activities are expected to make a positive impact on poverty alleviation as improved transport service would benefit poor rural people through expanding access to markets, employment and social services and enabling users to travel more safely. Similarly to previous projects, improvement of conditions and safety of about 320 km of secondary roads will benefit 100,681 inhabitants of 91 towns and villages in Georgia. Additional benefits may include increased tourist visits to cultural and natural heritage sites located along the roads to be improved and rehabilitated. SRAMP will address the transport needs of low-income road users residing in the poorest and remote villages in the lagging regions known for their low accessibility and poverty rates higher than the national average. The improved accessibility is expected to contribute to reducing the country's regional disparities as better connectivity in less developed regions endowed with high agriculture potential could significantly increase the profitability of agricultural activities and benefit farmers directly through the improvement and expansion of their access to markets.

52. **Safeguards Policy**. The project triggers OP/BP 4.12 on Involuntary Resettlement given that some activities under the project could require land acquisition and resettlement. However,

the potential adverse social impact from such activities is considered low to moderate as the project will not finance new road construction and the civil works will be performed within the existing right-of-way. However, minor land acquisition may take place in some cases to provide adequate sidewalks and drainage for rehabilitation works. There could also be some instances where seasonal roadside vendors could be affected by project activities. However, the project is not expected to generate physical resettlement of population or adverse impacts on agricultural lands.

53. **Resettlement Policy Framework (RPF**). Given that the exact road sections to be financed by the project are still being defined, the Borrower has prepared an RPF to guide the management of project-related land acquisition and resettlement issues. The final RPF was disclosed to the public on October 22, 2015. After public consultations the final RPF was re-disclosed both in English and Georgian on RD's website on December 4, 2015 and on December 18, 2015 through the Bank's InfoShop. The RPF takes into account lessons learned during the preparation and implementation of a series of SLRPs, EWHIPs, and KRRIP. A feasibility study will be undertaken for each subproject and it will include a screening of potential environmental and social impacts as per the project's Environmental and Social Management Framework (ESMF). If during the screening stage any issues related to land acquisition and resettlement are identified a subproject level Resettlement Action Plan (RAP) will be prepared and implemented based on the RPF.

54. **Citizen Engagement**. Project-related citizen engagement activities will be implemented throughout the life of the project and at multiple levels. The preparation of subprojects will include engagements with regional authorities and other relevant stakeholders, including project-affected people where relevant. Additionally, the preparation of the Project's ESMF and RPF have been subjected to public disclosure and consultations and the resulting EMPs and RAPs will be also subjected to more in-depth consultation processes. ESMF and RPF will include robust grievance redress mechanisms. Project beneficiaries will be provided with contact information of an assigned person from RD or local municipality as well as RD's hotline number in order to allow project beneficiaries to submit their enquiries or concerns related to project implementation. One of the most important areas of citizen engagement will be through the road safety education campaigns to be supported through the project.

55. **Gender Dimension.** As indicated in para 3, secondary roads have a potential to contribute to closing the gender gap. In particular, there is a need to ensure that women voices are heard and that the Project benefits rural women who are generally poor and have limited access to jobs. Measures will be taken to ensure the broad participation of both women and men during project-related consultation processes. Project beneficiaries will be encouraged to express freely their needs, constraints and preferences in regard to the planned rehabilitation, improvement and construction road works to be undertaken in their respective locations. Participation of female beneficiaries is especially encouraged in order to fully take into account their needs and preferences and therefore avoid any negative gender impacts. However, no gender differentiated impacts are likely under the project, as project impacts are expected to be generally positive and benefit both women and men. In cases where land acquisition and resettlement are required, the preparation of the RAPs will include specific consultations with both men and women and relevant socio-economic information required will be gender-

disaggregated. Additionally, the planned road safety activities and education campaign will include consideration of gender issues (identifying differential impact of road safety interventions on men and women, children and the elderly). The road safety awareness and education campaign is expected to be designed to target specific needs of male and female beneficiaries in different ways.

F. Environment (including Safeguards)

56. **Safeguard Policy.** ***SRAMP will finance the rehabilitation and maintenance of existing roads predominantly within their existing right-of-way.*** The Project triggers OP/BP 4.01 Environmental Assessment and is classified as Category B for environmental assessment purposes. RD prepared an ESMF for secondary roads asset management, which will be used for the purposes of implementing the Five-Year Rolling Program for Investment and Maintenance of Secondary Roads Network covering the period of 2016-2021, including activities to be financed by SRAMP. The document was disclosed, and the RD held a public consultation meeting to discuss draft ESMF with relevant stakeholders. The final ESMF was re-disclosed in the country on August 12, 2015 and posted in Bank's InfoShop on August 13, 2015.

57. ***Based on the guiding principles outlined in the ESMF, site-specific Environmental and Social Impact Assessments (ESIA) will be carried out for higher risk sub-projects and Environmental Management Plans (EMPs) will be prepared for other investments*****.** Site-specific environmental documents will be disclosed and discussed with stakeholders, including local communities directly affected by the project. If planned works include re-routing of considerable sections of roads, are to be implemented in highly sensitive natural/social environment or carry other significant risks, then an ESIA will be performed resulting in the ESIA report including EMP. For lower risk activities, self-standing EMPs will surface. They may be developed using EMP Checklist for Small-Scale Road Construction or Rehabilitation. EMPs will be subject to clearance by RD and the Bank and mandatory for compliance by contractors.

58. ***The safeguard policies will be applied by RD's Resettlement and Environment Division with well-defined duties and responsibilities allocated to adequately skilled staff members.*** Quality of environmental supervision of works will have particular importance under SRAMP as compared to previous SLRPs as the release of payments under OPRCs contracts will depend, inter alia, on the environmental performance of contractors. Also, because SRAMP's objectives include improvement of secondary roads asset management at the national level and because the Project is to assist GOG with the implementation of its Five-Year Program for Improvement and Preservation of Secondary Road Assets, this operation calls for focusing on RD's general institutional capacity for environmental management rather than limiting effort to the quality of environmental monitoring of the Project-financed civil works only. Therefore SRAMP will provide targeted technical assistance for on-the-job mentoring of RD's safeguards staff and will help to further optimize institutional set-up for the Resettlement and Environment Unit as need be.

G. Other Safeguards Policies Triggered

59. Feasibilities studies are yet to confirm if any project roads proposed for Project financing pass through or lie in the immediate proximity to the natural habitats. OP/BP 4.04 is triggered as a precautionary measure to be applied in case natural habitats fall in the area of influence of individual investments supported by the Project. Feasibility studies will indicate a need for applying OP/BP 4.04 and provide guidance on habitat analyses to be undertaken as part of site-specific environmental assessment.

H. World Bank Grievance Redress

60. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB'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 WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World 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 and Monitoring

Country: Georgia

Project Name: Secondary Road Asset Management Project (P149953)

Results Framework

Project Development Objectives

PDO Statement

The Project Development Objectives are (i) to improve road users' access to social services and markets on the project roads in a sustainable manner, and (ii) to enhance road asset management for the secondary roads network in Georgia.

These results are at | Project Level

Project Development Objective Indicators

Indicator Name	Baseline (2015)	Cumulative Target Values					
		YR1 (effectiveness in 2016-2017)	YR2 (2018)	YR3 (2019)	YR4 (2020)	YR5 (2021)	End Target
Share of secondary road network in good and fair condition (Percentage)	60.70	61.8	63.1	64.3	65.00	65.00	65.00
Travel time to socio-economic centers or district centers on Guria OPRC roads (Min)	320.00	299.00	273.00	255.00	255.00	255.00	255.00
Travel time to socio-economic centers or district centers on project roads under design-build contracts (Min)	135.00	125.00	114.00	107.00	100.00	100.00	100.00
Length of project roads managed	0.00	270.00	296.00	320.00	340.00	340.00	340.00

under innovative practices (OPRC and design-build) as part of the Five-Year Rolling Program							

Intermediate Results Indicators							
Indicator Name	Baseline	Cumulative Target Values					
		YR1 (effectiveness in 2016-2017)	YR2 (2018)	YR3 (2019)	YR4 (2020)	YR5 (2021)	End Target
Roads rehabilitated, km (core indicator)	0.00	58.00	116.00	136.00	160.00	160.00	160.00
Annual update of a fully-costed Five-Year Rolling Program for improvement and preservation of secondary road assets based on the improved methodology and preparation of an annual plan for the next FY (Yes/No)	Five-Year Rolling Program and YR1 plan under preparation	Five-Year Rolling Program updated and YR2 plan prepared	Five-Year Rolling Program updated and YR3 plan prepared	Five-Year Rolling Program updated and YR4 plan prepared	Five-Year Rolling Program updated and YR5 plan prepared	Five-Year Rolling Program updated and YR6 plan prepared	Yes
Length of secondary roads for which condition data is annually collected and entered in RAMS *with new equipment* (km)	2,250	3,000	4,000	4,000	4,000	4,000	4,000
Number of traffic points for which traffic data is annually collected *with new equipment* on secondary roads and entered RAMS (number)	62.00	70.00	80.00	90.00	100.00	100.00	100.00

iRAP/GeoRAP done on international and secondary roads networks in the project regions	Guria region to be done in 2016	Guria region	Mtskheta-Mtianeti	Racha-Lechkhumi	Shida Kartli		
iRAP Star rating on the project roads in Guria	TBD- Star rating from the pilot iRAP assessment	-	-	A better value than the original Star Rating	A better value than the original Star Rating	A better value than the original Star Rating	A better value than the original Star Rating
Road safety campaign carried out in Guria	No	No	No	Yes	Yes	Yes	Yes
Introduction of climate resilience practices in RD's road asset management	No	No	Mapping of vulnerable roads and development of climate resilience measures in Racha	Implementation of priority measures in Racha	Implementation of priority measures in Racha	Yes	Yes
Direct project beneficiaries (number), of which female (percentage – 50%)	100,681	100,681	100,681	100,681	100,681	100,681	100,681
Share of female individuals who participated in consultations (%)	50	50	50	50	50	50	50

Indicator Description

Project Development Objective Indicators				
Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Share of the secondary road network in good and fair condition	Percentage of the secondary road network in good and fair condition after completion of rehabilitation and periodic maintenance on project road sections (percentage based on the total accessible network length of 4,500 km)	Annual	Annual road condition survey	RD
Travel time to socio-economic centers or district centers on Guria OPRC roads	Total travel time is calculated only for travel on road sections subject to rehabilitation and periodic maintenance under OPRC. 20% decrease in travel time, on average, is expected on all those sections by the project completion.	Annual	Annual survey	RD
Travel time to socio-economic centers or district centers on project roads under design-build contracts (Min)	Total travel time is calculated for travel the project roads under the design-build contracts. 25% decrease in travel time, on average, is expected on all those sections by the project completion.	Annual	Annual survey	RD
Length of project roads managed under innovative practices (OPRC and design-build) as part of the Five-Year Rolling Program	Length of project roads managed under innovative practices (OPRC and design-build) as part of the Five-Year Rolling Program	Quarterly	Quarterly Progress Reports	RD

Intermediate Results Indicators				
Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Roads rehabilitated, km (core indicator)	Total length of the roads rehabilitated under the project	Quarterly	Quarterly Progress Reports	RD

Annual update of a fully-costed Five-Year Rolling Program for improvement and preservation of secondary road assets based on the improved methodology and preparation of an annual plan for the next FY (Yes/No)	Update of a fully-costed Five-Year Rolling Program for improvement and preservation of secondary road assets based on the improved methodology (multi-criteria analysis and annually collected data for RAMS) and preparation of an annual plan for the next FY	Annual	Annual Reports	RD
Length of secondary roads for which condition data is annually collected *with new equipment* on secondary roads and entered in RAMS	Length (km) of secondary roads for which condition data is annually collected *with new equipment* on secondary roads and entered in RAMS	Annual	Annual Reports	RD
Number of traffic points for which traffic data is annually collected on secondary roads and entered in RAMS (number)	Number of traffic points for which traffic data is annually collected on secondary roads and entered in RAMS (number)	Annual	Annual Reports	RD
iRAP/GeoRAP done on international and secondary roads networks in the project regions	GeoRAP done on the entire roads networks in Guria, Mtskheta-Mtianeti, Racha-Lechkhumi, and Shida Kartli	Annual	Annual Reports	RD
iRAP Star rating on the project roads in Guria	iRAP Star rating on the project roads in Guria prior to start of OPRC implementation and during its implementation	Annual	GeoRAP system	RD's RSU
Road safety campaign carried out in Guria	Road safety campaign carried out in Guria	Quarterly	Quarterly progress reports	RD
Introduction of climate resilience practices in RD’s road asset management	Introduction of climate resilience practices in RD’s road asset management is defined as carrying of assessment and mapping of vulnerable roads,	Quarterly	Quarterly progress reports	RD

	development and implementation of climate resilience measures on Racha's road network			
Direct project beneficiaries (number), of which female (percentage)	Direct project beneficiaries (number), of which female (percentage)	Annual	Annual reports	RD
Share of female individuals who participated in consultations (%)	Share of female individuals who participated in consultations (%)	Annual	Annual reports	RD

Annex 2: Detailed Project Description

GEORGIA: SECONDARY ROAD ASSET MANAGEMENT PROJECT

1. This Project will support RD in improving the condition and safety of about 320 km (240 km through OPRC and 80 km through design-build contracting approaches) and further mainstreaming sustainable road management practices and a road safety system. Broadly, this will be achieved through: (i) scaling up a five-year OPRC to Guria, another region in addition to Kakheti, (ii) further stimulating the growth of the local industry through involvement in the execution of design-build performance-based contracts, (iii) integrating of innovative planning practices related to such aspects as climate resilience, road safety (i.e., use of GeoRAP[10]) and management of other assets (e.g., bridges, tunnels) into RD's overall road assets management, and (iv) ensuring the mainstreamed use of the improved methodology for multi-year programming and annual planning for sustainable secondary road assets preservation and improvement. The Project will also contribute to the implementation of RD's Five-Year Rolling Program.

2. ***The Project has two components with a total investment of US$48 million (including IBRD financing of US$40 million)***:

Component 1: Secondary Road Assets Improvement and Preservation (Estimated Cost US$46.40 million; IBRD financing: US$38.66 million).

3. ***The objective of this component is two-fold: (i) to support the improvement and preservation of secondary roads assets and (ii) improve access of Georgians to social services and economic activities in less connected and poor regions*** through innovative performance-based contracting methods: output- and performance-based road [rehabilitation and maintenance] contract (OPRC) and design-build (DB) contracts. This is a DLI-based component, and its financing is linked to the achievement of agreed disbursement linked indicators (DLIs, see below the respective DLIs). This support will consist of three Sub-components:

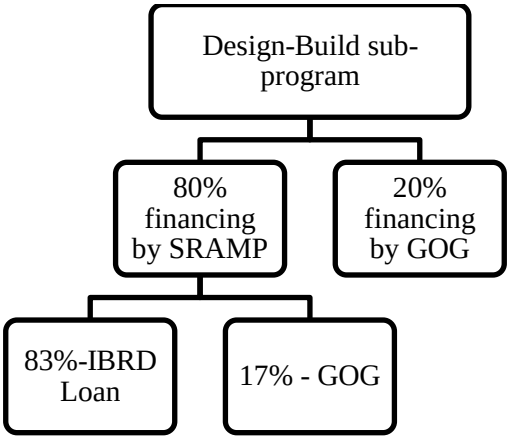
(a) **Sub-component 1.1: Improvement and Maintenance of Secondary Roads in Guria through OPRC** (Estimated Cost US$19.40 million; IBRD financing: US$16.17 million). This Sub-component will support the scaling up of OPRC to Guria. It will finance a single OPRC which will be a five-year contract with sufficient length of roads under rehabilitation in order to attract the private sector. The contract is expected to cover the rehabilitation and periodic maintenance of about 60 km of secondary road sections and routine maintenance of about 240 km of the same rehabilitated sections and other sections rehabilitated in the recent years. The OPRC will require the contractor to improve the road sections to the required levels of service, and maintaining the same rehabilitated sections and other previously rehabilitated sections to meet the pre-defined levels of service for the duration of the contract. Payment will be based on achieving and maintaining specified levels of service and not on the completion of physical works. Safer Roads Investment Plans which will be

[10] Georgia Road Assessment Program system is being developed based on the International Road Assessment Program (iRAP) system under SLRP-III and may be adjusted in a certain way that Georgia's RD could use it easily to monitor, plan and manage road safety on its network. GeoRAP is suggested as its short name.

produced as a result of the pilot iRAP survey on Guria's international and secondary roads network under the ongoing SLRP- III will be integrated into the designs of this OPRC. Where needed, climate resilience measures will be developed and incorporated in the design of OPRC.

(b) **Sub-component 1.2: Rehabilitation and Improvement of Secondary Roads Assets through Design-Build Contracts** (Estimated Cost US$22.80 million; IBRD financing: US$18.99 million). This Sub-component will provide support to the implementation of RD's design-build sub-program, which is estimated at US$28 million for the period of 2016-2020. SRAMP will contribute 80 percent of the finances to this sub-program; the remaining 20 percent will be provided by GOG's budget outside this project's scope (Figure 1). The key objective of RD's design-build sub-program is to further build the capacity of the local industry in performance-based contracting and prepare the local contractors for OPRC and other contracts with an increased number of risks transferred from the public to the private sector. This sub-program will finance the rehabilitation of about 100 km of several secondary roads, including about 80 km in three regions - Mtskheta-Mtianeti, Racha-Lechkhumi and Shida Kartli. The remaining 20 km of roads will be rehabilitated under design-build contracts from the State Budget. The duration of design-build contracts will vary between 16 - 30 months (excluding DLP), depending on the length and scope of contracts. Improvement and rehabilitation works will be executed within the roads' existing horizontal alignment, with bridge and culvert repairs where appropriate. As some of the design-build sub-program roads are located in mountainous terrain, most affected by climate change events, adequate climate resilient measures will be developed and incorporated in the respective designs.

Figure 1. Financing Arrangements for RD's Design-Build Sub-program



(c) **Sub-component 1.3: Supervision and Monitoring Services of Civil Works** (Estimated Cost US$4.2 million: IBRD financing: US$3.5 million). This Sub-component will finance two separate contracts for the provision of the monitoring and supervision services of OPRC and DB contracts. The primary role of the Monitoring and Supervision Consultants will be to ensure that the pre-defined levels of service are complied with in both OPRC and DB contracts. The Consultants will also provide initial road safety audits of the designs and ensure that road safety engineering countermeasures are incorporated in the design of capital

works. RD will take over the OPRC monitoring role from the Monitoring Consultant in the last two years of the OPRC execution.

Component 2: Enhanced Secondary Road Assets Planning and Management (Estimated Cost US$1.5 million; IBRD financing: US$1.25 million).

4. ***The objective of this component is to support institutional reforms aimed at integrating innovative management practices in RD's overall road assets management and enhancing RD's capacity in multi-year programming and annual planning for secondary road assets*** on a country level, not project level. It is a DLI-based component, and financing will be linked to the achievement of the agreed DLIs. This Component will build on a number of activities which are being implemented under the ongoing Bank-funded projects and involve (i) the development of RAMS under SLRP-II, (ii) improvement of RD's methodology for and the preparation of a five-year rolling program and annual plans for the secondary road assets, and (iii) piloting of International Road Assessment Program (iRAP) under SLRP-III. This Component will support the following activities:

(a) **Sub-component 2.1. Enhancement of RAMS and Improved Assets Programming and Planning** (Estimated Cost US$0.2 million; IBRD financing: US$0.17 million). This Sub-component will finance a Technical Assistance (TA) to support enhancement of RAMS and strengthen the capacity of a Bridge Management Unit. Specifically, the TA will focus on (i) improving the data collection practices and quality of data collected with the development of a bridge and tunnel management sub-system, and (ii) collection and maintenance of inventory and condition data on bridges and other structures on secondary roads to ensure that RD covers all assets on its secondary road network during its multi-year programming and annual planning. This Component will also monitor by the use of the relevant DLI that the Five-Year Rolling Program and annual plans are prepared by RD based on the revised and improved methodology.

(b) **Sub-component 2.2. Integrated Road Safety Management** (Estimated Cost US$0.1 million; IBRD financing: US$0.08 million). This Sub-component will finance (i) scaling up the use of Georgia Road Assessment Program (GeoRAP) to Mtskheta-Mtianeti, Racha-Lechkhumi and Shida Kartli regions, and (ii) a road safety awareness and education campaign in Guria region. The campaign will target four groups of road users (vehicle occupants, pedestrians, cyclists, and motorcyclists) to improve their road safety behavior. Implementation of GeoRAP's Safer Roads Investment Plans produced as a result of GeoRAP surveys will be supported through the budget outside the scope of this Project.

(c) **Sub-component 2.3. Climate Resilience Support** (Estimated Cost US$1.2 million; IBRD financing: US$1.0 million). This Sub-component will finance assessment of vulnerability of secondary roads (about 200 km) in Racha to climate change, mapping of the most vulnerable road sections, development and implementation of priority climate resilient measures.

5. ***Components 1 and 2 are designed to link disbursements to defined results through DLIs***, which are defined as follows:

- ***DLI 1.1: Periodic Maintenance and Rehabilitation in Guria***. Targets will be met when a pre-defined length of periodic maintenance and/or rehabilitation is completed on project roads under OPRC.
- ***DLI 1.2: Routine Maintenance in Guria***. Regular routine maintenance will be carried out on project roads under the five-year OPRC. Targets will be achieved if the targets of the pre-defined levels of services of routine maintenance are achieved.
- ***DLI 1.3: Design-Build Sub-Program.*** Targets will be met when a pre-defined length of rehabilitation is completed under the design-build sub-program financed from both the Bank-funded SRAMP and GOG's budget outside SRAMP scope (i.e., parallel financing).
- ***DLI 2.1: Multi-year programming***. Targets will be achieved if there is evidence that a fully-costed Five-Year Rolling Plans for rehabilitation and maintenance of secondary road assets is updated on an annual basis, uses the improved methodology for programming and planning based on the multi-criteria analysis and annually collected data on traffic, and condition of road and structure assets from the enhanced RAMS.
- ***DLI 2.2: Integrated Road Safety Management.*** Targets will be achieved if there is evidence that the newly developed GeoRAP is scaled up to the other project regions and there is improvement in Star Rating in Guria region.
- ***DLI 2.3. Climate Resilience.*** Targets will be achieved if there is evidence that the assessment and mapping of vulnerability of Racha's secondary road network to climate change is completed, and priority climate resilience measures are developed and implemented.

6. ***The independent performance audit, including verification of the delivery of results (DLIs) under Components 1 and 2***, and assessment of adequate use of the respective country systems and World Bank's guidelines under this project, will be conducted by the State Audit Office of Georgia (SAOG), in accordance with Terms of Reference included in Annex 3 (paragraphs 56-60), or, if requested by the Bank, by a Project Audit Consultant. The Government is committed to finance this activity under the state budget. Further details on the objectives and scope of tasks of the independent performance audit, including verification of DLIs, are available in Annex 3 (paragraphs 56-60).

Annex 3: Implementation Arrangements

GEORGIA: SECONDARY ROAD ASSET MANAGEMENT PROJECT

Project Institutional and Implementation Arrangements

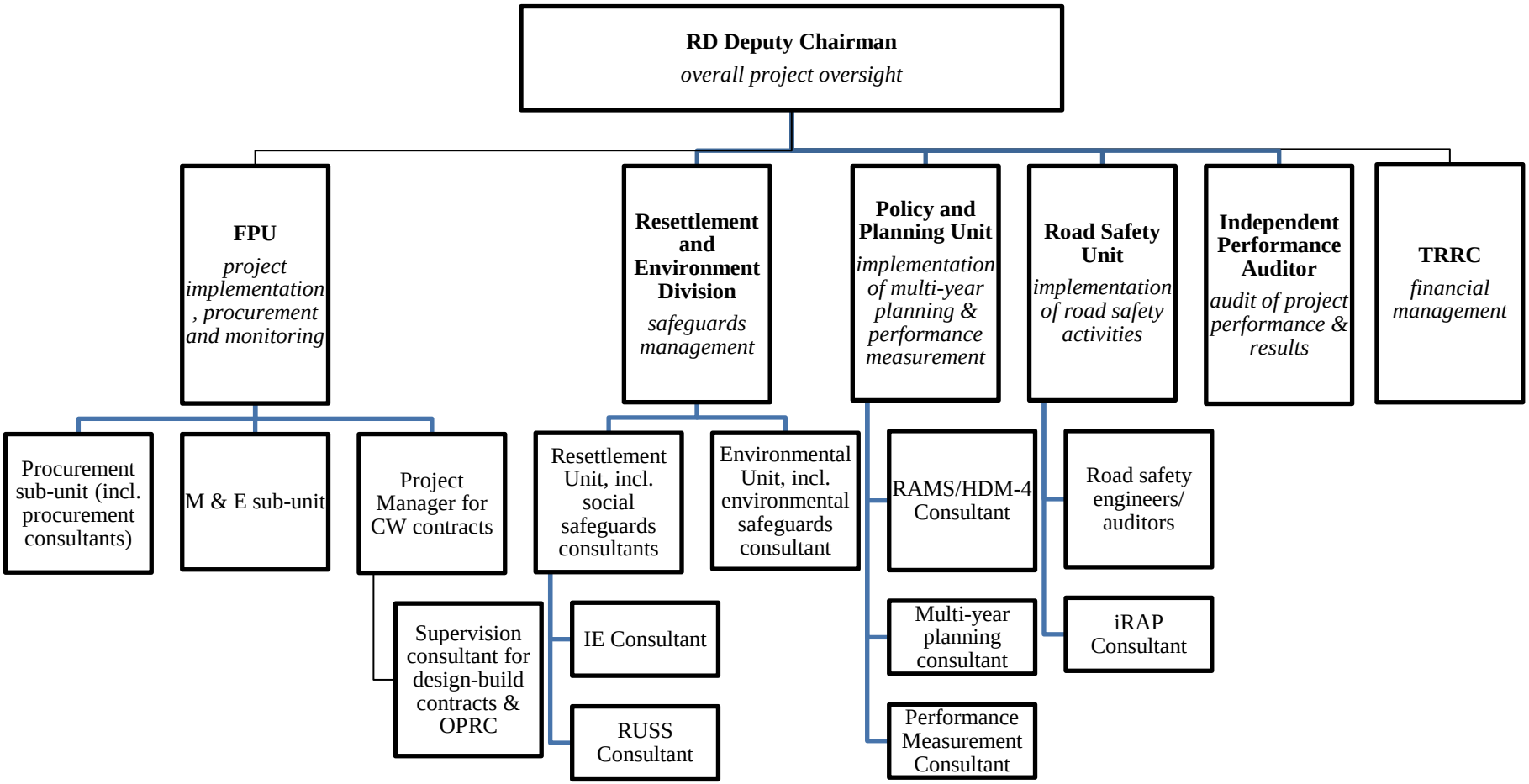
Project Administration Mechanisms

1. ***RD will be responsible for overall management and implementation of SRAMP.*** RD has a well-established track record in managing several World Bank funded projects since 1996. RD has vested project management functions with one of the Department's Deputy Chairmen, supported by several RD's Units responsible for planning, road safety, and safeguards management, Foreign Projects Unit (FPU) responsible for procurement, and monitoring and evaluation, and TRRC responsible for financial management. FPU will retain the current adequate capacity of staff and consultants. FPU is responsible for daily implementation and monitoring of donor-funded projects, including this Project, is staffed with the Head of the Unit, 3 staff members and 3 consultants to provide procurement, project management, and monitoring and evaluation support. Considering its growing work program, RD uses project management consultants to manage its donor-funded projects on a daily basis. This enables RD to ensure adequate project and contract management capacity for its large investment programs targeting all categories of roads (except local ones). TRRC will continue assisting RD with financial management and will be responsible for the flow of funds, accounting, budgeting, financial reporting, and auditing. TRRC will be strengthened with an additional accountant, using the proceeds of EWHIP-4, to provide support in the preparation of quarterly IFRs. The organizational chart is provided in Figure 2.

2. ***RD's Road Administration Division (responsible for planning) will be responsible for the delivery of Sub-component 2.1.*** The Database Unit of the Administration Division hosts HDM-IV which is regularly used by RD to inform its road selection and prioritization process and RAMS which has been recently developed under the on-going SLRP-II. Sub-component 2.1 will monitor through the use of the relevant DLI that RD's Planning Unit prepares the Five-Year Rolling Program and annual plans on an annual basis and applies (i) the methodology which is to be soon revised and improved under the ongoing SLRP-III and (ii) annually collected data on traffic on the secondary roads, and condition of roads and artificial structures. Technical Assistance under this subcomponent will also enhance the Planning Unit's capacity through enhancement of RAMS with the development of a bridge and tunnel management sub-system and inventory of and condition data on bridges to ensure multi-year programming and annual planning cover all assets on the secondary road network.

3. ***RD's Road Safety Unit (RSU) with the support of the Database Unit will take the lead in the implementation of Sub-component 2.2*** aimed at further integration of road safety into asset management and planning processes. RSU will scale up GeoRAP to the other project regions by undertaking detailed road surveys and data collection, focusing on over 50 different road attributes that are known to influence the likelihood of a crash and its severity, determining iRAP Star Ratings for each of road sections, developing Safer Roads Investment Plans to identify ways in which the

Figure 2. Project Implementation Arrangements



Star Ratings can be improved in a more cost-efficient way, and incorporating the results of these Investment Plans into major civil works contracts planned for the same road sections. RSU will also lead the efforts jointly with Police and MIA in carrying out a road safety campaign in Guria region where road safety engineering measures will be executed as part of OPRC.

4. ***RD's Maintenance and Rehabilitation Division will take the lead in the implementation of Sub-component 2.3 aimed at introducing climate adaptation practices in RD's road asset management.*** A Technical Assistance will build this Division's capacity in determining the vulnerability of road assets to climate change, carrying out a mapping exercise of vulnerable spots, developing and implementing climate resilience measures on Racha's road network.

5. ***Trainings will be provided to RD to further enhance its capacity in procurement, financial management, and monitoring and evaluation.*** Those trainings will be financed under the ongoing Bank-funded Forth East-West Highway Project.

6. ***A mid-term review of the project will take place in November 2018***. Its principal objectives will be to review: (i) progress in project implementation and achievement of its development objectives, (ii) the project's Results Framework and make necessary adjustments, (iii) progress in the delivery of disbursement-linked indicators and use of DLI-based disbursement arrangements; (iv) overall progress in the implementation of institutional strengthening activities, with a particular focus on RD's improved capacity in multi-year and annual planning and budgeting for secondary road assets, enhancement of RAMS and its use in the planning process, and scaling up of GeoRAP to the three project regions. For each of these objectives, RD will prepare reports to guide discussions during the mid-term review.

Financial Management, Disbursements and Procurement

Financial Management

7. ***The FM function of the project will be handled by the RD through the TRRC***, which will be responsible for the flow of funds, accounting, planning and budgeting, financial reporting, internal controls, and auditing. TRRC will be responsible for the flow of funds, accounting, budgeting, financial reporting, and auditing. It has been involved in implementation of several Bank-financed transport or transport related projects. TRRC will work both with the Ministry of Finance and the Treasury Service in the administration of the Project Designated Account (DA), and with RD for implementation of this Project. RD and TRRC will sign, within one month of project effectiveness, an implementation agreement spelling out their respective responsibilities under the Project. The Bank will monitor any changes to implementing arrangements structure that will require agreement with the Bank.

8. ***The FM arrangements of TRRC have been found satisfactory.*** They were reviewed periodically as part of the on-going projects implementation support, as well as during the FM assessment of the Project May 2015.The FM arrangements of the project will remain the same as for the SLRP-II, SLRP-III, TEWHIP and EWHIP-4 projects for which TRRC provides FM support and which is acceptable to the Bank. It was agreed that the TRRC would update the on-going projects' FM Manual to reflect the activities of this Project prior to project effectiveness.

9. The overall FM risk for this Project before and after mitigation measures is Moderate, with Inherent and the Control Risks before and after mitigation measures also rated as Moderate.

10. ***Overall, TRRC and RD has satisfactory planning and budgeting capacity in place.*** TRRC is capable of preparing relevant budgets. It has been preparing annual budgets for on-going projects based on procurement plans. The budgets form the basis for allocating funds to project activities, for requesting funds from the government for counterpart contribution and for payments via Treasury system as appropriate. The Financial Manager of TRRC and RD (namely, FPU, Financial Division and Road Rehabilitation Division) are responsible for budget preparation, which is approved by the RD and agreed with the Bank.

11. ***TRRC has overall adequate FM staffing capacity***. The FM staff is comprised of a financial manager, a financial specialist, an accountant, a small value contracts manager, and a disbursement specialist (mostly involved with an ADB project). Current staffing capacity in place is sufficient for the implementation of the Bank-financed projects also considering recent closing of a few projects. By effectiveness, TRRC needs to hire another accountant to assist a financial management specialist in the preparation of quarterly unaudited interim financial reports (IFRs) and other project FM related tasks. After effectiveness of SRAMP, the TRRC staffing arrangements will be regularly reviewed and the need for hiring an additional accounting staff will be considered. The financial manager will have primary responsibility for the Interim Un-audited Financial Reports (IFRs) and will prepare the annual financial statements for audit.

12. ***TRRC utilizes Oris accounting software, which is used by most of the Bank-financed projects in Georgia*** and is found to be adequate for accounting and reporting purposes. The software automatically generates IFRs, which are finalized in Excel spreadsheets. The budget data is entered into the accounting software. The accounting books and records of the TRRC will be maintained on a cash basis adopted for this Project, and project financial statements, including IFRs, are going to be presented in US dollars. For reporting Cash Basis Integrated Public Sector Accounting Software (IPSAS) will be used. The FM Manual will be updated to reflect the new activities of the project.

13. ***Generally, there are adequate internal control procedures established over FM and disbursement arrangements at TRRC***. There are neither petty cash nor specific director's expenses at TRRC. All the payments are made via Treasury transfer. The Fixed Assets (FA) register is maintained in Excel spreadsheets. The stocktaking is conducted annually. The inventory cards are properly maintained. Each FA item is assigned to the relevant staff who signs the relevant inventory card. The FAs have inventory tags attached. Monthly back-ups of the accounting data are made on two external back-up drives and on a streamer (located in IT office). The Financial Manager keeps one copy of the external drive at the office and the other one at home. TRRC has no internal audit function and none is considered necessary given the small size of the organization.

14. ***Project management-oriented IFRs will be used for project monitoring and implementation support*** and the indicative formats of these are included in the TRRC FM Manual. In addition to project monitoring and implementation support, IFRs will also be used for

disbursement purposes, for the DLI related components and category. The format of IFRs which has been agreed during appraisal includes: (i) Project Sources and Uses of Funds; (ii) Uses of Funds by Project Activity; (iii) Designated Account Statements; (iv) A Statement on Financial Position; and (v) Statement of Expense (SOE) Withdrawal Schedule. IFRs will be produced separately for both DLI-based components. TRRC will be producing a full set of IFRs every calendar quarter throughout the life of the project. These financial reports will be submitted to Bank within 45 days of the end of each calendar quarter. The first semester IFRs will be submitted after the end of the first full semester following the initial disbursement.

15. ***The financial audit of SRAMP will be conducted (i) by independent private auditors acceptable to the Bank***, on terms of reference (TOR) acceptable to the Bank, and (ii) according to the International Standards on Auditing (ISA) issued by the International Auditing and Assurance Standards Board of the International Federation of Accountants (IFAC). TRRC's current auditing arrangements and findings are satisfactory to the Bank and will be used for SRAMP. Particularly, the sample audit TOR agreed with the Bank will be attached to the FM Manual, and the annual audited project financial statements will be provided to the Bank within six months of the end of each fiscal year and also at the closing of the Project. If the period from the date of effectiveness of the credit/loan to the end of the Recipient/Borrower'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.

16. Financial audit TORs will include activities involving (i) audits of financial statements, (ii) assessments of the accounting system, and (iii) a review of the internal control mechanisms. The following table identifies the required audit reports that will be submitted by TRRC together with the due date for submission.

Audit Report	**Due date**
Project Financial Statements include: • Project Balance Sheet, • Sources and Uses of Funds, • Uses of Funds by project activities, • Statement of Expenditures Withdrawal Schedule, • Designated Account Statement, • Notes to the financial statements, and • Reconciliation Statement	Within 6 months of the end of each fiscal year and also at the closing of the project

17. The Borrower has agreed to disclose the audit reports for the project within one month of their receipt from the auditors, by posting the reports on the website of the RD (www.georoad.ge), or the TRRC (www.trrc.ge) or by publishing in a national newspaper. Following the Bank's formal receipt of these reports from the Recipient/Borrower, the Bank will make them publicly available according to the World Bank Policy on Access to Information. The contract for the audit awarded during the first year of project implementation may be extended from year-to-year with the same auditor, subject to satisfactory performance. The cost of the audit will be financed from the proceeds of the loan.

Disbursements

18. ***TRRC will establish a DA in US dollars and maintain it until project completion***. The DA will be opened as a Treasury's foreign currency account at the National Bank of Georgia (NBG) (where almost all DAs for ongoing Bank-financed projects in Georgia are held), and on terms and conditions acceptable to the Bank. The DA will be drawn upon to meet payments to contractors, suppliers and consultants under the project. The DA Statement will be audited in conjunction with the annual audit of the project. Detailed instructions on withdrawal of IBRD Loan proceeds are provided in the Disbursement Letter.

19. The agreed total cost of the Project is estimated at US$48 million. The IBRD Loan amount is US$40 million to finance up to 100% of US$39.9 million of eligible expenditures (in addition to US$100,000 of the front-end fees), as per Section IV.A.2 of Schedule 2 to the Loan Agreement. The Borrower confirmed that it will provide from its own resources the remaining US$8 million of the total Project cost as counterpart financing.

20. The Project has been designed to utilize (a) an IPF results-based disbursement model, with expenditures recognized both as eligible expenditures and reported through IFRs, and the confirmation of results achieved against DLI targets for both Components 1 and 2 of the Project.

IPF results-based disbursements for Components 1 and 2[11]

21. ***Advances and disbursements will be based on (i) IFRs, (ii) actual expenditures reported and, (iii) Independent Performance Audit Reports, including verification of DLIs (except for the initial advance) and/or Quarterly Progress Reports, and (iv) a rolling cash-flow forecast report for the following six months***. The use of quarterly IFRs will allow for advances to provide liquidity for Project implementation. Advances will be converted into eligible expenditures and charged to the relevant disbursement category/categories, on the basis of IFR reported expenditures and the achievement of results, as per quarterly progress reports. These quarterly progress reports to be prepared by FPU will detail the level of attainment of results and will be reviewed by the World Bank Task Team Leader who will then communicate to the Borrower the corresponding amounts to be disbursed.

22. ***The initial advance will be for an amount equivalent to six months of the Bank's share of eligible expenditures***. The expected flow of funds will provide liquidity for a period of six months. With quarterly IFR reporting on actual expenditures paid and quarterly progress reports against results/DLIs, conversions of advances into eligible expenditures will be done every quarter. Replenishments to the Designated Account will be done exclusively when advances are converted into eligible expenditures.

[11] The main characteristics of the IPF results-based disbursement mechanism are disbursements are made on the basis of (i) eligible expenditure reported through IFRs and (ii) compliance and achievement of the DLI as confirmed by the Bank's Task Team.

23. ***If the Bank agrees with the reported results implementation and use of funds, the previous advance will be accepted and converted into disbursements*** (accounting treatment for the World Bank). The IFR which is reporting on the use of the previous advance will also be the basis on which the Bank will agree to advance additional funds, accounting for any unused portion of the previous advance as well analyzing the realism of the forecasted activities and contracts. It has been agreed that DLIs will be utilized, on a quarterly basis and in addition to expenditures reported through IFRs, to determine the amount of eligible expenditures being documented, that is, converted from advances into disbursements, to be charged to the relevant disbursement category.

24. ***For the World Bank's share of eligible expenditures reported for a given quarter, the following procedures will apply.*** Upon the declaration of effectiveness, the initial advance to be made will be based on a cash-flow forecast; this advance will cover two quarters and will provide sufficient liquidity for the Project to begin a number of activities. The second advance will be based on IFRs' reported expenditures for Quarter 1, the level of achievement of DLIs based on progress reports and cash flow forecast of the Project for the subsequent two quarters. This routine will be kept for subsequent quarters/reporting periods. The schedule of disbursements and documents required for disbursement to take place is provided in Table 2.

Table 2. Schedule of Disbursements

Timing	Type of Disbursement	Period covered	IFR	Progress Reports/
Declaration of Effectiveness (July, 2016 tentative)	1st advance based on a cash-flow forecast	Q1+Q2	Not required	Not required
End of Q1 (45 days after the end of Q1)	2nd advance Replenishment to the DA based on Q1 IFRs reported Eligible Expenditures, Progress Reports vs DLIs , cash-flow forecast for Q2+Q3	Q2+Q3	IFR required	Quarterly Progress Report due with the IFR
End of Q2 (45 days after the end of Q2)	3nd advance based on cumulative Q2 IFRs reported Eligible Expenditures, Progress Reports vs DLIs , cash-flow forecast for Q3+Q4	Q3+Q4	IFR required	Quarterly Progress Report due with the IFR
Same pattern going forward				

a. Quarterly progress reports will attest the achievement of results against DLIs. The annual validation and verification of DLI achievement as part of the Independent Performance Audit will be carried out by the SAO, in accordance with Terms of Reference(see paragraphs 56-60 below) or, if requested by the Bank, by a Project Audit Consultant. This will be separate and distinct from the financial audit. The protocols for DLI measurement, verification and validation are presented below. Quarterly progress reports will be produced by FPU who will be responsible for daily supervision and monitoring of project activities and results. The Independent Performance Audit, including verification of DLIs, will be carried out annually

to verify results and achievements of DLIs and confirm performance as reported in progress reports used for triggering disbursements.

b. Some DLIs are non-scalable and straight-forward in terms of determination of achievement (yes/no). They are DLI 2.1, 2.2 and 2.3. Therefore if these DLIs have been determined to have been fully met (yes/no), then the full financial value of the prior advances related to the DLIs will be recognized as eligible expenditures and converted into disbursements, provided enough eligible expenditures have been reported for the reporting period. If these DLIs are not met in the originally envisioned time period, the Bank will not recognize the prior advances as eligible expenditures or convert them into amounts disbursed; these amounts will be carried forward as outstanding advances. Additionally, the Bank will reduce proportionally the amount of subsequent advances requested. Once the targets have been met, and information is provided that validates and verifies that these DLIs have been fully met, and there are enough cumulative eligible expenditures, the Bank will then proceed to recognize the full amount of expenditures as eligible and as disbursed and will grant the full amount of requested advances to resume.

c. The scalable DLIs, which allow flexibility of disbursement if the targets have been partially met, include DLI 1.1, 1.2, and 1.3. In the event that targets have not been fully met (i.e., downward scalability), the Bank will only proportionally[12] recognize and convert prior advances into eligible expenditure and disbursements. The amount of the prior advances that are not recognized and converted into disbursed amounts, equal to the unachieved DLI amount in the originally envisioned period, will carry forward as outstanding advance. Once the DLI has been met, RD can submit documentation (in the format of IFR as well as progress report) to convert the remaining portion of advances into eligible expenditures and disbursement. If no relevant document is provided to demonstrate that the DLIs are met, the respective loan amount of the unachieved DLIs in the envisioned time period may be cancelled in consultation with, or reallocated with the agreement of the MOF. The Bank may, in this respect, decide to reduce proportionally subsequent advances for the Project.

d. Regardless the level of performance against DLIs, the Bank will not recognize disbursements in excess of the amounts reported through IFRs.

Disbursement Linked Indicators

25. ***Disbursement Linked Indicators (DLIs) are proposed as a way to align the Project outcomes and reforms with Project expenditures***. The proposed DLIs will be applied against both Components 1 and 2.

a. The following Disbursement Rule will apply: the percentage of funds to be disbursed each period will be equal to the percentage of the annual DLI target achieved in the respective reporting period (quarter), up to a maximum of 100 percent. Disbursed amount will be derived from applying the sum of amounts corresponding to the share of DLI targets

[12] Proportionally means using the same percentage of achievement of the DLI relative to the baseline target.

achieved to actual eligible expenditures reported for the period. The DLIs and proportion of the loan amount linked to each of the respective DLI are indicative and not binding.

b. The detailed information about DLIs are given in the table below:

Table 3. DLI Targets and Indicative Loan Amounts Linked to DLI Targets

DLI	Unit of Measurement	**Year 1** From Effective Date to December 31, 2017	**Year 2** From January 1, to December 31, 2018	**Year 3** From January 1, to December 31, 2019	**Year 4** From January 1, to December 31, 2020	**Year 5** From January 1, to December 31, 2021	**Total**
		Target					
1.1. Project Roads rehabilitated and periodically maintained under OPRC	Share (%) of Project Roads rehabilitated or periodically maintained under OPRC	40%	60%	-	-		100%
	Loan amount, US$	**10,776,000**	**7,184,000**	**0.00**	**0.00**	**0.00**	**17,960,000**
1.2. Routine maintenance targets achieved under OPRC	Percentage of the aggregate OPRC amount paid for routine maintenance	On average at least 80%	On average at least 80%	On average at least 80%	On average at least 80%	On average at least 80%	
	Loan amount, US$	**448,200**	**448,200**	**448,200**	**448,200**	**199,200**	**1,992,000**
1.3. Targets of the Design-build Sub-program achieved	Length (Km) of roads rehabilitated under Design-build Sub-program	30	24	24	22	**0**	**100**
	Proportion of Loan amount, US$	**5,567,600**	**4,130,800**	**4,130,800**	**4,130,800**	**0.00**	**17,960,000**
2.1. Preparation of fully-costed Five-Year Rolling Program using the improved methodology	Preparation of fully-costed Five-Year Rolling Program	Update of a Five-Year Rolling Program and preparation of Yr2 plan	Update of a Five-Year Rolling Program and preparation of Yr3 plan	Update of a Five-Year Rolling Program and preparation of Yr4 plan	Update of a Five-Year Rolling Program and preparation of Yr5 plan	Update of a Five-Year Rolling Program and preparation of Yr6 plan	
	Proportion of Loan amount, US$ c	**79,800**	**79,800**	**79,800**	**79,800**	**79,800**	**399,000**

2.2. Integration of road safety in asset management	Scaling up of GeoRAP and improved [GeoRAP] star rating on Guria roads	-	Scaling up of GeoRAP to Mtskheta-Mtianeti	Scaling up of GeoRAP to Racha-Lechkhumi	Scaling up of GeoRAP to Shida Kartli	Better star rating on Guria secondary roads network	
	Proportion of Loan amount, US$	**0.00**	**99,750**	**99,750**	**99,750**	**99,750**	**399,000**
2.3. Introduction of climate resilience practices in RD's road asset management	Introduction of climate resilience practices in RD's road asset management	Completion of roads vulnerability assessment to climate change, mapping of climate risks and development of climate resilience measures in Racha	Implementation of priority climate resilient measures in Racha	Implementation of priority climate resilient measures in Racha	-	-	
	Proportion of Loan amount, US$	**416,500**	**416,500**	**357,000**	**0.00**	**0.00**	**1,190,000**
PROPORTION OF LOAN AMOUNTS FOR EACH DLI PER YEAR, US$		**17,288,100**	**12,359,050**	**5,115,550**	**4,758,550**	**378,750**	**39,900,000**

Summary of Protocols for Monitoring Achievement of DLIs

c. Table 4 summarizes the protocols to be used in determining DLI values.

Table 4. DLI Protocols

	DLI	DLI Criteria	Protocol to Evaluate Compliance of the DLI
1.1	**Project Roads rehabilitated and periodically maintained under OPRC**	The length of total periodic maintenance and rehabilitation should reach 100% by the end of the Project. That is the length of roads actually completed compared with the length of roads included in the Bidding Documents of OPRC (% of total km). Capped at 100%.	*Means of Verification*: RD will provide reports from the Monitoring Consultant summarizing progress of OPRC, supported by Interim Payment Certificates. *Procedures:* The Independent Performance Audit, including verification of DLIs, will annually confirm the percentage achievement that can be multiplied by the value of the DLI amount (as shown in Table 3 above). The overall value certified at the annual DLI will consider the value of the cumulative verification at the time of the Independent Performance Audit, less the cumulative value of the verification at the previous annual Independent Performance Audit or baseline value.
1.2	**Routine maintenance targets achieved under OPRC**	Under OPRC, Routine Maintenance, including summer and winter maintenance, is paid on a Lump Sum basis on a monthly basis. Under the terms of the Works contracts however, the Lump Sum amount may be reduced if the Maintenance Service Levels are not fully met. This DLI recognizes that even if 100% of the monthly routine maintenance payments are not made, that routine maintenance is still being performed. Hence, where an amount of 80% or more, on average of the annual Routine Maintenance Lump Sum contract	*Means of Verification*: RD will provide Reports from the Monitoring Consultant summarizing progress of OPRC, supported by Interim Payment Certificates. *Procedures:* The Independent Performance Audit, including verification of DLIs, will annually confirm the percentage achievement that can be multiplied by the value of the DLI Amount. The DLI measure is "Percentage of the contract amount of OPRC paid in each

	DLI	DLI Criteria	Protocol to Evaluate Compliance of the DLI
		amounts has been paid to the Contractors, over the preceding DLI period[13] than 100% of the DLI can be certified as achieved. If less than 80%, on average, of the annual contract Lump Sum amount is paid for routine maintenance to the OPRC Contractor, then only that share (%) of the DLI will be certified.	respective Year"; based on the target average at least 80%"
1.3	**Targets of the Design-build Sub-program achieved**	The total length of rehabilitation under the Design-Build Sub-Program (to be financed 80% from this Project and 20% from the State Budget outside the scope of this Project) should reach 100 km by the end of the Project. That is the length of roads actually completed compared with the length of roads included in the Design-Build Bidding Documents. Capped at 100% (100 km).	*Means of Verification*: RD will provide monthly progress reports from the Supervision Consultant summarizing progress across each of the Design-Build Contracts, supported by Interim Payment Certificates. *Procedures:* The Independent Performance Audit, including verification of DLIs, will annually confirm the percentage achievement that can be multiplied by the value of the DLI amount. The overall value certified at the annual DLI will consider the value of the cumulative verification at the time of the Independent Performance Audit, less the cumulative value of the verification at the previous annual Independent Performance Audit or baseline value.
2.1	**Preparation of fully-costed Five-Year Rolling Program using the improved methodology**	The target is for a multi-year, fully-costed rolling program for improvement and preservation of the secondary road assets to be updated annually and annual plan prepared for the next fiscal year, signifying that the improved methodology is applied and the use of RAMS with annually collected traffic and condition data and multi-criteria analysis is understood and being mainstreamed in the institution, and therefore becoming a sustainable function. This is a "Yes/No" DLI reviewed annually. At the time of each DLI audit, an assessment is made as to whether the full use of the improved	*Means of Verification:* RD will provide evidence of the update of a multi-year fully-costed investment and maintenance program and annual plan for the next fiscal year prepared based on the improved methodology (i.e., using RAMS with annually collected data and multi-criteria analysis). These activities are expected to be carried out annually by RD's Road Administration Division. *Procedures* The Independent Performance Audit, including verification of DLIs, will annually verify if the update of the multi-year rolling

[13] "DLI period" means the period of time since commencement, or since the previous annual DLI audit.

	DLI	DLI Criteria	Protocol to Evaluate Compliance of the DLI
		methodology (use of RAMS and multi-criteria analysis), as indicated by the update of the multi-year program and preparation of annual plans, has been achieved. If it has been achieved, then the DLI is certified. The aim is to achieve competent use of RAMS and the ability to competently perform investment and maintenance strategy analyses for the secondary roads using the system. These will be recognized with the production of a new multi-year fully-costed rolling programs for investment and maintenance and Year 1 annual plan by RD, by the end of the project, and for this to be certified by the final DLI audit.	program has been done and an annual plan for the next fiscal year has been prepared in accordance with the improved methodology that will be suggested under the ongoing SLRP-III. When the achievement of this DLI (activities delivered) is verified, then 1/5 of the amount of the DLI can be certified, for each update of the multi-year program and annual plan prepared.
2.2	**Integration of road safety in asset management**	The target is for the newly developed GeoRAP to be scaled up to the other three project regions and Star Rating to improve in Guria region. This is a "Yes/No" DLI, with GeoRAP surveys done in the three project regions in YR2, 3 and 4, and GeoRAP assessment of Star Ratings is followed up in Guria in YR 5. The aim of the follow-up survey in Guria region is to demonstrate that Star rating has improved in YR5 compared to the baseline survey (under financial support of SLRP-III). The aim of this DLI is to achieve RD's competent use of GeoRAP in road safety management and scale-up of GeoRAP to other regions, and for this to be certified at the final DLI audit.	*Means of Verification.* RD will provide evidence of the results of GeoRAP surveys done in Mtskheta-Mtianeti, Racha-Lechkumi and Shida Kartli in YR2, 3 and 4, and follow-up GeoRAP/iRAP survey done in Guria region (where the baseline iRAP survey is to be done under SLRP-III prior to the launch of this project). The GeoRAP surveys will be managed by RD's Road Safety Unit. *Procedures:* The Independent Performance Audit, including verification of DLIs, will annually verify that (i) the baseline survey for the other three project regions has been done within the required time period, and (ii) improvement to iRAP Star Rating has been recorded in Guria in YR 5. When this is verified, a quarter of the amount of the DLI can be certified.
2.3.	**Introduction of climate resilience practices in RD's road asset management**	The target is to introduce climate practices in RD's overall road asset management over the Project implementation period. This is a "Yes/No" DLI, with assessment and mapping of vulnerability of Racha's road network to climate change and development of climate resilience measures done in YR 2, implementation of priority climate resilience measures in YR3 and 4. The aim is to achieve full integration of	*Means of Verification:* RD will provide (i) evidence of the results of assessment of vulnerability of Racha's road network to climate change, mapping of vulnerable road sections, and development of climate resilience measures, and (ii) monthly progress reports from the Supervision Consultant (or RD) summarizing progress of implementation of those measures on vulnerable road sections in Racha in YR3 and 4, supported by Interim Payment Certificates.

	DLI	DLI Criteria	Protocol to Evaluate Compliance of the DLI
		climate resilience practices into RD's asset management by the end of the project.	*Procedures:* The Independent Performance Audit, including verification of DLIs, will annually verify if the above described results have been produced within the required timeline. If yes, 35% of the amount of DLI will be certified in YR 2 and YR3, and 30% in YR4.

26. The detailed description of verification protocols for each DLI is provided in the draft Project Operations Manual which is to be finalized by the Project effectiveness.

Procurement

27. *Country and sector level risks.* The latest country level risk assessment for public procurement was carried out during the preparation of the Country Procurement Assessment Report (CPAR) in 2009. It was conducted on the basis of the OECD-DAC/World Bank four pillars for public procurement. The conclusion was that all four Pillars needed improvements in order for the system to meet the international standards and best practices. A three year action plan was prepared and Georgia is making slow progress towards fulfilling the proposed actions. One important completed step was the introduction and implementation of an electronic procurement system of Georgia for all government contracts. The Bank's team has recently completed assessment of Georgian E Government-Procurement (Ge-GP) system and is currently used under the Bank's projects. The assessment identified those improvements and modifications required to the e-procurement system to meet the multilateral development banks' requirements for procurement of civil works and goods. The SPA undertook these modifications and currently the Ge-GP is used under the Bank's projects using National Competitive Bidding method with estimated contract price below US$10 million equivalent for civil works and US$1 million equivalent for goods, and also for procurement of simple goods and simple works following shopping procedures can be used in when the estimated contract price is below US$100,000 and US$ 200,000 equivalent respectively. Therefore any contract with estimated contract price and method indicated above will be procured through Georgian E Government-Procurement (Ge-GP) system.

28. *Implementation arrangements.* RD through FPU will be responsible for all procurement functions under the project. The Bank team concluded that the core FPU staff has adequate experience to conduct procurement activities. The current FPU staff and two Procurement Consultants of FPU are familiar with Bank procurement guidelines and procedures as they have been involved in similar - completed SLRP, KRRIP, and ongoing SLRP-II and SLRP-III. FPU and its procurement consultants have gained substantial knowledge and experience during the implementation of the above projects. One of the FPU's procurement consultants and Deputy Head of FPU attended ILO's procurement trainings. FPU has hired a new procurement staff member (Head of Procurement Sub-Unit), procurement consultant and procurement assistant, whose capacity will have to be strengthened and specifically in performance-based contracting.

29. *Procurement Capacity Assessment*. The latest procurement capacity assessment of FPU under RD was undertaken in January 2016 and outcomes reflected in paragraphs 29-30 below. PRAMS was prepared and reflects current implementing agency risk rating and mitigation measures. RD and MRDI have gone through a leadership change. A new Minister was appointed in April 2015, the first Deputy-Chairman is currently the acting Chairman until the official position of Chairman is filled.

30. Implementing Agency Risk Rating is rated as "Substantial" because the newly hired procurement consultant and procurement assistant need further capacity building in World Bank's Procurement Procedures, and contract management of OPRC and design-build contracts. Funds have been allocated in ongoing Fourth East West Highway Improvement Project to cover costs of training and sustainable capacity building for FPU staff. The recent perceived conflict of interest situation between RD staff and one of the consulting companies has been resolved to the

Bank's satisfaction. However, RD shall continue exercising its due diligence in all future tenders to avoid impediments in project implementation.

31. Considerable risks still remain and mitigation measures proposed are as follows :
(i) Appointment of RD Chairman;
(ii) Improvement in oversight of procurement transactions. The organizational system of FPU shall be improved to better monitor each transaction under the project. An experienced procurement specialist shall be assigned to exercise overall management and review of procurement related transactions to minimize the time required for the Bank's review and risk associated with compromised quality in procurement;
(iii)Further and continuous capacity building of relevant staff; and
(iv)Enhance contract management capacity. RD needs to pay particular attention to more effective contract management.

32. *Procurement*. Procurement for the project will be carried out according to the World Bank's "Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants, January 2011, Revised July 2014" the "Guidelines: Selection and Employment of Consultants under IBRD Loans & IDA Credits & Grants by World Bank Borrowers, January 2011, revised July 2014 and the provisions stipulated in the Loan Agreement.

33. The Bank's anti-corruption norms ("Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants") of October 15, 2006 revised January 2011 will be applied.

34. *Procurement Plan and Arrangements*. RD has developed a procurement plan, which was reviewed and approved by the Bank on February 9, 2016.

35. *Documents.* RD will maintain complete records for each activity, which will include all procurement documents for each contract, including bidding documents, RFPs, advertisements, bids received, bid evaluations, no objections, letters of acceptance, contract agreements, bid securities, advance payment guarantees, performance securities, photocopies of invoices and payments, and related correspondence. Contract award information will be promptly recorded and contract rosters maintained.

36. *Procurement of goods and non-consulting services*. Goods and non-consulting services estimated to cost US$1 million equivalent and more will be procured through ICB. Goods, and non-consulting services estimated to cost less than US$1 million may be procured through NCB, and less than US$100,000 through shopping. (NCB and SH using Georgian E-Government Procurement System)

37. *Procurement of works*. Works contracts estimated to cost more than US$10 million equivalent will be procured through ICB. Those estimated to cost US$10 million or less may be procured though NCB, and less than US$200,000 through shopping. (NCB and SH using Georgian E-Government Procurement System)

38. *Selection of consultants*. Consulting services will be procured according to the Bank's Consultant Guidelines mentioned above the Bank's Standard RFP (revised in October 2011) will be used to select all consulting firms. Consultant selection methods will include Quality and Cost-Based Selections (QCBS), Quality-based Selection (QBS), Selection under a Fixed Budget (FBS), Selection Based on Consultants' Qualifications (CQS), Least-Cost Selection (LCS), Single-Source Selection (SSS) and Selection of Individual Consultants (IC). The latter will be selected according to Section V of the Consultant Guidelines. This method will require comparing at least three qualified and available candidates.

39. *Short lists composed entirely of national consultants*. Short lists of consultants for services estimated to cost less than US$300,000 equivalent per contract may be composed entirely of national consultants, according to the provisions of paragraph 2.7 of the Consultant Guidelines.

Prior Review Threshold For goods and works and services other than consulting services:

Expenditure Category	**Method**	**Prior Review Thresholds**
1. Goods	ICB	All contracts
-"-	NCB	As agreed in PP
-"-	SH	As agreed in PP
-"-	DC	As agreed in PP and justified per Procurement Guidelines para 3.7 (a)-(f)
2. Works	ICB	All contracts
-"-	NCB	As agreed in PP
-"-	SH	As agreed in PP
-"-	DC	As agreed in PP

For consulting services:

Expenditure Category	**Method**	**Procurement Method Thresholds**	**Prior Review Thresholds**
3. Cons. Services firms	QCBS		As agreed in PP
	FBS		As agreed in PP
	QBS		As agreed in PP
	LCS		As agreed in PP
	CQS	≤ $300 K	As agreed in PP
	SSS		As agreed in PP
4. Cons. Services individuals	IC		As agreed in PP
	SSS		As agreed in PP and justified per Consultants Guidelines para 3.9 (a)-(d)

40. Incremental Operating Costs, or operation costs is a reasonable and necessary incremental expenses towards recurrent expenditure, incurred by the Recipient with respect to Project implementation, management and monitoring, including the costs of staff salaries (excluding salaries of the Recipient's civil service staff), communication, editing, printing and

publication, translation, vehicle operation and maintenance, bank charges, local travel costs and field trip expenses, office rentals, utilities, equipment and supplies.

41. *Project Operational Manual*: RD shall prepare the Project Operations Manual which shall be provided for the Bank's review by Project effectiveness.

42. To ensure economy, efficiency, transparency and broad consistency with the Guidelines, the national competitive bidding (NCB) shall comply with the procedures recommended in the April 2009 Country Procurement Assessment Report for Georgia (CPAR) as listed below:

(i) "Open competitive procedures" (i.e. "public tender"") shall be the default rule. A single envelope procedure shall be used for the submission of goods, works, or **non-consulting services.**

(ii) Invitations to bid shall be advertised in at least one widely circulated national daily newspaper allowing a minimum of thirty (30) days for the preparation and submission of bids. Advertisements published in foreign language newspapers shall be in compliance with such a 30-day-minimum in number of days for bids preparation and submission.

(iii) Bidding shall not be restricted to pre-registered firms. If registration is required, it shall not be denied to eligible bidders for reasons unrelated to their capacity and resources to successfully perform the contract (e.g., mandatory membership in professional organizations, classification, etc.). Post-qualification shall be conducted to verify that the bidder has the capability and resources to successfully perform the contract.

(iv) Government-owned enterprises in Georgia shall be eligible to participate in bidding only if they can establish that they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the Government. Government-owned enterprises will be subject to the same bid and performance security requirements as other bidders.

(v) Procuring entities shall use the appropriate Bank's sample bidding documents, including pre-qualification documents, for the procurement of goods, works, or technical services (other than consultants' services), and such documents shall contain draft contract and conditions of contract including clauses on fraud and corruption, audit and publication of award, all acceptable to the Bank.

(vi) Bids shall be opened in public, immediately after the deadline for submission of bids. Bidder's representatives shall be permitted to attend the bid opening.

(vii) Extension of bid validity shall be allowed once only for not more than thirty (30) days. No further extensions should be requested without the prior approval of the Bank.

(viii) Evaluation of bids shall be based on quantifiable criteria expressed in monetary terms as defined in the bidding documents, no merit point system and no domestic preference shall be used in the evaluation of bids. Contracts shall be awarded to qualified bidders having submitted the lowest evaluated substantially responsive bid and no negotiations shall be carried out prior to contract award.

(ix) Civil works contracts of long duration (i.e., more than eighteen (18) months) shall contain an appropriate price adjustment clause.

(x) No bid shall be rejected purely on the basis that the bid price is higher than the estimated budget for that procurement. All bids shall not be rejected and new bids solicited without the Bank's prior concurrence.

43. **Summary of the Procurement Packages planned during the first 18 months will be provided once procurement plan is developed.**

1	2	3	4	5	6	7
Ref. No.	**Description**	**Estimated Cost US$ million**	**Packages**	**Domestic Preference (yes/no)**	**Review by Bank (Prior / Post)**	**Comments**
	Summary of the ICB (Works)	19.7	1	no	prior	
	Summary of the ICB (Goods)	n/a	n/a	n/a	n/a	
	Summary of the NCB (Works)	23.4	5	No	Post	(first package prior review)
	Summary of SH Works	n/a	n/a	n/a	n/a	
	Summary of the NCB (Goods)	n/a	n/a	n/a	n/a	
	Shopping Goods	n/a	n/a	n/a	n/a	
	Summary of the ICB (Non-Consultant Services)	n/a	n/a	n/a	n/a	

1	2	3	4	5	6
Ref. No.	**Description of Assignment**	**Estimated Cost** US$ million	**Packages**	**Review by Bank (Prior / Post)**	**Comments**
	Summary of number of contracts that will be let under QCBS	4	2	prior	
	Summary of number of contracts	0.5	5	post	

	that will be let under other methods				

Environmental and Social (including safeguards)

44. *Environmental Impact.* SRAMP will finance the rehabilitation, improvement and maintenance of several road sections. There are low risk activities to be undertaken on the existing roads in the current right-of-way, without tangible widening or re-routing of the carriageways. OP/BP 4.01 Environmental Assessment is triggered and the Project is classified as environmental Category B.

45. Works to be undertaken in various locations will be similar in terms of applied technologies and scope. No all investments are identified before the project launch, but their potential environmental and social risks, and measures required for mitigation of these risks are also mostly common for the target sections of roads and are well known upfront. Furthermore, SRAMP investments will be part of the Government's larger Five-Year Rolling Program for Improvement and Preservation of Secondary Road Assets for the period of 2016-2020. Hence preparation of SRAMP included development of an Environmental and Social Management Framework (ESMF) for secondary roads asset management, which will be used for the purposes of implementing the Five-Year Plan, including activities to be financed by SRAMP. The document was disclosed and the RD held a public consultation meeting to discuss draft ESMF with relevant stakeholders. The final ESMF was re-disclosed in the country on August 12, 2015 and posted in Bank's InfoShop on August 13, 2015.

46. The majority of roads aimed for inclusion into the SRAMP work program pass through significantly transformed landscapes, away from important habitats and biodiversity hotspots. Potential environmental issues associated with rehabilitation of these roads are expected to be minor and typical for small-scale rehabilitation works on roads, mainly comprising: construction waste management, sourcing of natural construction materials (soil/gravel/sand), running of small asphalt/concrete plants, and maintaining/servicing construction machinery. Feasibilities studies are yet to confirm if any roads proposed for Project financing pass through or lie in the immediate proximity to the natural habitats. OP/BP 4.04 Natural Habitats is triggered as a precautionary measure to be applied in case natural habitats fall in the area of influence of individual investments supported by the Project. Feasibility studies will indicate a need for applying OP/BP 4.04 and provide guidance on habitat analyses to be undertaken as part of site-specific environmental assessment.

47. Based on the guiding principles outlined in the ESMF, site-specific Environmental and Social Impact Assessments (ESIAs) will be carried out for higher risk sub-projects and Environmental Management Plans (EMPs) will be prepared for other investments. Site-specific environmental documents will be disclosed and discussed with stakeholders, including local communities directly affected by the project. If planned works include re-routing of considerable sections of roads, are to be implemented in highly sensitive natural/social environment or carry other significant risks, then an ESIA will be performed resulting in the ESIA report including EMP. For lower risk activities, self-standing EMPs will surface. They may be developed using

EMP Checklist for Small-Scale Road Construction or Rehabilitation. EMPs will be subject to clearance by RD and the Bank and mandatory for compliance by contractors.

48. *Social Impact.* Based on the results achieved under SLRP (closed in 2012), ongoing SLRP-II and SLRP-III which also finance the rehabilitation and improvement of secondary roads in addition to local roads, SRAMP is expected to have a positive impact on poverty alleviation as improved transport service will benefit poor rural people through improving access to markets, employment and social services and enabling users to travel more safely. Additional benefits are expected to include increased tourist visits to cultural and natural heritage sites located along the roads to be upgraded. The Project will address the transport needs of low-income road users residing in the poorest and remote villages in the lagging regions known for their low accessibility and poverty rates higher than the national average. The improved accessibility could contribute to reducing the country's regional disparities as better connectivity in the lagging regions endowed with high agriculture potential could significantly increase the profitability of agricultural activities and benefit farmers directly through an improvement and expansion of their access to markets.

49. The Project triggers OP/BP 4.12 Involuntary Resettlement but largely as a precautionary measure. The potential social impact that road works may entail in terms of land acquisition and resettlement is considered to be acceptably low to moderate as the project will not finance new road construction and the civil works will be performed within the existing right-of-way. However, minor land acquisition may take place to provide adequate sidewalks and drainage for rehabilitation works along road sections to be financed under SRAMP. No physical displacement of occupants or restriction of access to resources or income streams is expected.

50. As a guiding instrument, a Resettlement Policy Framework (RPF) was prepared for the Government's Five-Year Rolling Program for Improvement and Preservation of Secondary Road Assets for 2016-2020. The RPF takes into account lessons learned during the implementation of World Bank-funded SLRP, SLRP-II and III. Public consultations will be held for the preparation and development of a site-specific Resettlement Action Plan (RAP), if screening confirms such a need, in order to: (i) limit the adverse impact on affected households; (ii) confirm appropriate compensation entitlements; and (iii) identify vulnerable persons. RAPs, if needed, will be developed in parallel with the preparation of the conceptual design and feasibility studies for the road sections to be supported under the design-build sub-program. Implementation of RAPs will be linked with corresponding civil works procurement milestones to ensure that compensation and assistance is delivered to project affected people prior to taking over of their land and other assets lost to the project activities.

51. *Gender Dimension.* During project consultations special attention will be paid to the gender aspect of the project to enable broad participation of both women and men. Project beneficiaries will be encouraged to express freely their needs, constraints and preferences in regard to the planned rehabilitation, improvement and construction road works to be undertaken in their respective locations. Participation of female beneficiaries is especially encouraged in order to fully take into account their needs and preferences and therefore avoid any negative gender impacts. Based on the meetings and consultations held with the affected people, the findings and resulting mitigation measures will be incorporated in the resettlement plan, whenever needed. However, it is likely that no gender-related constraints are expected under the

project activities, as these will rather generate positive impact and benefits for both women and men with their livelihood improved. The improvement of the roads is expected to reduce travel time, enable road users to travel more safely, enhance their access to health service and schools, enable easier access to markets, and improve general connectivity.

52. Additionally, the planned road safety activities and education campaigns will include consideration of gender issues (identifying differential impact of road safety interventions on men and women, children and the elderly). It is expected that the road safety awareness and education campaigns would be designed to target specific needs of male and female beneficiaries in different ways.

53. RD is responsible for safeguards compliance under SRAMP. The safeguard policies will be applied by RD's Resettlement and Environment Division with well-defined duties and responsibilities allocated to adequately skilled staff members. Quality of environmental supervision of works will have particular importance under SRAMP as compared to series of SLRPs as the release of payments under OPRCs contracts will depend, inter alia, on the environmental performance of contractors. Also, because SRAMP's objectives include improvement of secondary roads asset management at the national level and because the Project is to assist GOG with the implementation of its Five-Year Plan for Investment and Maintenance of the Secondary Roads Network, this operation calls for focusing on RD's general institutional capacity for environmental management rather than limiting effort to the quality of environmental monitoring of the Project-financed civil works only. Therefore SRAMP will provide targeted technical assistance for on-the-job mentoring of RD's safeguards staff and will help to further optimize institutional set-up for the Resettlement and Environment Division as need be.

54. Safeguards performance under the ongoing SLRP-II and SLRP-III is satisfactory. RD uses services of the technical supervision company to for day-to-day management of works, including monitoring of EMPs' implementation. The quality of supervisor's reporting on environmental performance of works contractors has been a persisting issue common for all SLRPs. Typical shortfalls in environmental compliance under SLRPs identified through project implementation support by the Bank were related to on-site management of construction waste and safety signage on roads under rehabilitation. No tangible damage to the natural environmental has been recorded over the years of Bank-assisted works on secondary and local roads. With a single case of a small-scale land take under the first SLRP which had been undertaken with full consent of the affected people and compensated to their satisfaction, but did not get documented and reported on time, there were no resettlement issues under any of SLRPs and social performance remained satisfactory throughout SLRP series.

Monitoring & Evaluation

55. *Monitoring of Project Results.* Progress towards the achievement of the PDO, delivery of results and overall project implementation progress will be monitored through using the Results Framework. The Results Framework comprises outcome indicators, intermediate indicators and DLIs for the Project. FPU is responsible for the collection of the data required for monitoring and evaluation of project results. Indicators will be measured against the agreed DLI targets and

will be compared to the DLI baselines defined either at appraisal or prior to the start of the relevant project activity. Quarterly progress reports will report progress on the implementation of all project activities, including civil works contracts and institutional strengthening activities, ESMF, RPF and RAPs, if the latter is needed, and monitoring indicators and DLIs. These progress reports will be prepared by FPU's Monitoring Sub-unit on a quarterly basis and reviewed and approved by RD's Deputy Chairman prior to the submission to the World Bank Task Team. The monitoring consultant for OPRC and supervision consultant for design-build contracts will prepare monthly progress reports on progress and quality of civil works contracts and implementation of the requirements set in the Environmental Management Plans. The reports of the OPRC monitoring and design-build supervision consultants will be submitted to FPU's Project Management Consultant for review and will inform the preparation of the quarterly progress reports.

56. *Independent Performance Audit of the Project.* An annual Independent Performance Audit of the Project, including verification of results/DLIs delivered in the previous fiscal year, will be performed in February of each calendar year. The first Independent Performance Audit, including verification of DLIs, will be carried out in February 2018 and will cover the period starting from the Effective date up to December 31, 2017.

57. Independent Performance Audits will be performed annually by the SAOG or, if requested by an Independent Project Auditor (Consultant) and will be funded under the State Budget. SAOG is the supreme audit institution whose objectives are to promote efficient and effective public spending, protect national wealth, property of state of autonomous republics and local (municipal) entities; and improve management of public finances. SAOG is *independent in its activities and independent in terms of its institutional subordination, funding, operation and organizational setting.* SAOG reports to the Parliament. The status, mandate and procedures are guaranteed by the "Law of Georgia on State Audit Office", which became effective in 2009[14].

58. In 2011 SAOG, with the support of Swedish National Audit Office (SNAO) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), developed and approved Performance Audit Manual, which is based on international standards of Public Audit (ISSAIs 3000 - 3100). Performance Audit is one of the modern types of public sector audit, which is an essential tool for assessing public management economy, efficiency and effectiveness. Performance Audit is focused on assessing whether the value for money was achieved. Performance Audit contributes to improving public budgeting, promoting a better reporting system and modernizing public management while enhancing efficiency in resource use and effectiveness in service delivery. SAOG staff was trained and pilot performance audits were conducted. At the same time significant amendments to the Law on SAOG ensured that all the fundamental principles of Supreme Audit Institutions (SAI) independence stipulated by the Mexico Declaration on SAI Independence (ISSAI 10) of the International Organization of Supreme Audit Institutions (INTOSAI) were fully reflected into the legislative framework which underpins the SAOG work[15]. SAOG uses various qualitative and quantitative methods for

[14] Source: The State Audit Office of Georgia. http://www.sao.ge/en

[15] Source: INTOSAI: International Organization of Supreme Audit Institutions. http://www.intosai.org/issai-executive-summaries/view/article/issai-10-the-mexico-declaration-on-sai-independence-eger.html

conducting performance audit, such as: (i) financial analysis; (ii) document check; (iii) interviews with focus groups; (iv) review of best practices and literature associated to the subject studied; (v) research and surveys; and (vi) benchmarking with comparable organizations and countries.

59. The main objective of Independent Performance Audits will be to review and assess the use of the systems (e.g., World Bank or country's policies, guidelines, frameworks or practices depending on the relevant project activities) in the project, verify the reported eligible expenditures and the delivery of results/DLIs reported by RD through FPU. The World Bank Task Team will take these Independent Performance Audit reports into consideration when reviewing the IFRs and approving the conversion of advances into eligible expenditures.

60. Specifically, the annual Independent Performance Audits will focus on:

(i) Verification of eligible expenditures under the Project

The objective of this task will be to confirm that expenditures under this Project are eligible for reimbursement and have been incurred in compliance with systems and practices agreed between RD and the Bank. The Task will cover:

(a) Audit of planning, preparation and implementation of project activities;
(b) Audit of procurement process;
(c) Audit of contract management practices applied by RD in the Project;
(d) Audit of social safeguards implementation;
(e) Audit of environmental safeguards implementation; and
(f) Audit of project management, monitoring and reporting.

(ii) Verification of progress in project activities

The objective of this task is to verify RD's progress in the delivery of project activities compliance of civil works contracts with the levels of service as defined in the OPRC and design-build performance-based contracts. Namely, the task will cover:

(a) Review of detailed designs (including verification that recommendations of road safety and climate resilience audits have been integrated in the designs) of OPRC, design-build contracts and civil works contracts for implementation of climate resilience measures;
(b) Review of works executed in accordance with the designs and bidding documents;
(c) Review of road safety and climate resilience improvements under OPRC and design-build contracts;
(d) Review of RD's multi-year programming and annual planning by using the improved methodology suggested under a technical assistance of SLRP-III, including the use of RAMS with annually collected data and multi-criteria analysis;
(e) Review of RD's progress in scaling up GeoRAP to the three project regions and implementation of the follow-up iRAP/GeoRAP survey in Guria to record improved iRAP Star Rating; and

(f) Review of the technical assistance aimed at the assessment of vulnerability of Racha's road network to climate change events, mapping of vulnerable road sections, development of proper measures, and implementation of priority measures through civil works contracts.

(iii) Verification of project results, including DLIs

The Performance Audit of the Project will determine the extent to which the DLIs have been met and make an assessment of the loan amount to be formally converted into disbursement. This task will cover:

(a) Review the performance of RD, including its Units supporting the implementation of the respective functions or project activities, and TRRC, in the achievement of the disbursement as per agreed targets;
(b) Review of constraints, if any, faced by RD, including its supporting Units and TRRC, in the achievement of DLIs;
(c) Based on the review findings, development of action plans to address any constraints and timely achieve the DLI targets; and
(d) Assessment of the disbursement amount in light of progress in meeting the DLI targets.

Annex 4: Implementation Support Plan

GEORGIA: SECONDARY ROAD ASSET MANAGEMENT PROJECT

Strategy and Approach for Implementation Support

1. The implementation support strategy is informed by lessons learned from the implementation of the completed SLRP-I, KRRIP, and ongoing SLRP-II and SLRP-III, the risks defined in the SORT and pre-identified mitigation measures, and is tailored to the specific needs of the project. The main objective of the implementation support strategy is to ensure quality of works, timely award of contracts, timely review and decision-making on consultants' reports by RD, and adherence to the implementation schedule.

2. Supervision will also focus on monitoring compliance with the World Bank fiduciary, environmental and social safeguards requirements. Emphasis will be placed on upstream reporting, auditing, accountability, independent project audit to confirm the project's compliance with the Bank-approved country's systems (e.g., Georgia's eProcurement, FM system, RPF and ESMF developed for the Five-year rolling Plan) and verify the delivered results and eligible expenditures, as well as technical compliance measures to ensure early detection and remedy of problems.

3. Project implementation support will also put a specific emphasis on timely implementation of capacity building and strengthening activities in RD's Planning Unit and Road Safety Unit. In particular, the team will support RD in improving its management practices to carry out multi-year programming and annual planning, encouraging the integration of road safety assessment through the use of GeoRAP assessment system and climate resilience practices into road asset management, enhancing RAMS with additional features (e.g., development of a bridge and tunnel management sub-system and annual data collection and maintenance) to inform the planning and decision-making process.

4. RD will prepare and submit to the Bank a detailed consolidated project implementation progress report on a quarterly basis, while TRRC will also prepare IFRs on a quarterly basis. It will provide the status of the project activities and identify all implementation issues facing the project. These reports combined with site visits will be used as the basis for undertaking substantive reviews of implementation progress and reaching agreement with the client on: (i) the outcome of the reviews, (ii) decisions on consultants' studies and planning capacity building and strengthening activities for RD under the project, (iii) the resolution of implementation issues facing the project, (iv) the impact on disbursement and the potential need to revise the implementation schedule and financing plan.

Implementation Support Plan (2016 – 2020)

5. The Bank's project team will provide timely and effective implementation support through combination of daily supervision and semiannual implementation support missions. Key members of the Bank's team, including a road engineer, a transport, procurement, financial management, environmental and social development specialists, are based in the region and the

country office (CO) in Georgia. This will enable the task team to provide more effective supervision and daily implementation support to RD. In addition, it will allow early detection and remedy of any issues that arise during implementation.

6. Specific approach to various project activities will be as follows:

- **Project Management**: The TTL of the project will conduct the quarterly supervision of the project, liaise with the client on a regular basis, and will coordinate with project team members based in the region and HQ to ensure timely guidance and support to the client. Under TTL's leadership, the task team will review quarterly IFRs and confirm eligible expenditures, and will review audits reports on project performance and delivery of results to verify the delivery of DLI targets and approve conversion of advances into disbursements for the DLI-based components.

- **Capacity Building and Strengthening, including Road Safety and Climate Resilience Technical Assistance.** Transport specialists specializing in various areas (e.g., road safety, multi-year programming and annual planning, RAMS enhancement, assessment of road network's vulnerability to climate change, mapping of vulnerability and development of climate resilience measures, performance-based contract, and design-build contract) will be engaged to provide support to RD in the timely and quality implementation of the respective activities.

- **Engineering**. The road engineer will provide support to RD in the review of designs, supervision and management of civil works contracts. The engineer jointly with RD staff will conduct regular site visits and review of documentation to ensure adequate quality of the rehabilitation works.

- **Financial Management:** The financial management specialist will conduct risk-based financial management implementation support and supervision mission within a year from the project effectiveness, and then at appropriate intervals. In addition, she will review quarterly IFRs and annual project audit reports. As required, a Bank-accredited Financial Management Specialist will assist in the implementation support and supervision process.

- **Procurement:** The procurement related implementation support will include: (a) timely advice on various procurement and contract management related issues – specifically related to the preparation and implementation of all OPRC and DB contracts, (b) guidance on the Bank's Procurement Rules and Guidelines; (c) review of procurement documents subject to prior and post review; and (d) monitoring of procurement progress against the procurement plan.

- **Environmental and Social Safeguards**: The Bank's environmental and social safeguards specialists will provide regular support in further strengthening the safeguards management capacity of the RD's Resettlement and Environment Division. In addition, the Bank's environment safeguards specialist will closely monitor implementation of the agreed site specific EMPs, will conduct site field visits on annual basis to monitor the implementation of safeguards policies and provide guidance to RD's environment safeguards team to address the issues that may arise. The social specialist will be engaged on as needed basis, if involuntary resettlement or land acquisition issues arise.

Period	Activity	Skills Needed	Resource Estimate in SWs
First 12 months	Project management	Task Team Leader	8
	Support with implementation of institutional capacity building, including multi-year programming and annual planning, enhancement of RAMS, climate resilience standards, and other institutional activities	Transport Specialist	5
	Support with implementation of road safety technical assistance	Road Safety Specialist	1
	Support with preparation and implementation of OPRC/design-build contracts	Transport Specialist (specializing in OPRC/DB)	2
	Project implementation guidance and sector dialogue advice	Program Task Leader	4
	Technical review of detailed designs	Road Engineer	4
	Procurement review of the bidding documents	Procurement Specialist	4
	Financial management and disbursements	Financial Management Specialist	2
	Environmental supervision	Environmental Specialist	2
	Support with social safeguard compliance	Social Development Specialist	1
12-60 months	Project management	Task Team Leader	32
	Support with implementation of institutional capacity building, including multi-year programming and annual planning, enhancement of RAMS, climate resilience standards, and other institutional activities	Transport Specialist	16
	Support with implementation of road safety technical assistance	Road Safety Specialist	4
	Support with preparation and implementation of OPRC/design-build contracts	Transport Specialist	6
	Project implementation and sector policy guidance	Program Task Leader/Lead Transport Specialist	4
	Design supervision review and civil works implementation supervision	Road Engineer	5
	Environmental supervision	Environmental Specialist	7
	Social supervision	Social Development Specialist	2
	Financial management and disbursements	Financial management Specialist	7
	Procurement review of bidding documents	Procurement specialist	10

	and processes		

Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leader (TTL)	40	Field trips as required	HQ or CO based
Transport specialist (Capacity building and project implementation)	21	Four	HQ based
Road Safety Specialist	5	One	HQ based
Transport Specialist (OPRC/DB)	8	Two	CO based
Road Engineer	9	Three	Region-based
Environmental Specialist	9	Four	CO based
Social Specialist	3	Two	CO based
Procurement Specialist	14	Field trips as required	CO based
Financial Management Specialist	9	Field trips as required	CO based

Annex 5: Economic Analysis

GEORGIA: SECONDARY ROAD ASSET MANAGEMENT PROJECT

1. The project will finance the improvement and maintenance of Secondary Roads in Guria through OPRC and the rehabilitation and improvement of Secondary Roads Assets through Design-Build Contracts. The project road works will: (i) improve the ride quality of the project roads; (ii) reduce surface distress of pavements; and (iii) increase the strength of pavements, which will in turn reduce vehicle operating costs, travel times, and future maintenance requirements on the project roads. The economic evaluation of the road works was estimated using the Highway Development and Management Model (HDM-4), which computes, over an evaluation period, the road deterioration of the project roads under different project-alternatives and the corresponding annual road agency costs, road user costs (vehicle operating, travel time, road safety and CO2 emissions costs) and total transport costs to evaluate the project-alternatives in terms of net present value of benefits (NPV), at a giving discount rate, compared to the without project-alternative.

Main Assumptions

2. The economic evaluation was carried out based on current vehicle fleet economic unit costs and basic characteristics (Table 5). The working time cost per bus passenger was assumed to be US$2.55 per hour, based on the 2015 average monthly income per capita of Georgia.[16] The cost of non-working time was assumed to be 30 percent of the working time cost. The cars passenger's time costs were assumed to be one and a half the bus passenger costs. On average, the percent of cars is 82 percent of the vehicle fleet.

Table 5. Vehicle Fleet Basic Characteristics and Economic Unit Costs

	Car	Minibus	Truck	Trailer
Economic Unit Costs				
New Vehicle Cost (US$/vehicle)	20,454	22,727	38,636	100,000
New Tire Cost (US$/tire)	55	91	273	364
Fuel Cost (US$/liter)	0.75	0.75	0.75	0.75
Lubricant Cost (US$/liter)	6.18	6.18	6.18	6.18
Maintenance Labor Cost (US$/hour)	0.72	1.64	2.10	3.00
Crew Cost (US$/hour)	0.00	2.55	2.55	2.55
Overhead (US$/year)	640	640	1060	1280
Interest Rate (%)	12	12	12	12
Passenger Working Time (US$/hour)	3.83	2.55	0.00	0.00
Passenger Non-Working Time (US$/hour)	1.13	0.75	0.00	0.00
Cargo Time (US$/hour)	0.00	0.00	2.68	4.02
Basic Characteristics				
Kilometers Driven per Year (km)	23,000	40,000	80,000	120,000
Hours Driven per Year (hr)	550	750	1200	2050
Service Life (years)	10	8	12	14

[16] The average monthly income per capita in Georgia increased from GEL 92.3 per month in 2005 to GEL 246.6 in 2013 as reported by the National Statistics Office of Georgia.

Percent Private Use (%)	100	0	0	0
Number of Passengers (#)	3.00	25.00	0.00	0.00
Work Related Passenger-Trips (%)	75	75	100	100
Gross Vehicle Weight (tons)	1.20	2.20	7.50	28.00
Equivalent Standard Axels (ESA)	0.02	0.02	2.50	3.50
Typical Traffic Composition (%)	82%	12%	5%	1%

3. The table below presents the resulting unit vehicle operating costs, in US$ per vehicle-km, for different roughness levels.

Table 6. Vehicle Operating Costs Sensitivity to Roughness

Roughness	Car	Minibus	Truck	Trailer
2	0.218	0.288	0.540	1.029
4	0.224	0.294	0.563	1.083
6	0.233	0.310	0.588	1.129
8	0.244	0.334	0.599	1.187
10	0.259	0.363	0.632	1.283
12	0.279	0.397	0.681	1.397
14	0.301	0.432	0.739	1.520
16	0.321	0.462	0.793	1.632

Guria OPRC Contract

4. Under the contract arrangements, the contractor will survey the project roads and design the road works to be done on each road section to achieve the required levels of service; thus, at this stage, the economic evaluation of the OPRC was done based on current estimates of road condition and traffic, most likely road works, and average unit road works costs, to provided indicative figures of the economic justification of the contract. The table below presents the 18 homogeneous roads that will comprise the OPRC contract that total almost 240 km.

Table 7. Guria OPRC Road Sections Identification

Road ID	Road Name	From	To	Length (km)
sh02-1	Sajavakho-Chokhatauri-Ozurgeti-Kobuleti	0.0	19.0	19.0
sh02-2	Sajavakho-Chokhatauri-Ozurgeti-Kobuleti	19.0	48.0	29.0
sh02-3	Sajavakho-Chokhatauri-Ozurgeti-Kobuleti	48.0	68.0	20.0
sh45-1	Ozurgeti-Shemokmedi-Bzjuzjhesi-Gomismta	0.0	12.5	12.5
sh45-2	Ozurgeti-Shemokmedi-Bzjuzjhesi-Gomismta	12.5	17.5	5.0
sh45-3	Ozurgeti-Shemokmedi-Bzjuzjhesi-Gomismta	17.5	32.0	14.5
sh46-1	Ozurgeti-Natanebi-Ureki	0.0	3.0	3.0
sh46-2	Ozurgeti-Natanebi-Ureki	3.0	16.0	13.0
sh46-3	Ozurgeti-Natanebi-Ureki	16.0	22.0	6.0
sh47	Shukhuti-Acana-Mamati-Dzimiti	0.0	17.5	17.5
sh80	Natanebi-Choloki Bridge	0.0	8.1	8.1
sh81-1	Chokhatauri-Bakhmaro	0.0	6.0	6.0
sh81-2	Chokhatauri-Bakhmaro	6.0	24.0	18.0
sh81-3	Chokhatauri-Bakhmaro	24.0	34.0	10.0
sh81-4	Chokhatauri-Bakhmaro	35.0	53.0	18.0

sh82	Ozurgeti-Ninoshvili-Lesa	0.0	24.8	24.8
sh83-1	Chokhatauri-Zomleti	0.0	3.0	3.0
sh83-2	Chokhatauri-Zomleti	3.0	15.0	12.0
Total				239.4

5. The table below presents the current road condition and traffic of the 18 project roads. The average roughness is 6.2 IRI, m/km, and the average traffic is 911 vehicles per day. Most of the roads are asphalt concrete roads with an average width of 7.0 meters.

Table 8. Guria OPRC Road Sections Condition and Traffic

Road ID	Pavement	Width (m)	Roughness (IRI)	Traffic (AADT)	Trucks (%)
sh02-1	Asphalt	7.0	4.4	1,994	3%
sh02-2	Asphalt	7.0	4.7	1,994	3%
sh02-3	Asphalt	7.0	5.4	1,994	3%
sh45-1	Asphalt	7.0	3.1	130	15%
sh45-2	Gravel	7.0	15.4	130	15%
sh45-3	Gravel	7.0	21.8	130	15%
sh46-1	Asphalt	7.0	4.7	1,938	5%
sh46-2	Asphalt	7.0	4.9	1,938	5%
sh46-3	Asphalt	7.0	2.9	1,938	5%
sh47	Asphalt	7.0	2.7	535	16%
sh80	Asphalt	7.0	3.9	235	19%
sh81-1	Asphalt	7.0	2.8	270	15%
sh81-2	Asphalt	7.0	3.9	270	15%
sh81-3	Asphalt	7.0	2.9	270	15%
sh81-4	Asphalt	7.0	4.3	270	15%
sh82	Asphalt	7.0	6.2	205	12%
sh83-1	Asphalt	7.0	3.6	360	25%
sh83-2	Gravel	7.0	16.6	360	25%
Average		7.0	6.2	911	11%

6. Among the 18 project roads, it is estimated that six roads will require capital road works over the five years duration of the contract in all or part of the road length. The table below presents seven road sections and the estimated capital road works requirements in terms of length and costs. In total US$ 16.75 million is estimated to be needed for capital road works.

Table 9. Guria OPRC Capital Road Works

Road ID	Road Work Type	Road Work Length (km)	Cost per km (US$/km)	Total Cost (US$ m)
sh02-2	Rehabilitation Asphalt	15.0	300,000	4.50
sh02-3	Rehabilitation Asphalt	6.0	300,000	1.80
sh45-3	Rehabilitation Gravel	14.5	100,000	1.45
sh46-2	Rehabilitation Asphalt	9.0	300,000	2.70
sh81-2	Rehabilitation Asphalt	10.0	300,000	3.00
sh83-2	Upgrading to Asphalt	11.0	300,000	3.30
Total		65.5		16.75

7. In addition to the capital road works, routine maintenance will be done during the five years of the contract. The table below present the estimated costs for the routine maintenance works (US$2.99 million in total). Therefore, the total cost of the contract is estimated to be US$ 19.74 million.

Table 10. Guria OPRC Routine Maintenance Works

Road ID	Length (km)	Cost per km per year (US$/km/yr)	Years	Total Cost (US$ m)
sh02-1	19.0	2,000	5	0.19
sh02-2	29.0	2,000	5	0.29
sh02-3	20.0	2,000	5	0.20
sh45-1	12.5	2,000	5	0.13
sh45-2	5.0	1,000	5	0.03
sh45-3	14.5	1,000	5	0.07
sh46-1	3.0	3,000	5	0.05
sh46-2	13.0	3,000	5	0.20
sh46-3	6.0	3,000	5	0.09
sh47	17.5	3,000	5	0.26
sh80	8.1	3,000	5	0.12
sh81-1	6.0	3,000	5	0.09
sh81-2	18.0	3,000	5	0.27
sh81-3	10.0	3,000	5	0.15
sh81-4	18.0	3,000	5	0.27
sh82	24.8	3,000	5	0.37
sh83-1	3.0	3,000	5	0.05
sh83-2	12.0	3,000	5	0.18
Total	239.4			2.99

8. The economic evaluation shows that the return on the contract investments is satisfactory with an Economic Internal Rate of Return (EIRR) of 22.0 percent and Net Present Value (NPV) of US$ 27.3 million, at 10 percent discount rate. An increase of project costs by 15 percent together with a decrease in benefits by 15 percent decreases the EIRR to 18.7 percent (see Table below). An increase on the investment cost by 200 percent will bring the EIRR to 10 percent.

Table 11. Guria OPRC Economic Evaluation Results

Road ID	NPV (US$ m)	EIRR (%)	EIRR Sensitivity Analysis		
			A:Costs +15%	B:Benefits -15%	A & B
sh02-2	9.0	21.3%	19.8%	20.0%	18.6%
sh02-3	4.6	24.3%	22.6%	22.8%	21.1%
sh45-3	1.7	20.6%	18.8%	19.1%	17.4%
sh46-2	5.0	21.0%	19.5%	19.7%	18.3%
sh81-2	0.2	10.6%	9.4%	9.6%	8.4%
sh83-2	6.9	35.8%	31.6%	32.1%	28.3%
Total Contract	27.3	22.0%	20.2%	20.4%	18.7%

Design-Build Contracts

9. Under the contract arrangements, the contractors will survey the project roads and design the road works to be done on each road section; thus, at this stage, the economic evaluation of the potential contracts was done based on current estimates of road condition and traffic, most likely road works, and average unit road work costs, to provided indicative figures of the economic justification of the contracts. The table below presents the four homogeneous roads that are candidates for design-build contracts that total about 80.0 km.

Table 12. Design-Build Contracts Road Sections Identification

Road ID	Road Name	Section	From	To	Length (km)
SH43	Tianeti - Akhmeta - Kvareli - Ninigori	Tianeti - Akhmeta	1.0	30.0	29.0
SH26	Jinvali - Barisakho - Shatili	Jinvali - Barisakho	16.0	32.0	16.0
SH119	Tchrebalo - Nikortsminda	Tchrebalo - Nikortsminda	0.0	25.0	25.0
SH137	Khidistavi - Ateni - Boshuri	Khidistavi - Ateni - Boshuri	12.4	22.5	10.1
Total					80.1

10. The table below presents the current road condition and traffic of the four candidate roads. The average roughness is 10.0 IRI, m/km, and the average traffic is 767 vehicles per day with 8 percent trucks. All the roads are asphalt concrete roads, except for Tianeti-Akmeta which is partially and Tchrebalo – Nikortsminda which is fully gravel, with an average width of 7.0 meters.

Table 13. Design-Build Contracts Road Sections Condition and Traffic

Road ID	Pavement	Width (m)	Roughness (IRI)	Traffic (AADT)	Trucks (%)
SH43	Asphalt	7.0	5.5	1,477	2%
SH26	Asphalt	7.0	7.4	285	19%
SH119	Asphalt	7.0	17.1	385	9%
SH137	Asphalt	7.0	9.6	435	8%
Average		7.0	8.8	745	10%

11. The table below presents the estimated capital road works requirements that total US$ 22.40 million, considering an average rehabilitation cost of US$ 280,000 per km.

Table 14. Design-Build Contracts Rehabilitation Costs

Road ID	Road Work Type	Cost per km (US$/km)	Total Cost (US$ m)
SH43	Rehabilitation	280,000	8.12
SH26	Rehabilitation	280,000	4.48
SH119	Rehabilitation	280,000	7.00
SH137	Rehabilitation	280,000	2.80
Total		280,000	22.40

12. The economic evaluation shows that the return on the contracts investments is satisfactory for all contracts. The EIRR varies from 14.7 to 35.6 percent with an overall EIRR of 23.2 percent. An increase of project costs by 15 percent together with a decrease in benefits by

15 percent decreases the overall EIRR to 19.1 percent (see Table below). An increase on the investment cost by 1.65 percent will bring the EIRR to 10 percent.

Table 15. Design-Build Contracts Economic Evaluation Results

Road ID	NPV (US$ m)	EIRR (%)	EIRR Sensitivity Analysis		
			A:Costs +15%	B:Benefits -15%	A & B
SH43	10.8	19.5%	18.0%	18.2%	16.7%
SH26	2.1	14.7%	13.2%	13.4%	11.9%
SH119	14.5	35.6%	31.5%	32.0%	28.2%
SH137	3.8	23.3%	21.0%	21.2%	19.1%
Total	31.2	23.2%	20.9%	21.2%	19.1%

Greenhouse Gas Analysis

13. The HDM-4 model was used to estimate the CO2 emissions of the vehicle fleet with and without the project on the project roads over the evaluation period (Table 16). HDM-4 computes for every year of the evaluation period, for the with and without project alternatives, the road condition (roughness), vehicles speeds, fuel consumption of each vehicle type, and the resultant unit CO2 emissions of each vehicle type and annual CO2 emissions of the vehicle fleet.

Table 16. CO2 Emissions Estimates

		OPRC	Design-Build
Without Project	CO2 emissions at opening year (tons)	7,187	6,055
	CO2 emissions in evaluation period (tons)	218,025	187,289
With Project	CO2 emissions at opening year (tons)	7,219	6,329
	CO2 emissions in evaluation period (tons)	231,606	202,291
Difference	CO2 emissions at opening year (%)	0.4%	4.5%
	CO2 emissions in evaluation period (%)	6.2%	8.0%

14. The evaluation shows that there will an increase in CO2 emissions after the rehabilitation works of 0.4 percent on the OPRC and to 4.5 percent on the design-build contracts. Over the 20 years evaluation period, the CO2 emissions will increase by 6.2 percent and 8.0 percent respectively. The CO2 emissions increase with the project due to the higher vehicle speeds and corresponding higher fuel consumption that are a consequence of the reduction of the roughness of the project roads with the project. Due to low traffic, the inclusion of the social cost of CO2 emissions on the economic evaluation has little impact on the economic evaluation results. For example, on the Guria OPRC, excluding the CO2 emission costs from the economic evaluation, the EIRR of the contract becomes 22.1 percent, which can be compared to the EIRR of 22.0 percent including the CO2 emission costs.

Annex 6: Poverty in Georgia and Potential for Development in SRAMP regions

GEORGIA: SECONDARY ROAD ASSET MANAGEMENT PROJECT

Background

1. ***Georgia's economy has substantially recovered in 2010-13, after taking a hit from the twin shocks of the financial crisis and conflict of 2008.*** GDP grew on average by 5.5 percent annually between 2000 and 2013, which translated to per capita growth from US$1,850 in 2010 to US$2,160 in 2013.[17] Reversing the pattern of previous years, in the recovery period, growth was pro-poor. While growth in consumption was enjoyed across the distribution in both rural and urban areas, the less-well-off did particularly well. In 2010–13, the bottom 40 percent have seen their average consumption increase by 8.5 percent annually — almost 3 percentage points above the 5.8 percent national average. Georgia now ranks as a lower middle-income country and the outlook for job creation is improving, largely supported by the services, tourism and transport sectors.

2. ***Despite the efforts achieved, the GDP per capita is still below where it was before the transition, reaching only 63 percent of 1990 levels in 2013.*** While poverty (at US$2.5 a day) has been reduced in both urban and rural areas by more than 10 points, there is still a considerable gap between the two in living conditions. In 2013 poverty was almost twice as high in rural than in urban areas. Moreover, as noted in the World Bank's Georgia Poverty Assessment: Poverty Reduction and Shared Prosperity since the Crisis (2015), the decrease in poverty in 2010–13 only brought it back to the 2006 poverty level. Meanwhile, poverty in urban areas has gone down, leading to a shift in the distribution of the poor. In 2013, two-thirds were in rural areas.

World Bank support and impact on the poor

3. ***The World Bank has been involved in a series of three road rehabilitation projects since 2004, supporting the Georgian government in rehabilitating the secondary and local road networks.*** While contributing to improving roads condition, impact assessments and household surveys carried out in Georgia over the last few years show that road rehabilitation projects contribute to alleviate poverty and gradually support shared prosperity. Transport projects generate (i) direct impacts granting the local population access to basic needs including food, education and healthcare and (ii) indirect impacts such as economic growth, which can be measured at the community level through a reported increase in the number of SMEs or off-farm employment income in villages affected by rehabilitation projects. Female wage employment rates particularly increase in those villages as well.

4. ***The three SLRPs generated or are expected to generate significant impact in rural areas.*** The First Secondary and Local Roads Project (SLRP-I) improved 842 km of roads, leading to the creation of around 14,000 person-months of direct employments in rural areas across the country. 225 km and 200 km of roads will be improved under SLRP-II and SLRP-III

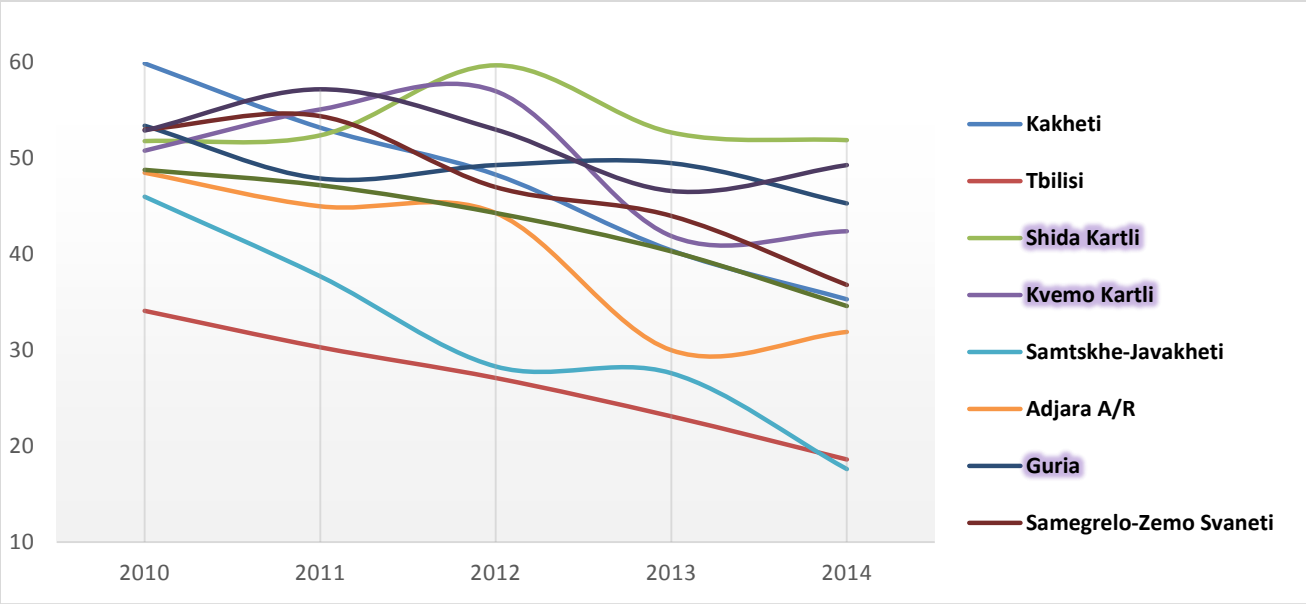
[17] World Bank. "World Development Indicators 2015".

respectively across country. SLRP-III is expected to affect around 126 villages (about 45,600 households) providing them with better access to three major towns: Telavi, Samtredia and Tsalenjikha.

SRAMP and its impacts at the regional level

5. ***This Project will target the three poorest regions - Mtskheta-Mtianeti, Racha-Lechkhumi, and Shida Kartli, and one of the poorer regions - Guria.*** Since there is no official absolute poverty line in Georgia, many alternatives are used to measure poverty, based on relative poverty figures or on different criteria such as the share of beneficiaries of financial aid, as abovementioned. The World Bank estimated poverty in Georgia over 2006–12 period using an absolute poverty line estimated in 2007, which was calculated at GEL 70.8 a month, roughly equivalent to US$ 2.5 a day (2005 PPP; Figure 3). Adjusting by CPI, the poverty line for 2013 was estimated at GEL 90.8 a month (nominal). Shida Kartli, which seems to be the poorest, has seen little progress in alleviating poverty from 2012 to 2014, but it still remains at the same level as in 2010. Mtskheta-Mtianeti, while has witnessed some decline in poverty in 2013, is again back at the same level where it was in 2010. The picture for poverty in Racha-Lechkumi is not well represented in this figure, because it is combined here with two other regions, one of which - Imereti – is among the most developed ones. Guria, which has been selected as the best candidate for the second pilot OPRC due to the road conditions of its secondary road network, has been experiencing progress in poverty alleviation but still remains among the poorer regions.

Figure 3. Poverty by Region (%), 2010-2014[18]



6. ***Mtskheta-Mtianeti, Racha-Lechkhumi, and Shida Kartli, and Guria are among the top regions with the largest number of population registered as socially vulnerable families.*** This

[18] World Bank. "Georgia Poverty Assessment: Poverty Reduction and Shared Prosperity since the Crisis." 2015. Draft Report.

include about 85 percent of population in Racha-Lechhumi and Kvemo Svaneti, 62 percent in Guria, 56 percent in Shida Kartli and about 52 percent in Mtskheta-Mtianeti (Figure 4). In 2006, the Government of Georgia established a Targeted Social Assistance (TSA) Program to provide social assistance to the poorest families. Government social expenditure earmarked for the TSA represented 13 percent of Georgia's social protection budget, i.e. 1.77 percent of the GDP in 2013[19]. Prior to its reform in December 2014, the TSA program primarily covered the four poorest regions (Figure 5): Racha-Lechkhumi and Kvemo Svaneti (61.6 percent of households), Mtskheta-Mtianeti (27.5 percent), Shida Kartli (26 percent) and Kakheti (21.7 percent), with the aim of lifting the population out of extreme poverty and improving their socio-economic status.

Figure 4. Share of Population Registered as Socially Vulnerable Families by Region, 2015[20]

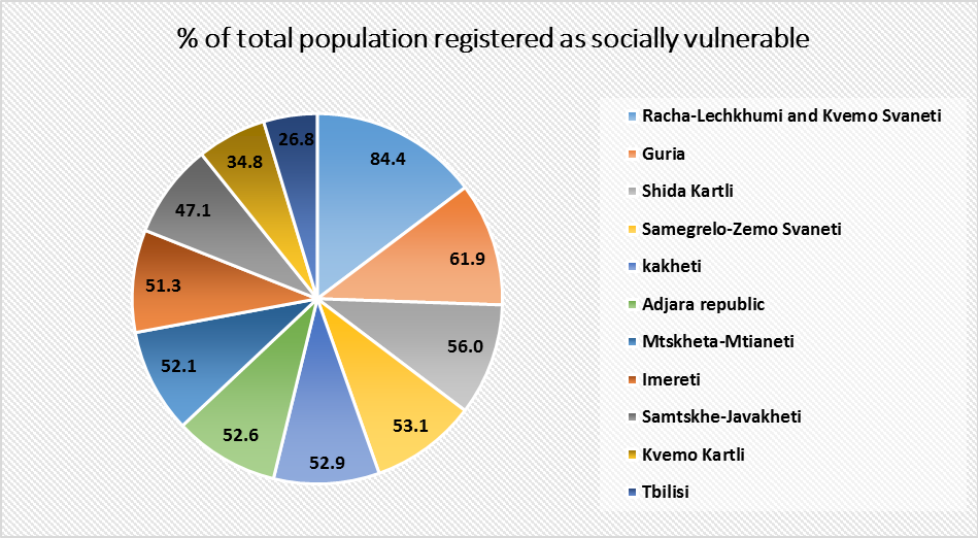
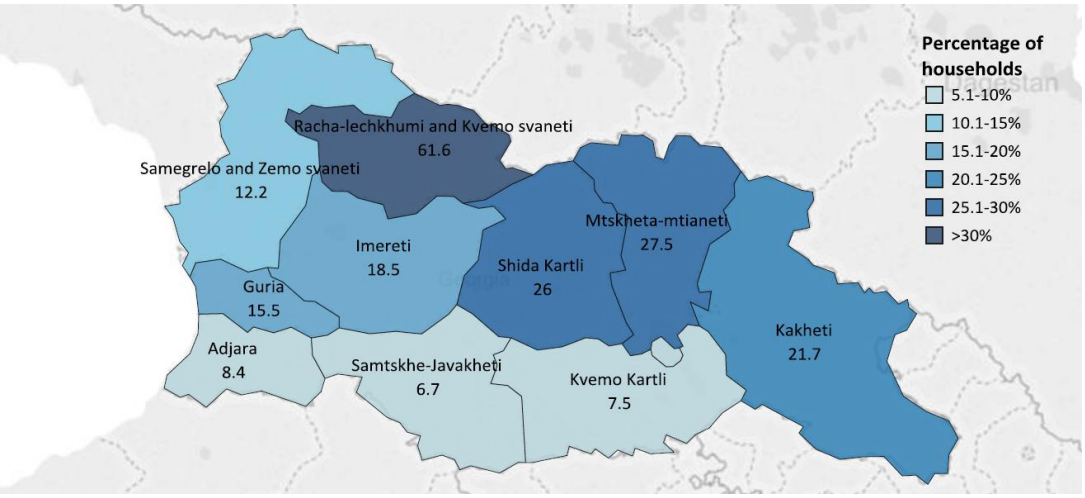


Figure 5. TSA Coverage by Region, 2014[21]

[19] World Bank. "Georgia Poverty Assessment: Poverty Reduction and Shared Prosperity since the Crisis." 2015. Draft Report.
[20] Based on the data from Georgia Social Service Agency, 2015.
[21] UNICEF and World Bank, 2015. "Strengthening Georgia's Targeted Social Assistance Program Report."



7. ***As of June 2015, Racha-Lechkhumi and Kvemo Svaneti, Shida Kartli, Kakheti, and Mtskheta-Mtianeti remain the principal target regions for the TSA program.*** 35 percent of families from Racha-Lechkhumi and Kvemo Svaneti, 23 percent from Shida Kartli, 19 percent from Kakheti, 16 percent from Mstkheta-Mtianeti and 15 percent from Guria receive subsistence allowance (Figure 6). Overall, only 10 percent of population and 11.9 percent of families qualify for the cash benefit, based on specific poverty and socio-economic criteria established by TSA program. This is despite that more than half of the families in the country (around 43 percent of the total population) have applied to the TSA and are registered in the unified database for socially vulnerable families under the Social Service Agency.

Figure 6. Share of Families Receiving Subsistence Allowance by Region, 2015

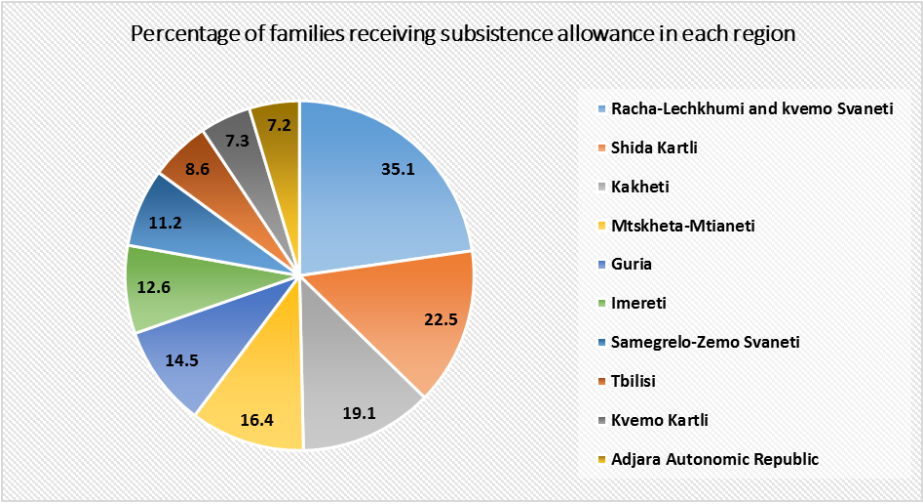
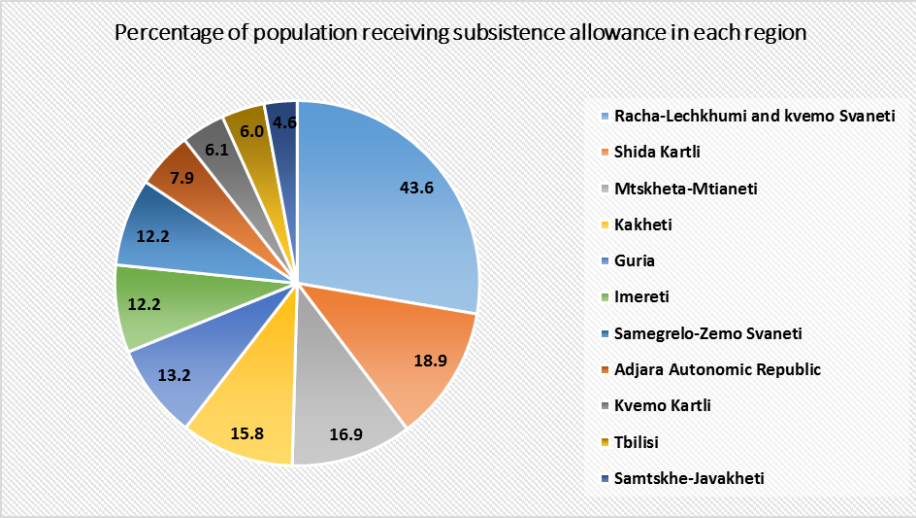


Figure 7. Share of Population Receiving Subsistence Allowance by Region, June 2015[22]

[22] Based on the data from Georgia Social Service Agency

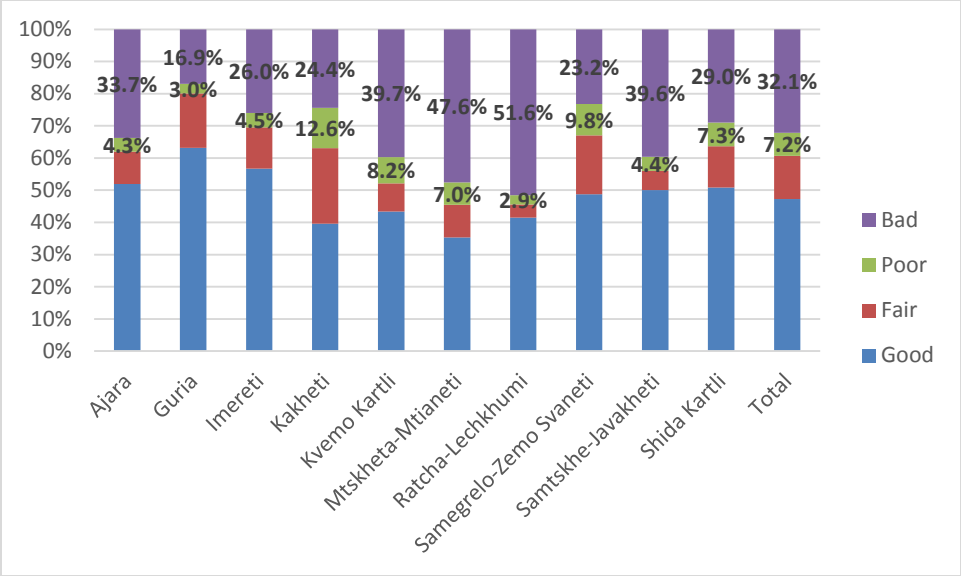


8. ***These three poorest regions - Mtskheta-Mtianeti, Racha-Lechkhumi, and Shida Kartli –also rank low in terms of accessibility.*** These regions have the largest share of secondary roads in poor and bad condition, namely 55 percent in Mtskheta-Mtianeti, 55 percent in Racha-Lechkhumi co-share the lowest position, with each of both having 55 percent of its secondary road network in bad and poor condition. While the condition of its secondary road network looks better compared to the above two regions, Shida Kartli is still among the regions with worse road condition - 36 percent in poor and bad condition. Since the fourth project region Guria has one of the road networks in best conditions (with only 20 percent in poor and bad condition) and is still ranked among the poorer regions, it has been selected as the best candidate for the second pilot OPRC in order to demonstrate cost-efficiency of this contracting modality for sustainable road asset management in Georgia.

9. ***About 111,000 residents of 95 villages and towns will benefit from reduced travel and time costs as well as improved road safety on over 330 km of rehabilitated and improved secondary roads in these four regions***. To improve road users' access to social services, markets and job opportunities within the project roads' catchment area while alleviating poverty is indeed one of the main objectives of the Project. It is expected that the project will address the transport needs of low-income road users and socially vulnerable families. As demonstrated by the predecessor secondary roads projects, SRAMP is expected to also indirectly improve access to jobs and other economic opportunities. [23]

Figure 8. Road Condition by Region (percentage)[24]

[23] The results of Impact Evaluation studies in SLRP-I and II show good contribution of these projects to growth of family-owned or small business and other job opportunities.
[24] Based on the data for road condition collected by Roads Department, 2014


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
33.7%
4.3%
16.9%
3.0%
26.0%
4.5%
24.4%
12.6%
39.7%
8.2%
47.6%
7.0%
51.6%
2.9%
23.2%
9.8%
39.6%
4.4%
29.0%
7.3%
32.1%
7.2%
Ajara
Guria
Imereti
Kakheti
Kvemo Kartli
Mtskheta-Mtianeti
Ratcha-Lechkhumi
Samegrelo-Zemo Svaneti
Samtskhe-Javakheti
Shida Kartli
Total
Bad
Poor
Fair
Good

Annex 7: Key Achievements under Bank Funded Projects in the Secondary Roads Sector[25]

GEORGIA: SECONDARY ROAD ASSET MANAGEMENT PROJECT

1. ***Background***. The World Bank has been involved in a series of highways and road projects since 2004, supporting the Georgian government in upgrading its main highway corridor to a 4-lane dual carriageway motorway and also rehabilitating the secondary and local road networks. A series of three Secondary and Local Roads Projects has contributed to improving roads condition and building technical and management capacity of RD. The general condition of the secondary and local road network was in a poor state of repair, reflecting the reduction of resources allocated to road maintenance. In 2012, 1,054 km of secondary and local roads were rehabilitated under SLRP-I; 200 km of roads will be rehabilitated by 2019 under the on-going SLRP-II, and about 200 km by 2018 under the ongoing SLRP-III. This has contributed to bridging the road rehabilitation backlog and increasing the share of secondary and local roads in good and fair conditions as shown in the following table.

2. ***Lesson learned from secondary roads projects*.** The key lesson learnt by the World Bank from the implementation of KRRIP, which focused supporting the road network in Kakheti region only and a series of SLRPs which have focused on supporting the rehabilitation and maintenance of smaller road sections in all regions, is that the impact of a roads project focused on one region is much more significant than that of a project spreading across the country. The experience of KRRIP has shown that the focused improvement of roads in Kakheti region during a certain time brought significant development to the region and boosted its local economy (e.g., increase in tourism, agriculture and winery production). Learning from this experience, SRAMP is concentrated on four regions only—three poorest and one poorer—instead of supporting the rehabilitation and maintenance of smaller road sections all across the country.

Table 17. Condition of Local and Secondary Roads Network

		Start		End of project	
		Km of roads in good condition	**% of roads in good condition***	**Km of roads in good condition**	**% of roads in good condition***
SLRP I (2004-2012)	Secondary (5296 km)	1634	**30%**	2477	45%
	Local (15000 km)	2250	15%	2461	16%
SLRP II (2012-2017)	Secondary	2477	45%	2677	49%
	Local	2461	16%	2486	17%
SLRP III (2014-2018)	Secondary	2677	49%	2824	**52%**
	Local	2486	17%	2539	17%

** Roads in good and fair condition as a share of total secondary and local roads after each project; roads rehabilitated outside these projects from GOG's budget or other financing sources are not included.*

[25] This Annex focuses on achievements financed through secondary road projects.

Financing, Planning and Programming of road works

3. **Financing strategy.** In 2015 RD launched a road sector financing study to identify the financial needs to maintain the present level of service of road assets in Georgia. The study will assess the financing gap (maintenance backlog) between current level of service and target level. The new Financing Strategy, which will be the outcome of this study, will recommend the tools to cover this gap and suggest additional revenue sources in the sector.

4. **Five-year Rolling Program**. RD's Five-year Plan for Road Infrastructure Development and Welfare Improvement in Georgia covering 2009-2013 expired 2 years ago and RD has not had a new active plan in effect. The 2009-2013 Plan presented: (i) the transportation need in Georgia; (ii) scope of prioritizations 2009-2013; (iii) prioritization between sections; (iv) road network condition; (v) strategies for network improvement; (vii) road network improvement program; (viii) efficient road management at road department; and (ix) performance indicators. In 2015 RD has started drafting a new Five-Year Rolling Program covering only the secondary road network for the period of 2016-2020. The key objective of the Five-Year Rolling Program would be to ensure balanced funding of capital investments and recurrent expenditures, by presenting the current characteristics of the road network, its preservation and improvement needs, and aligning that Program with GOG's overall national priorities.

5. **Road Asset Management (RAMS)**. In mid-2000s, RD established a Database Unit under the Roads Administration Division to support road asset management. This unit carries out the inventory of roads, road condition surveys, processes and analyzes the data to inform long-term planning of road works and updating annual programs. The World Bank has supported capacity strengthening of this unit by procuring road survey and office equipment, arranging training activities on the use of the HDM-4 model and others, hiring a local consultant to manage and evaluate the road network data, and financing the inventory of local roads and the evaluation framework for local roads. At present, this unit consisting of 4 persons collects road roughness and traffic data with government financing on an annual basis. The unit has a full inventory of international, secondary and local roads. The road network inventory, roughness and traffic data managed by the unit is stored on a well-functioning Geographic Information System (GIS). The unit has the ability to produce good quality maps. With financial support of the World Bank, the unit procured a road database software to improve the network data management and in 2015 procured a new road survey equipment or road asset management system (RAMS) to upgrade and complement the equipment in use; the ultimate goal being to increase the scope of the data collection and make it more efficient for planning and programming processes. SRAMP will support this Unit in developing a bridge and tunnel management sub-system as part of RAMS and ensuring data is collected on annual basis for traffic and condition of all secondary road assets.

6. RD uses HDM-4 to inform the preparation of multi-year and annual plans, which are still prepared in basic formats. Under the ongoing Bank-funded SLRP-II, RD is developing a Road Asset Management System (RAMS) with more critical data to further enhance its planning and budgeting capacity. The ongoing SLRP-III provides a technical assistance to revise and improve RD's approach to multi-year programming and annual planning to ensure an integrated and

comprehensive selection and prioritization process, including: (i) annual (traffic and condition) data collection, screening and evaluation through a cost benefit analysis, cost effectiveness analysis, and multi-criteria analysis , (ii) refining evaluation through public consultations, and (iii) prioritization and selection through a final multi-criteria decision analysis by decision makers.

Technical Capacity Strengthening

7. **Georgian geometrical standards.** In 2009, RD produced, with World Bank support, Georgian National Geometrical Standards for Public Motor Roads. These geometrical standards are the only Georgian national standards available for roads. There is no formal design, construction, supervision or maintenance standards in Georgia. RD adopts for its work standards from many countries but without any consistency. For example, for the design of concrete roads, RD usually uses German standards, but for the design of asphalt concrete roads each consultant can use different standards or design methods, which create inconsistencies among projects and programs. The lack of construction and supervision standards compromises the quality of the road works. Maintenance standards are needed for OPRC and multi-year contracts. The issue of standards is being addressed with the financial support of ADB who is providing technical assistance for the development and adoption of the construction, maintenance and supervision standards. SRAMP will support RD in building its capacity in addressing climate change and introducing climate adaptation practices, through carrying out assessment of the roads network to climate change and development of climate resilience standards for construction and maintenance, and eventually incorporating them in civil works contracts for vulnerable road sections.

Road Safety

8. ***Road safety management capacity***. Under the support of several World-Bank funded projects, RD's Road Safety Unit (RSU) has substantially built and strengthened its capacity since 2004. The key achievements include, but not limited, are the development of two Manuals – one for Road Safety Audits for New Constructions and the other one for Road Safety Inspection of the Existing roads, on-the-job training of road safety audits and inspections by two international road safety auditors, mainstreaming road safety audits into the preparation of engineering designs of each highway and road project, enhancing the collaboration with Traffic Police and MIA, and improving jointly with these two organizations the data collection on road accidents which has led to the development of a new road accidents database and granting RSU access to this new database. RD as a key member of the Road safety Working Group also participated in the development and drafting of the new Road Safety Strategy and Action Plan for Georgia for 2015-2020, which is now under GOG's overall review and discussion after the presentation of the draft Strategy at the workshop on October 5, 2015.

9. ***Safer roads***. RD has mainstreamed and embedded road safety audits in the preparation of engineering designs its management practices for all projects, regardless the source of financing and class of road that the project targets. This allows to ensure that rehabilitated or newly-constructed roads are immediately open with built-in engineering safety features. RD has also implemented a series of small-scale road safety works on its secondary roads which were not due for rehabilitation but still required safety improvements in Kakheti region. It has further plans to

carry out similar small-scale road safety works under SLRP-II and SLRP-III. Under the ongoing SLRP-III, RD is about to pilot iRAP in Guria region and support the development of its own GeoRAP based on iRAP. SRAMP will support RD's RSU in further strengthening its capacity through scaling up the use of GeoRAP to the other project region's road networks. Use of iRAP/GeoRAP is expected to benefit RD in setting up a systematic approach in assessing safety conditions of its existing networks before and after the implementation of various engineering countermeasures through assigning a star rating to each road section.

10. **Safer road users**. In 2015, RD has piloted its first road safety awareness and education campaign with a NGO involvement in Kakheti region. RD has acknowledged the educating benefits of such campaigns especially in the areas where it is intensively implements rehabilitation or construction projects and where speeding becomes a more serious concern as a result of the improved road conditions. However, RD has come to the conclusion that such education and awareness campaigns need to be complemented by enforcement. It intends to seek the collaboration of Traffic Police during its future campaigns to be carried out in other regions (under the support of SLRP-III and SRAMP) to achieve better results in terms of improved behavior of road users.

Contracting Practices

11. ***FIDIC contracts*.** Georgia is increasing contracting road works using International Federation of Consulting Engineers (FIDIC) contracts, but there is unequal knowledge on this type of contracts. The World Bank keeps promoting the use of international FIDIC contracts in Georgia by supporting the participation of Georgian engineers from the public sector in international FIDIC trainings.

12. ***Innovative performance-based contracting modalities*.** In late 2013, RD started piloting the first design-build contract through ICB which was developed based on the OPRC model. The pilot design-build contract became effective in January 2014 and successfully completed in June 2015. In 2014, RD launched two more pilot design-build contracts through NCB. The overall experience with design-build contracts has been encouraging for both the public sector and private sector. The transfer of a wider range of risks from the public to private sector has been contributing to building the capacity of local contractors and making them ready for more complex contracts, e.g., long-term OPRC and other forms of PPPs. RD is now scaling this innovative contracting modality to further strengthen the capacity of local contractors in other regions under the financial support of this project.

13. In the meantime, RD tried to pilot OPRC covering over 200 km of secondary roads in 2014. Unfortunately, the tender was cancelled due to irresponsive bids. However, successful experience with design-build performance-based contracts developed based on the OPRC model encouraged RD draw lessons from that experience and revise the approach. RD with the World Bank support thoroughly evaluated the first experience, identified possible factors that had led to the irresponsive bids and took all those lessons on board while revising the scope of the OPRC, and re-launched another tender for the first pilot OPRC in August 2015. This time, RD was more successful with significantly larger interest from the private sector and more responsive bids. The

implementation of the first OPRC is starting in 2016 and will be financially supported under SLRP-II.

Summary of institutional strengthening activities supported under the Bank funded projects

14. **Institutional Strengthening under World Bank-funded projects**. Institutional capacity components under the transport projects include a series of activities aiming at supporting RD in shifting its focus from developing to managing the East West highway corridor. Three completed road projects and five ongoing road projects in Georgia financed or are financing different institutional strengthening activities. The Project Development Objectives (PDO) of the past and ongoing road projects in Georgia have two main themes that are related to institutional strengthening: (i) improve road safety and (ii) improved RD capacity to manage the road network. The table below presents the PDO of the ongoing road projects and the year the project was approved.

Table 18. Project Development Objectives of Past and Ongoing Projects

Year	Project	Project Development Objectives
2004	**Secondary and Local Roads Project (SLRP)**	(i) improve the economic and social well-being of the rural population in selected regions through upgrading of their secondary and local road network; (ii) strengthens the institutional capacity of the Roads Department of the Ministry of Infrastructure and Development to maintain a cost effective and sustainable secondary and local roads network; and (ii) improve the effectiveness of Road Department of the Ministry of Infrastructure and Development in its interaction with local communities and its responsiveness to local needs.
2006	**First East-West Highway Improvement Project (FEWHIP)**	(i) to contribute to the gradual reduction of road transport costs and improve access, ease of transit, and safety along the central part of Georgia's East-West corridor, through upgrading a segment of the East-West Highway from Tbilisi to Rikoti; and (ii) strengthen the capacity of the government, RDMED and the local road construction industry to plan and better manage the road network.
2007	**Second East-West Highway Improvement Project (SEWHIP)**	(i) to contribute to the gradual reduction of road transport costs and improve access, ease of transit, and safety along the central part of Georgia's East-West corridor, through upgrading a segment of the East-West Highway from Tbilisi to Rikoti; and (ii) strengthen the capacity of the government agencies (and particularly RDMED) to develop and implement a traffic safety program.
2009	**Kakheti Regional Roads Improvement Project (KRRIP)**	To reduce transport costs and improve access and traffic safety for the Kakheti regional roads.
2009	**Third East-West Highway Improvement Project (TEWHIP)**	(i) to contribute to the gradual reduction of road transport costs and improve access, ease of transit, and road safety along the central part of Georgia's East-West corridor; and (ii) strengthen the capacity of the Roads Department and relevant Government entities to plan and manage the road network and to improve traffic safety.
2012	**Second Secondary and Local Roads Project (SLRP-II)**	(i) to improve local connectivity and travel time for selected secondary and local roads, and (ii) to strengthen the capacity of the Roads Department to manage the road network
2013	**Fourth East-West Highway Improvement**	(i) to contribute to the gradual reduction of road transport costs and to improve road safety along the section upgraded under the project; and (ii) to strengthen the capacity of the Roads Department and the Ministry of Regional Development and Infrastructure to plan

	Project (EWHIP-4)	and manage the road network and improve road traffic safety.
2014	**Third Secondary and Local Roads Project (SLRP-III)**	(i) to reduce transport costs on project roads and (ii) improve the sustainability of road asset management in the secondary and local project road network.
2015	**East-West Highway Corridor Improvement**	(i) reduce road user costs along the East-West Highway Corridor section upgraded under the project; and (ii) strengthen the capacity of the Roads Department and the Ministry of Economy and Sustainable Development to respectively manage the road network and provide an enabling environment to improve logistics services.

15. The table below presents the institutional strengthening activities of each project as described in the PADs.

Table 19. Institutional Strengthening Components of Past and Ongoing Projects

Project	**Activities**
SLRP	Revision of geometric design standards for main, secondary and local roads
	Development of maintenance standards and associated methods specifications
	TRRC incremental operating costs and audit of the project accounts
	Development of RDMID organization, including technical and data services, asset management, road maintenance financing, programming/budgeting, environmental compliance and public participation
	Equipment and incremental operating costs of the four regional offices to facilitate decentralization of road management and community participation (financed by the Government)
	Training of local personnel in developing and implementing regional maintenance plans for local roads
	Training traffic police in traffic law enforcement and providing traffic safety equipment.
FEWHIP	Technical assistance for the establishment of road data base and the integration of the data to the different management information systems
	Technical assistance and training for RDMED on the use of the HDM4 system, its calibration and the industry-wide dissemination of the HDM4 system.
	Preparation of standard for design and bidding documents for the maintenance, rehabilitation and construction of roads, including technical assistance to improve the contractual arrangements
	Assistance to the Technical University to modernize the curriculum and prepare "tomorrow's road engineers"
	Workshops and seminar to improve industry capacity
	Preparation of a new road law
	Improving the effectiveness of RDMED staff through modern human resource management practices and capacity building
	Equipment (e.g. for data collection, laboratory, cars, office computers, software, office equipment/furniture, etc.)
SEWHIP	Training for RDMED staff to more effectively analyze hazardous locations and to be able to design and oversee implementation of safety improvements
	Reduce black spots and remove unsafe or inconsistent features along the existing E60 road.
	Supply and installation of guardrails at various hazardous location.
	Improvements outside "urban" areas that can range building fences to improving visibility, making provision for pedestrians, creating safe waiting areas at interaction and reducing potential conflicts at petrol stations
	Improvements within "urban" areas where major roads pass through communities along E60 routes
	Capacity building and training to RDMED to update standards for road making, signing and traffic management during road works and for when the road is completed and open to traffic.
KRRIP	Improving road safety along the Telavi-Gurjaani-Bakurtsikhe-Sagarejo-Vaziani road through the identification and design of required traffic safety improvement measures and implementation of such measures.
	Strengthening the capacity of the RD Regional Office in Sagarejo to improve its operational efficiency in road management and maintenance through the provision of goods, consultants' services, and training.
TEWHIP	Strengthening the capacity of the RD to improve its operational effectiveness through: (i) carrying out a functional analysis for establishing the appropriate organizational structure for the RD to meet its current and anticipated future needs; (ii) improving the capacity of RD to plan, design, manage and maintain the road network; and (iii) strengthening the RD capacity in environmental monitoring, through provision of goods, consultant's services and training.
	Developing a framework for introducing Performance Based Contracts (PBC) for main road's maintenance,

Project	Activities
	through provision of consultant's services
	Improving road safety along the entire E60 East-West Highway corridor by preparing and implementing a corridor road safety management plan to cover engineering, enforcement, emergency response and publicity campaigns, through the provision of goods, consultants' services, and training.
	Strengthening the curriculum and training at the technical university including provision of training for lectures, twinning with overseas universities, as well as provision of consultant's services and good.
SLRP-II	Consultant services, supply of goods and training aimed at strengthening the capacity of RD and FPU in: (a) Project management and implementation; (b) identifying, developing and implementing road safety measures on secondary and local roads; and (c) carrying out impact evaluations.
	Support development of technical specifications for and acquisition of the equipment required for establishing a new road management system through the provision of goods and consultant's services.
	Build on and complement the institutional strengthening activities supported by the ongoing transport projects funded by the Bank, by both incorporating lessons learned from ongoing projects and benefiting from the efficiency gains of the road rehabilitating works achieved under the SLRP project.
	Allow for specific road safety improvements and campaigns where the roads through villages are improved
	The SLRP-II will support this implementation with the procurement of equipment to undertake road condition surveys.
EWHIP-4	Review and updating of road sector strategy
	Support to the MRDI to improve road safety management capacity
	Support to the MRDI to improve the operating environment for the local construction industry
	Development of Measures to improve manpower planning and development in MRDI
	Organizational efficiency improvement and manpower planning and development measures for the Roads Department (including development of a communication strategy, dissemination of RD annual reports and strategic staffing plans/trainings, etc.)
	Development of a strategic roadmap for the development and implementation of Intelligent Transport Systems (ITS) along the East West Highway corridor, from Tbilisi to Turkish Border
	Strengthening the capacity of RD and TRRC in project management and implementation through the provision of goods and consultant's services
SLRP-III	Provide technical assistance to MRDI by (i) building its technical and management capacity in local roads asset management, and (ii) carrying out of a study to determine the feasibility of piloting local roads routine maintenance using a micro-enterprises approach.
	Strengthening of RD's capacity in secondary roads asset management through trainings and study tours on innovative management practices and technologies.
	Strengthening the capacity of RD and TRRC in project management and implementation through the provision of consultant's services and hire of a new project manager.
	Along three local roads in Imereti Region, development of education programs and publicity campaigns targeting residents and other road users.
	In Imereti Region, provide technical assistance (equipment and/or training) to patrol police to enforce safety rules, and to emergency services to more effectively respond to road accidents and reduce the risk of fatalities.

Annex 8: Building Climate Resilience

GEORGIA: SECONDARY ROAD ASSET MANAGEMENT PROJECT

Climate change vulnerability context

1. ***Georgia's unique geographical location, complex relief and particular climate set conditions suitable for dramatic consequences of climate change.*** A recently completed Country Environmental Analysis[26] finds that Georgia is among the most vulnerable countries to climate change in Europe and Central Asia (ranking number 5). The analysis finds that "global effects of climate change are expected to exacerbate the frequency and magnitude of hydrological hazards in the South Caucasus region. Trends reported in the Second National Communication of the UN Framework Convention on Climate Change (UNFCCC) show that average temperatures in Tbilisi increased by 0.7°C over the past century and by 0.5°C in Eastern Georgia, but that there was a slight cooling in Western Georgia. Precipitation has increased in the lowland areas of Georgia by about 10–15 percent and has decreased in mountain areas by 15–20 percent (National Climate Research Centre 1999). The Second National Communication from Georgia identifies three areas as the most sensitive to climate change and therefore vulnerable to future extremes: the Black Sea coast, the Lower Svaneti (Lentekhi district), and the Dedoplistskaro district of the Alazani river basin." Further the report finds that both public and private assets will increasingly become vulnerable to climatic-related hazards. The consequences of climate change may dramatically increase the frequency and risks of medium-size and high-impact disasters in Georgia. The Social and Economic Vulnerability analysis carried out by the Caucasus Environmental NGO Network (CENN) used a Spatial Multi-criteria Evaluation method and estimated the vulnerability of population and physical assets as "high" to "significant" for landslides, mudflows, and rock fall.

2. ***These risks make resilience to climactic events a particular priority for the road sector.*** Extreme unusual weather events and natural disasters – such as heavy rains, floods, landslides, avalanches and mudslides, have been more frequent and have intensified in recent years. For example, since 1987, landslides have increased by 63 percent.[27] These events result in severe damage to infrastructure, human casualties and great economic losses. The latest large-scale natural disaster occurred in Tbilisi in June 2015, as heavy rains triggered landslides and scattering debris, causing 19 human casualties and huge economic losses of about USD 100 million.[28] The most affected sector was the transportation sector, with most damage and losses observed, as around 40 roads were severely damaged during the incident (including the partial collapse of the Amirejibi Highway). Better planning and sound measures are required to predict, when possible, prevent or reduce the negative impacts of such events.

3. ***In Georgia, almost 70 percent of the territory, home to around 57 percent of the population, is at risk from disasters***, including mudflows (32 percent of the total area), flooding

[26] The World Bank, *Country Environmental Analysis - Institutional, Economic, and Poverty Aspects of Georgia's Road to Environmental Sustainability*, report number ACS13945 (June 2015)
[27] The United Nations Environment Programme (UNEP), *Outlook on climate change adaptation in the South Caucasus mountains* (December 2015)
[28] Ibid.

and erosion (27 percent), landslides (24 percent), and avalanches (17 percent). The South Caucasus is essentially characterized by a complex mountainous topography that makes the region more prone to extreme climate related events. Impacts of natural disasters are greater in mountainous areas, where access to basic services, energy and water, is critical. Vulnerability of the populations living in these areas is thus increased. The Secondary Road Asset Management Project will particularly target 100,681 inhabitants of 91 towns and villages settlements in four regions, namely Mtskheta-Mtianeti, Racha-Lechkhumi, Shida Kartli, and Guria, which are amongst the poorest ones in the country. As 70 percent of the project roads in these regions run through rolling/mountainous terrain, a long-term strategic approach to climate change adaptation is necessary.

Specific project activities addressing climate resilience

4. ***A key element of the project is to build climate resiliency along road sections prone to natural disasters.*** Adaptation to the adverse impacts of climate change is indeed one of the main priorities for the Government, as stated in the Intended Nationally Determined Contributions submitted in December 2015 to the UNFCCC. In order to address the country's vulnerability to climate change, this project will thus support: (i) the development of a vulnerability assessment in Racha region specifically (sub-component 2.3), and (ii) the incorporation of climate resilience measures into the technical design of identified road sections in all regions covered by the project as deemed necessary. These measures will help reduce the risks of erosion, rock falls and landslides and minimize disruption to local communities.

5. ***Vulnerability assessment in Racha region (sub-component 2.3).*** This sub-component will finance an assessment of the vulnerability of about 200 km of secondary roads in Racha to climate change, mapping of the most vulnerable road sections, development and implementation of priority climate resilient measures.

6. ***Implementation of climate resilience measures in technical designs.*** In mountainous areas, adequate climate resilient measures will be developed and incorporated in the designs of the OPRC (about 240 km) and design-build contracts (about 80 km). In Guria region, particular attention will be paid to the project road sections located near the Black Sea coast – area identified above as one of the most sensitive to climate change. The OPRC monitoring consultant and design-build contracts supervision consultant will carry out jointly with RD climate resilience engineering audits to ensure that proper engineering measures have been integrated in the designs.

Road Sections Identification

Guria OPRC			
Road ID	Road Name	Length (km)	Terrain Type
sh02-1	Sajavakho-Chokhatauri-Ozurgeti-Kobuleti	19.0	**Mountainous**
sh02-2	Sajavakho-Chokhatauri-Ozurgeti-Kobuleti	29.0	Flat
sh02-3	Sajavakho-Chokhatauri-Ozurgeti-Kobuleti	20.0	Flat
sh45-1	Ozurgeti-Shemokmedi-Bzjuzjhesi-Gomismta	12.5	**Rolling**
sh45-2	Ozurgeti-Shemokmedi-Bzjuzjhesi-Gomismta	5.0	**Mountainous**
sh45-3	Ozurgeti-Shemokmedi-Bzjuzjhesi-Gomismta	14.5	**Mountainous**

sh46-1	Ozurgeti-Natanebi-Ureki	3.0	Flat
sh46-2	Ozurgeti-Natanebi-Ureki	13.0	Flat
sh46-3	Ozurgeti-Natanebi-Ureki	6.0	Flat
sh47	Shukhuti-Acana-Mamati-Dzimiti	17.5	**Mountainous**
sh80	Natanebi-Choloki Bridge	8.1	Flat
sh81-1	Chokhatauri-Bakhmaro	6.0	Flat
sh81-2	Chokhatauri-Bakhmaro	18.0	**Mountainous**
sh81-3	Chokhatauri-Bakhmaro	10.0	**Mountainous**
sh81-4	Chokhatauri-Bakhmaro	18.0	**Mountainous**
sh82	Ozurgeti-Ninoshvili-Lesa	24.8	**Rolling**
sh83-1	Chokhatauri-Zomleti	3.0	**Rolling**
sh83-2	Chokhatauri-Zomleti	12.0	**Rolling**
Design-Build Contracts			
sh43	Tianeti - Akhmeta - Kvareli - Ninigori	29.0	**Mountainous**
sh26	Jinvali - Barisakho - Shatili	16.0	**Mountainous**
sh119	Tchrebalo - Nikortsminda	25.0	**Mountainous**
sh137	Khidistavi - Ateni - Boshuri	10.1	**Rolling**

7. ***Preliminary assessment.*** Throughout the project, consideration will be given to the adjustment of road design, construction, operation and maintenance procedures to reduce vulnerability and the potential impact of climate change effects. The detailed designs and technical documents, with precise information on the mitigation measures necessary to address climate change related impacts, will be finalized during project implementation. However, the range of interventions will be as follows:

- Mountainous areas – the focus will be on slope stabilization using both engineering and bio-engineering interventions. Attention will be given to "slope top" drainage systems to prevent water entering potential shear zones.
- Flat areas – the focus will be on identifying areas of potential flooding and providing sufficient cross drainage and road height. In flood prone areas, bank protection will be strengthened.
- Maintenance strategies – OPRC and design-build contracts will identify vulnerable sections and require enhanced maintenance interventions. Overall focus will be on clearing drainage structure and ensuring maintenance of protection structure on slopes, banks and bridge abutments.

Meanwhile, a preliminary assessment based on the reported terrain characteristics indicates that 36 percent of the resources of Component 1.1 and Component 1.2 will be attributed to climate resilience measures (e.g., strengthened embankments, fiber-reinforced concrete culverts of greater capacity in vulnerable areas, etc.).

Project adaptation co-benefits

8. ***Calculation.*** Considering the above information, the project adaptation co-benefits are calculated using the Climate Change coding methodology. The main components, estimated costs and respective activities are listed in the table below.

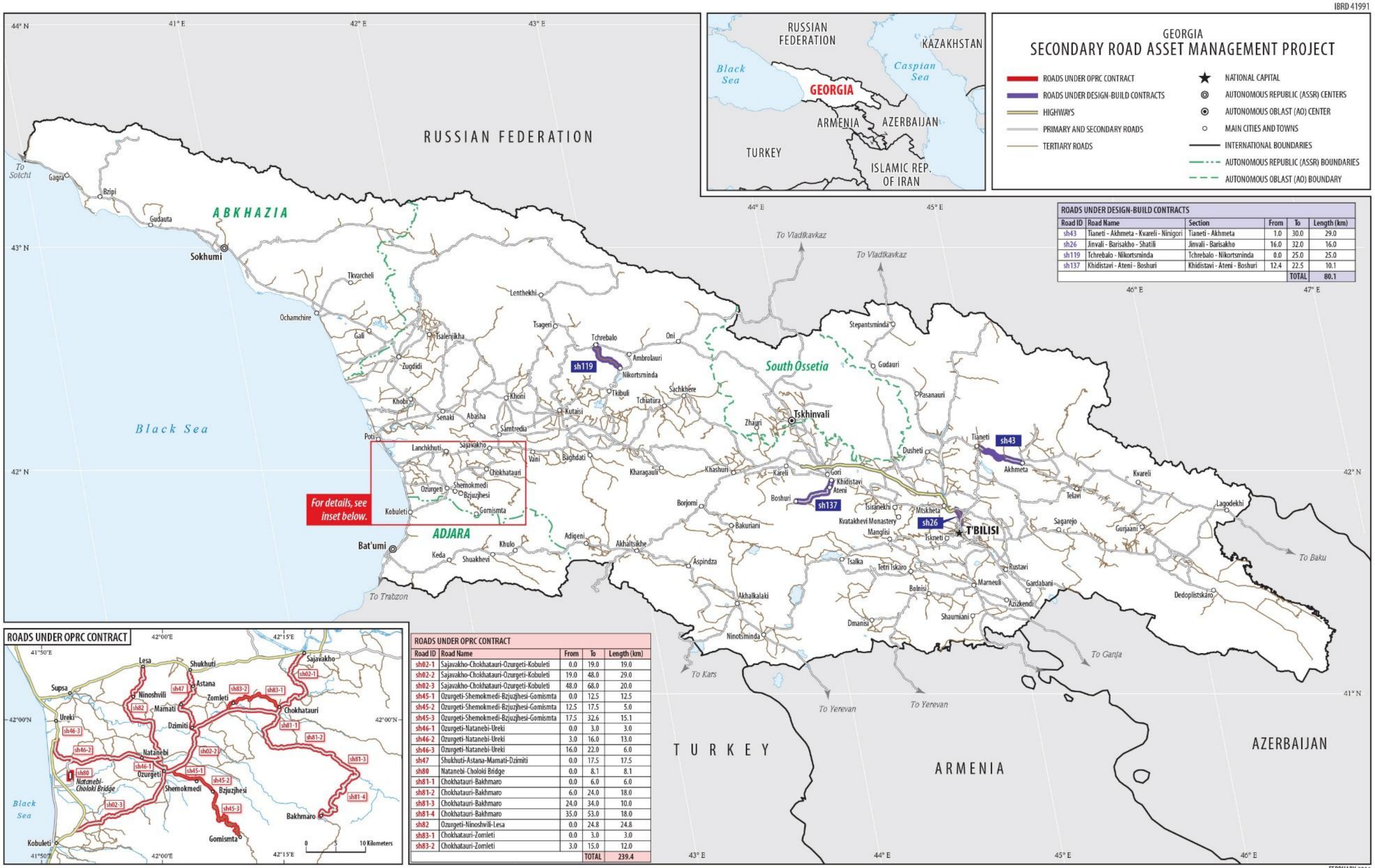
Component	Activities	Bank	Sector Codes (%)	Adaptation	Mitigation

		Commitment (USD million)		Associated Sector ($)	Associated Sector ($)
Component 1	**Secondary Road Assets Improvement and Preservation**	**38.66**	N/A	N/A	N/A
Subcomponent 1.1	Improvement and Maintenance of Secondary Roads in Guria through OPRC	16.17	S1. Rural and Inter-Urban Roads and Highways (100%)	S1 (USD 5.2 million)	0
Subcomponent 1.2	Rehabilitation and Improvement of Secondary Roads Assets through Design-Build Contracts	18.99	S1. Rural and Inter-Urban Roads and Highways (100%)	S1 (USD 7.6 million)	0
Subcomponent 1.3	Supervision and Monitoring Services of Civil Works	3.5	S1. Rural and Inter-Urban Roads and Highways (100%)	0	0
Component 2	**Enhanced Secondary Road Assets Planning and Management** *-> to support institutional reforms aimed at integrating innovative management practices*	**1.25**	N/A	N/A	N/A
Subcomponent 2.1	Enhancement of RAMS and Improved Assets Programming and Planning	0.17	S2. Public administration-Transportation (100%)	0	0
Subcomponent 2.2	Integrated Road Safety Management	0.08	S2. Public administration-Transportation (100%)	0	0
Subcomponent 2.3	Climate Resilience Support	1.0	S2. Public administration-Transportation (60%) S1. Rural and Inter-Urban Roads and Highways (40%)	S2 (USD 0.60 million) S1 (USD 0.40 million)	0

9. ***Climate co-benefits per sector.*** As a conclusion, based on the results above, 70% adaptation co-benefits can be assigned to the *Public administration-Transportation* sector and

37% of adaptation co-benefits can be assigned to the *Rural and Inter-Urban Roads and Highways* sector (see Datasheet).

Annex 9: Map



ROADS UNDER DESIGN-BUILD CONTRACTS					
Road ID	Road Name	Section	From	To	Length (km)
sh43	Tianeti - Akhmeta - Kvareli - Ninigori	Tianeti - Akhmeta	1.0	30.0	29.0
sh26	Jinvali - Barisakho - Shatili	Jinvali - Barisakho	16.0	32.0	16.0
sh119	Tchrebalo - Nikortsminda	Tchrebalo - Nikortsminda	0.0	25.0	25.0
sh137	Khidistavi - Ateni - Boshuri	Khidistavi - Ateni - Boshuri	12.4	22.5	10.1
				TOTAL	80.1

ROADS UNDER OPRC CONTRACT				
Road ID	Road Name	From	To	Length (km)
sh02-1	Sajavakho-Chokhatauri-Ozurgeti-Kobuleti	0.0	19.0	19.0
sh02-2	Sajavakho-Chokhatauri-Ozurgeti-Kobuleti	19.0	48.0	29.0
sh02-3	Sajavakho-Chokhatauri-Ozurgeti-Kobuleti	48.0	68.0	20.0
sh45-1	Ozurgeti-Shemokmedi-Bzjuzjhesi-Gomismta	0.0	12.5	12.5
sh45-2	Ozurgeti-Shemokmedi-Bzjuzjhesi-Gomismta	12.5	17.5	5.0
sh45-3	Ozurgeti-Shemokmedi-Bzjuzjhesi-Gomismta	17.5	32.6	15.1
sh46-1	Ozurgeti-Natanebi-Ureki	0.0	3.0	3.0
sh46-2	Ozurgeti-Natanebi-Ureki	3.0	16.0	13.0
sh46-3	Ozurgeti-Natanebi-Ureki	16.0	22.0	6.0
sh47	Shukhuti-Astana-Mamati-Dzimiti	0.0	17.5	17.5
sh80	Natanebi-Choloki Bridge	0.0	8.1	8.1
sh81-1	Chokhatauri-Bakhmaro	0.0	6.0	6.0
sh81-2	Chokhatauri-Bakhmaro	6.0	24.0	18.0
sh81-3	Chokhatauri-Bakhmaro	24.0	34.0	10.0
sh81-4	Chokhatauri-Bakhmaro	35.0	53.0	18.0
sh82	Ozurgeti-Ninoshvili-Lesa	0.0	24.8	24.8
sh83-1	Chokhatauri-Zomleti	0.0	3.0	3.0
sh83-2	Chokhatauri-Zomleti	3.0	15.0	12.0
			TOTAL	239.4