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IDA/R2017-0139/1

May 8, 2017

Closing Date: Thursday, May 25, 2017 at 6 p.m.

FROM: Vice President and Corporate Secretary

Rwanda - Lake Victoria Transport Program - SOP1

Project Appraisal Document

Attached is the Project Appraisal Document regarding a proposed scale-up facility credit Rwanda for a Lake Victoria Transport Program - SOP1 (IDA/R2017-0139), which is being processed on an absence-of-objection basis.

Distribution:

Executive Directors and Alternates
President
Bank Group Senior Management
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The World Bank

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Report No: PAD2247

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED SCALE UP FACILITY CREDIT

IN THE AMOUNT OF EURO 75.9 MILLION
(US$81.0 MILLION AND SDR 59.7 MILLION EQUIVALENT)

TO THE

REPUBLIC OF RWANDA

FOR A

LAKE VICTORIA TRANSPORT PROGRAM - SOP1

May 4, 2017

Transport & ICT Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2017)

Currency Unit =	Rwanda Francs (RWF)
RWF839.22 =	US$1
US$ 1 =	SDR 0.73700114
US$ 1 =	EURO 0.93624192

FISCAL YEAR
July 1 – June 30

Regional Vice President:	Makhtar Diop
Country Director:	Ahmadou Moustapha Ndiaye
Senior Global Practice Director:	Jose Luis Irigoyen
Practice Manager:	Aurelio Menendez
Task Team Leader(s):	Muhammad Zulfiqar Ahmed, Emmanuel Taban, Richard Martin Humphreys

ABBREVIATIONS AND ACRONYMS

AADT	Annual Average Daily Traffic
ADM	Accountability and Decision-Making Framework
AfDB	African Development Bank
AICD	Africa Infrastructure Country Diagnostic
APCS	Automated Passenger Clearance System
BNR	National Bank of Rwanda
CAS	Country Assistance Strategy
CCTTFA	Central Corridor Trade and Transport Facilitation Agency
CEI	Construction Engineering and Inspection
CIP	Crop Intensification Program
CO2	Carbone Dioxide
COMESA	Common Market for Eastern and Southern Africa
CPF	Country Partnership Framework
CPS	Country Partnership Strategy
CTOs	Corridor Transport Observations
DA	Designated Account
DB	Design and Build
DB	Doing Business
DBM	Design Build Maintain
DGIE	Directorate General of Immigration and Emigration
DRC	Democratic Republic of Congo
EA	Environmental Assessment
EAC	East Africa Community
EDPRS	Economic Development and Poverty Reduction Strategy
EIRR	Economic Internal Rate of Return
EMS	Emergency Medical Services
ESIA	Environment and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EU	European Union
FA	Financing Agreement
FM	Financial Management
FY	Fiscal Year
GBV	Gender Based Violence
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoJ	Government of Japan
GoR	Government of Rwanda
GPS	Global Positioning System
GRM	Grievance Resolution Mechanism
GRS	Grievance Redress Service

GRSF	Global Road Safety Facility
HDM	Highway Development and Management Model
IBM	Integrated Border Management
IBRD	International Bank for Reconstruction and Development
ICDI	Integrated Corridor Development Initiative
IDA	International Development Association
IFC	International Finance Cooperation
IFMIS	Integrated Financial Management Information System
INDC	Intended Nationally Determined Contributions
IPF	Investment Project Financing
ISDS	Integrated Safeguards Data Sheet
JICA	Japan International Cooperation Agency
KLC	Kigali Logistics Center
LCA	Local Community Association
LLDC	Land Locked Developing Countries
LMICs	Low and Middle Income Countries
LVBC	Lake Victoria Basin Commission
LVTP	Lake Victoria Transport Program
LWH	Land Water Harvesting
M&E	Monitoring and Evaluation
MIDIMAR	Ministry of Disaster Management and Refugees Affairs
MIGEPROF	Ministry of Gender and Family Promotion
MINAGRI	Ministry of Agriculture and Animal Resources
MINEACOM	Ministry of Trade, Industry and East African Community Affairs
MINECOFIN	Ministry of Finance and Economic Planning
MININFRA	Ministry of Infrastructure
MoH	Ministry of Health
MTR	Midterm Review
NAEB	National Agriculture Export Development Board
NCBTS	National Cross Border Trade Strategy
NCTTCA	Northern Corridor Transit and Transport Coordination Authority
NDF	Nordic Development Fund
NGO	Non-Governmental Organization
NPV	Net Present Value
NR	National Roads
NTBs	Non-Tariff Barriers
OAG	Office of the Auditor General
ODA	Official Development Assistance
OP/BP	Operational Policy and Bank Procedures
OSBP	One Stop Border Post
PAHs	People Affected Households
PAPs	Project Affected Persons

PDO	Project Development Objective
PFM	Project Financial Management
PIM	Project Implementation Manual
PIT	Project Implementation Team
PPSD	Project Procurement Strategy Development
PRAMS	Procurement Risk Assessment Management System
RAB	Rwanda Agriculture Board
RAI	Rural Access Index
RALIS	Rwanda Agriculture Livestock Inspection and Certification Services
RAMS	Road Asset Management System
RAPs	Resettlement Action Plans
RCIP	Regional Communications Infrastructure Program
RDB	Rwanda Development Board
REMA	Rwanda Environment Management Authority
RESW	Rwanda Electronic Single Window
RFP	Request for Proposal
RIAS	Regional Integration Assistance Strategy
RMF	Road Maintenance Fund
RNP	Rwanda National Police
RRA	Rwanda Revenue Authority
RSB	Rwanda Standards Board
RSSP	Rural Sector Support Project
RTDA	Rwanda Transport Development Agency
RTI	Road Traffic Injuries
SCD	Systematic Country Diagnostic
SEP	Stakeholder Engagement Plan
SOP	Series of Project
SORT	Systematic Operations Risk Rating Tool
SPIU	Single Project Implementation Unit
STEP	Systematic Tracking of Exchanges in Procurement
SUF	Scale- Up Facility
SWIFT	Single Window Information for Trade
TA	Technical Assistance
TMEA	Trade Mark East Africa
ToR	Terms of Reference
TTFA	Transit and Transport Coordination Authority
US$	United States Dollars Currency
VAT	Value Added Tax
WB	World Bank
WHO	World Health Organization
WIM	Weigh-in-Motion Axle Load Bridge

BASIC INFORMATION

Is this a regionally tagged project?	Country(ies)	Financing Instrument
Yes	Rwanda, Tanzania, Uganda	Investment Project Financing

[ ] Situations of Urgent Need of Assistance or Capacity Constraints

[ ] Financial Intermediaries

[✔] Series of Projects

Approval Date	Closing Date	Environmental Assessment Category
25-May-2017	31-Dec-2023	B - Partial Assessment

Bank/IFC Collaboration
No

Proposed Development Objective(s)

The program development objective is to facilitate the sustainable movement of goods and people in the Lake Victoria region, whilst strengthening the institutional framework for transport safety.

The project development objective for SOP1 Rwanda is to improve the efficient and safe movement of goods and people along the regional corridor from the border crossing at Rusumo to the border crossing at Nemba and Rusizi together with upgrades to road asset management and road safety in Rwanda.

Components

Component Name	Cost (US$, millions)
Improving the physical infrastructure	96.90
Improving the institutional infrastructure and implementation assistance	7.10

Organizations

Borrower : Ministry of Finance and Economic Planning, Republic of Rwanda

Implementing Agency : Rwanda Transport Development Agency (RTDA)

Safeguards Deferral

Will the review of safeguards be deferred?

[ ] Yes [ ] No

PROJECT FINANCING DATA (IN USD MILLION)

[✔] Counterpart Funding	[ ] IBRD	[✔] IDA Credit [ ] Crisis Response Window [ ] Regional Projects Window	[ ] IDA Grant [ ] Crisis Response Window [ ] Regional Projects Window	[ ] Trust Funds	[ ] Parallel Financing

Total Project Cost:	Total Financing:	Financing Gap:
104.00	104.00	0.00
	Of Which Bank Financing (IBRD/IDA): 81.00	

Financing (in US$, millions)

Financing Source	Amount
Borrower	23.00
International Development Association (IDA)	81.00
Total	**104.00**

Expected Disbursements (in US$, millions)

Fiscal Year	2017	2018	2019	2020	2021	2022	2023	2024
Annual	0.00	4.96	9.93	15.50	18.13	17.40	13.04	2.04
Cumulative	0.00	4.96	14.89	30.39	48.53	65.92	78.96	81.00

INSTITUTIONAL DATA

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Climate Change and Disaster Screening

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

Gender Tag

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

Yes

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

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

8. Stakeholders	Moderate
9. Other	Substantial
10. Overall	Substantial

COMPLIANCE

Policy

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

[ ] Yes [✔] No

Does the project require any waivers of Bank policies?

[ ] Yes [✔] No

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

Legal Covenants

Sections and Description

FA Schedule 2, Section I.F.2: The Recipient shall cause the Project Implementing Entity, to include in the Project Reports referred to in Section II.A of this Schedule adequate information on the implementation of the ESIA, including the ESMP, and the RAP giving details of: (a) measures taken in furtherance of the ESIA or the RAP; (b) conditions, if any, which interfere or threaten to interfere with the smooth implementation of the ESIA or the RAP; and (c) remedial measures taken or required to be taken to address such conditions and to ensure the

continued efficient and effective implementation of the ESIA or the RAP.

Sections and Description
FA Schedule 2, Section I.F.3: Without limitation to the provisions of Section I.F.1 and I.F.2 above, the Recipient shall implement the associated JICA-financed section of the Nyanza-Ngoma road, or cause the associated JICA-financed section of the Nyanza-Ngoma road to be implemented, in accordance with the ESIA and the RAP, and in a manner acceptable to the Association.

Sections and Description
FA Schedule 2, Section II.B.4:The Recipient shall: (a) shall not later than three (3) months after the Effective Date, roll out the integrated financial management information system (IFMIS) for the Project; and (b) not later than three (3) months after the Effective Date recruit an accountant for the Project, in accordance with the requirements for consulting services set forth in the Procurement Regulations.

Conditions

Type	Description
Effectiveness	FA Article V— EFFECTIVENESS; TERMINATION: 5.01. The Additional Condition of Effectiveness consists of the following, namely, that the Subsidiary Agreement has been executed on behalf of the Recipient and the Project Implementing Entity.

PROJECT TEAM

Bank Staff

Name	Role	Specialization	Unit
Muhammad Zulfiqar Ahmed	Team Leader(ADM Responsible)	Senior Transport Engineer	GTI01
Emmanuel Taban	Team Leader	Highway Engineer	GTI01
Richard Martin Humphreys	Team Leader	Lead Transport Economist	GTI01
Mulugeta Dinka	Procurement Specialist(ADM Responsible)	Procurement	GGO01
Enagnon Ernest Eric Adda	Financial Management Specialist	Financial Managment	GGO31
Ankur Huria	Team Member	Trade	GTCTC
Antoinette Kamanzi	Team Member	Procurement/STEP	AFMRW

Atsushi Iimi	Team Member	Transport Economist	GTI01
Benqing Jennifer Gui	Team Member	ICT	GTI11
Dominic S. Haazen	Team Member	Trauma Emergency Management	GHN13
Edith Ruguru Mwenda	Counsel	Legal	LEGAM
Emmanuel Muligirwa	Team Member	Environmental Safeguards	GEN01
George Bob Nkulanga	Team Member	Social Safeguards	GFA07
Karla Dominguez Gonzalez	Team Member	Gender	GTI04
Lilian Wambui Kahindo	Safeguards Specialist	Social Safeguards	GSU07
Maiada Mahmoud Abdel Fattah Kassem	Team Member	Finance Officer	WFALA
Mwiseneza Huguette	Team Member	Team Assistant	AFMRW
Svetlana Khvostova	Environmental Specialist	Environmental Safeguards	GEN01
Tara Shirvani	Team Member	Climate Change	GTI08
Tatiana S. Daza	Team Member	Sr. Program Assistant	GTI07

Extended Team

Name	Title	Organization	Location

EASTERN AFRICA
LAKE VICTORIA TRANSPORT PROGRAM - SOP1, RWANDA

TABLE OF CONTENTS

I. STRATEGIC CONTEXT

A. Project Background

1. Regional trade can be an important source of growth and poverty reduction. The East Africa region is highly diverse with considerable potential for significant gains from deeper integration. The countries of the region include Kenya, with its manufacturing and service industries, as well as Uganda, Rwanda, Burundi, and Tanzania, all with untapped agricultural potential and natural resources, and a labor endowment that is trained, relatively inexpensive and well-positioned to compete globally. Within the region, the catchment area of Lake Victoria (defined by areas within 100 km from the Lake) alone holds a population of around 35 million people, and generates an approximate Gross Domestic Product (GDP) of some US$30 billion, or around 40 percent of the total GDP from all the East Africa Community (EAC) Countries. Agriculture remains crucial for inclusive growth, contributing 20-30 percent of GDP and employing 60-70 percent of the total regional workforce. From an agro-climatic point of view, the lake region is estimated to have a theoretical potential of US$63 billion of agricultural production per annum, assuming no constraints on land use. However, the region currently produces only US$4.8 billion of agricultural commodities per annum. Yet, this accounts for a significant share of total agricultural production in Kenya, Tanzania and Uganda.

2. The economies of eastern Democratic Republic of Congo (DRC), Burundi, Rwanda, western Uganda, Tanzania and northern Zambia have been inextricably linked through cross-border and lake-based trade for centuries. Border communities often remain in a state of acute socioeconomic vulnerability and suffer disproportionately from poverty and displacement. Creation of improved economic opportunities through facilitation of cross-border commerce is one of the best ways to promote economic and social interdependence and improve regional stability.[1] Cross-border trade is an important source of goods, services, and incomes for conflict affected populations throughout the Lake Victoria Region. Trade facilitation is especially important in the context of fragile, conflict and violence-affected states because it allows such countries to reconnect with the world and to trade in goods and services that are critical for their economic and social development. Trade generates solidarity between communities as people from all ethnicities and backgrounds exchange with each other across borders. Research on the links between trade and conflict shows that greater bilateral trade reduces the probability and intensity of conflict because of the opportunity cost associated with the loss of trade gains.[2]

3. Whilst the East Africa Community is among the most integrated sub-regions in Africa, regional connectivity remains particularly challenging for landlocked Rwanda, which is served by Dar es Salaam and Mombasa - the two major regional seaports. There are a number of ongoing projects to improve regional transport mobility along the Northern and Central Corridors[3], including the two regional ports,

[1] The underlying sources of the conflict are discussed in *Reviving the Great Lakes: A World Bank Group Regional Initiative for Peace, Stability and Economic Development.*
[2] Cali M (2015). *Trading Away from Conflict: Using Trade to Increase Resilience in Fragile States. Directions in Development – Trade. Washington, DC: World Bank.*
[3] *Norther Corridor* - is the transport corridor linking the land locked countries of Uganda, Rwanda and Burundi with

and in the Great Lakes Region for trade facilitation. However, around Rwanda, transport costs to reach closer cities in its neighboring countries remain significantly high, except for adjoining cities, e.g., Goma and Bukavu in DRC adjoined to Gisenyi and Cyangugu in Rwanda. Rwanda is relatively well connected to Burundi, and to Mbarara in Uganda. Connectivity on the Tanzanian side is however much more limited. Despite its closer proximity, Bukoba, a port city situated on Lake Victoria in Tanzania, is far from Rwandan cities. Because of a large forest reserve area between the two countries and because of the poor condition of the non-primary road network in Tanzania,[4] the road distance from Kigali to Bukoba is nearly 400 km, and the transport cost is as high as US$26.8 per ton, comparing unfavorably with other regional connections (c.f., US$30.2 per ton to Kampala and US$31.8 per ton to Mwanza, Tanzania, both of which are more than 500 km away from Kigali). Therefore, the current trade volume of Rwanda through Tanzania is still much less than that via Uganda, regardless of geospatial advantage of the Central corridor, with DRC being Rwanda's biggest trade partner.

4. The Ngoma-Nyanza road in Rwanda, whose improvement would be financed by the project, is an important component of the Integrated Corridor Development Initiative (ICDI) in the EAC countries, prepared jointly by the EAC Secretariat and the World Bank, and endorsed at the Third EAC Heads of State Retreat held in Nairobi in November 2014. The project and the Lake Victoria Transport Program (LVTP) complements a number of other regional programs, supported by the World Bank in the region and Rwanda – these include, the Great Lakes Trade Facilitation Project (P151083); the EAC Accelerated Regional Integration Project (P154227); the Rwanda Investment Climate Project, Regional Rusumo Falls Hydroelectric Project (P075941), and the Lake Victoria Environmental Management Program (P118316). In addition to World Bank, other development partners (particularly Trade Mark East Africa (TMEA)) are tackling numerous Non-Tariff Barriers in the space. There remain key trade facilitation gaps not covered such as reviewing trade processes and procedures with a view to developing appropriate Integrated Border Management (IBM) solutions for the border with DRC at Rusizi I; and ensuring that the border solutions currently implemented are inclusive by enabling the use of Automated Passenger Clearance System (APCS) kiosks for immigration to facilitate small traders to trade across the border. The proposed improvements in infrastructure and trade facilitation will increase accessibility and add value to some of the activities that are financed under those other World Bank projects.

5. The Ngoma-Nyanza road - covering approximately 130 km distance from Ngoma to Ramiro and to Nyanza in the Southern Province and Eastern province - is also among the priority roads sections identified under the poverty reduction strategy for Rwanda EDPRS II under which the government plans to upgrade about 830 km of national roads to paved standards by 2018. The Ngoma-Nyanza road sections, when upgraded, will play a key role in the regional EAC network, by shortening the distance (about 70 km) traversed by all transit traffic from Tanzania (Rusumo border) passing into Burundi and Eastern DRC in the South, and improve the connectivity between Southern Rwanda and the significant potential market in the hinterland of Lake Victoria. It will promote the socio-economic development of the area, by improving the road infrastructure, favoring the public transport, opening a new door to tourism, and being an import-export corridor promoting large-scale agricultural development. The regional significance of this road section was also underlined by its inclusion as a priority project in the

Kenya's maritime port of Mombasa, and serves Eastern part of the Democratic Republic of Congo, South Sudan and Northern Tanzania. *Central Corridor* - connects the Port of Dar es Salaam by road, rail and inland waterways to Burundi, Rwanda, Uganda and Eastern part of the DRC and all of central and northern-western Tanzania itself.

[4] The analysis takes not only the condition of road infrastructure but also border crossing into account.

ICDI final report.[5]

B. Regional Context

6. The countries of the region face a number of common problems: isolation from mature and emerging markets, high rate of unemployment, a large informal sector, overreliance on primary commodities and high transport costs, which constitute a critical constraint for development. Improving the regional transport network is a necessary condition for competitiveness and improved integration into the regional and global market. In this framework, an integrated intermodal corridor development is necessary, in order to improve connectivity to the land-locked countries of the region, to increase options in terms of access to the maritime ports and reduce dependence on any one corridor/port, to reduce costs and to improve reliability.

7. While the Northern and the Central Corridor both are broadly competitive in terms of cost per km, they do not perform well when it comes to trade competitiveness. This is due to several reasons: (i) Rail transport, which is slightly cheaper than road transport, is underdeveloped because of the poor existing infrastructure and unreliable service. Travel times are significantly higher than road transport with the route Mombasa to Nairobi counting 36 hours of journey;[6] (ii) Regional ports are underperforming and the situation is worsening from year to year because of the significant increases in port volumes. In Dar es Salaam port, average moves per hour ranges from eight on the public operated quays to over 20 on the private operated quays. In Mombasa, the comparative figure is 10, whilst it is 15 in the port of Durban, operated by a public service provider.[6] This is coupled with significant constraints of land and maritime access; and (iii) inland waterway transportation both in Lake Victoria and in Lake Tanganyika is significantly underdeveloped because of the very poor existing infrastructures, the limited access to the lake ports and the considerable safety issues.

8. The problems are not just physical, but rather the effectiveness of the system, which is impeded by institutional barriers. At a regional level, a clear legal framework within which the LVTP is set is in place, including the following relevant regional protocols, agreements and EAC initiatives: (a) East Africa Community Treaty; (b) East Africa Customs Union Protocol; (c) Lake Victoria Transport Act and Inland Waterways Protocol; and (d) Protocol for the Sustainable Development of Lake Victoria. However, whilst the overarching institutional framework is in place, the implementation of the regional agreements in operational terms has not yet taken place. As with the maritime ports sector, despite the need of fundamental institutional reform and restructuring –both in Mombasa and in Dar es Salaam – progress has been remarkably slow, sporadic and selective. What is more, in Burundi and Rwanda, the licensing of road transport at a national level reverses the market access liberalization envisaged under regional agreements such as “The Northern Corridor, Transit and Transport Agreement” and the “EAC Tripartite Agreement”.[6]

9. The common objective should be a ‘regional transport policy and strategy’ as per Article 89 of

[5] The ICDI is presented in *Building a Reform Consensus for Integrated Corridor Development in the East African Community (EAC) Countries*.
[6] *“Building a Reform Consensus for Integrated Corridor Development in the East Africa Community (EAC) Countries”,* April 15, 2015, the World Bank

the EAC Treaty, but overcoming the difficulties observed will take time. It is worth noting that a Common Transport Policy took 20 years to develop in the European Union. It will be essential, for EAC member countries to update their national transport policies, ensure that they are comprehensive, in terms of covering all the modes, and that the result is more closely aligned with regional needs and priorities. According to the recent regional study[6], traffic volumes in the region are expected to increase significantly in the future. The majority of this increased traffic would be expected to access and egress the respective ports by road, with a predicted mode split in 2030 of 88 percent and 80 percent in favor of road for Mombasa and Dar es Salaam respectively. The highest economic returns result from the reintroduction of transport services on Lake Victoria and Lake Tanganyika – and their reintegration into the regional transport network.

C. Country Context

10. Rwanda comprises four provinces[7] and the City of Kigali, all divided into thirty districts. According to provisional results from the fourth Population Census, 2012, the total population is 10.5 million, with a population density of 416, the highest in Africa. Rwanda has been experiencing impressive economic growth, with an average growth rate of 7.7 percent in the last decade, primarily driven by the service, agriculture and mining sectors. Despite this growth, Rwanda is still amongst the poorest countries in the world. With a GDP per capita of US$697 (2015), the national poverty head count was high at 39.1 percent in 2013/14 (compared to 44.9 percent in 2010/11).[8] For rural areas, it was higher at 48.7 percent, whereas poverty in urban areas was at 22.1 percent in 2010/11. With 72 percent of population residing in rural areas and relying on subsistence farming, agriculture is accounting for about three-quarters of the total employment and generating about 33 percent of GDP. Rwanda imports about US$2.5 billion worth of goods, including food products, every year. Agriculture accounts for about 40 percent of total exports from Rwanda.

11. The Government of Rwanda (GoR) has shown clear commitment to address development challenges with policies and strategies for economic and social transformation that promote growth with shared prosperity. In particular, the GoR has assigned fundamental importance to the development of the economic infrastructure of the country, and in particular to road transportation. The Vision 2020 sets out the Government's goal to promote Rwanda to middle income status. In order to achieve the long-term goals, the GoR has formulated a medium term strategy, EDPRS II, covering the period 2013 to 2018. EDPRS II has four strategic themes: (i) economic transformation; (ii) rural development; (iii) productivity and youth employment; and (iv) accountable governance. Development of the road infrastructure constitutes one of the economic development strategies for reduction of poverty and for stimulating social-economic growth: facilitating access to domestic/international markets and ensuring favorable conditions for provision and distribution of imported products within the country, improved road infrastructure increases internal production and, in general, economic welfare.

12. In recent years, the GoR has implemented several ambitious programs (i.e. crop intensification program, one cow per poor family, access to fertilizers, etc.) to increase productivity in the agriculture

[7] Northern, Eastern, Southern and Western.
[8] National Institute of Statistics of Rwanda (2015). Rwanda Poverty Profile Report: Integrated Household Living Conditions Survey 2013/14.

sector. But poor physical infrastructure – exacerbated by hilly/mountainous topography – remains a major constraint to increasing access, diversifying production, and enhancing competitiveness. As a result of isolation, insufficient all-season connectivity and high transport costs, farmers have difficulties sourcing and transporting key inputs (like seeds or fertilizers) and marketing their products. A significant part of perishable products are lost or damaged in transit. The lower farm gate prices of agricultural products perpetuate basic subsistence agriculture since poor farmers cannot save enough to modernize.

D. Sectoral and Institutional Context

13. Transport infrastructure in Rwanda is comprised of: (a) Road transport – with a relatively well developed road network, which remains the main form of passenger and goods transportation, corresponding to a road density of 0.53 km/sq km; (b) Air transport - with one international airport and six aerodromes spread across the country; and (c) water transport - limited mainly to Lake Kivu. Rwanda does not have a rail transportation system. Compared to its neighbors, Rwanda has the highest transport costs estimated at 40 percent of the value of imports or exports; these costs are about 12 percent and 36 percent in Kenya and Uganda respectively. Rwanda has a well-established road network comprising about 30,000 km of classified and unclassified roads. About 14,400 km is classified, and consists of 2,749 km of National Roads and 3,848 km and about 7,800 km of District Class 1 and 2 Roads, respectively. Out of these, only 1,250 km of national and 58 km of district roads are paved. Intensive road rehabilitation works focused primarily on national roads over the last decade, and Rwanda has achieved a notable success in maintaining the national paved road network.

14. The context of Rwanda's regional integration efforts and its trade facilitation and logistics progress is best understood through highlighting recent developments both in country and along the Northern and Central Corridors and by identifying selected gaps and challenges across hard and soft trade infrastructure and connectivity to markets. Rwanda has been an active trade reformer in the EAC region recognizing that its location on the northern and central corridors implies the need to extract as much efficiency as possible from its trade logistics and facilitation system. There has been a large improvement in the reduction of non-tariff barriers (NTBs) that existed along the corridors, particularly in relation to import and export from Rwanda. For instance, the World Bank report on *Doing Business (DB) Trading Across Borders (2007)* presented data showing how the change in barriers has taken place over the past decade. DB 2007 data suggested that it used to take 95 days to import and 60 days to export from Rwanda. In 2015, the last time the same methodology was used, import time fell to 27 days and export to 26 days. In Rwanda, this was due to an extensive reform program that included simplifying trade transactions and automation to implement a national single window, reducing the number and improving the coordination of border agencies including for inspections, introducing risk management for border control, and investing in one-stop border posts (OSBPs) that facilitate trade.[9]

15. The Northern and Central corridors have established observatories to monitor the performance of both corridors. These Transport Observatories emerged as the result of the efforts made over the years to address the specific challenges faced by landlocked developing countries. Corridor performance depends on a complex combination of factors involving public and private entities (logistics operators,

[9] http://documents.worldbank.org/curated/en/313321467998192410/Export-diversification-in-Africa-the-importance-of-good-trade-logistics)

control and enforcement agencies), hard and soft (transport infrastructure and facilities, legal and regulatory environment, procedures and practices). The objective of Corridor Transport Observatories (CTOs) is to increase the understanding of obstacles so that remedial actions can be identified and implemented.[10] The CTO was set up to enable Central Corridor Transit and Transport Coordination Authority (TTFA) achieve its vision of making the Central Corridor the most competitive Corridor in East and Central Africa by monitoring a number of Corridor Performance Indicators. Those indicators provide a set of tools for the diagnosis of problems relating to high transport costs along the Corridor through identifying areas requiring improvements. CTOs have since recorded improvements in the Port of Mombasa, removal of NTBs (road blocks and multiple weigh stations), improved trade facilitation at borders, investments in trucking fleets, and other related reforms.[11] An evaluation of the Rwandan single window implementation in 2015 suggests that close to US$18 million has been saved in trade costs with a reduction in the average time to clear imported goods through customs from 264 hours (11 days) in 2012 to 34 hours (1.5 days) after implementation. Export clearance times dropped from 67 hours (about 3 days) to 34 hours (about 1.5 days).[12]

16. In Rwanda, despite the above gains, poor infrastructure and trade facilitation costs are often identified as a critical constraint by business operators. Dar es Salaam port is about 1,500 km from Kigali, the transport cost is estimated at US$96.1 per ton, and it takes about 19.5 hours direct travel time. For a landlocked country like Rwanda, high transport costs are crucial. About 60 percent of the firms in Rwanda rely on imports for inputs and/or supplies with the cost of each additional day of delay estimated to be as much as US$200-400 per container, adding to high transport costs.[13] The current trade and transport costs and travel time are a significant burden on the economy. It costs US$4,990 per 20-foot container to import goods, which compares unfavorably with Tanzania, a regional gateway country (US$1,615 in 2014).[14] Firms may often miss business opportunities because of unanticipated shipment delays, and they have to be prepared to bear extra inventory costs as well as additional days of inventory of main inputs, which compares unfavorably to non-landlocked neighboring countries.

17. The National Logistics and Distribution Strategy, which was endorsed by the Cabinet in 2013, aimed to mitigate Rwanda's logistics challenges. In particular, to address high cost of trade and to transform Rwanda's logistics system and to establish logistics and distribution facilities (hard infrastructure gaps) strategically aligned to production centers aiming to improve competitive advantage for Rwandan firms and exporters. Dubai-based marine terminal operator DP World recently (January 2016) won a 25-year concession to develop and operate the Kigali Logistics Center (KLC), a project expected to enhance Rwanda's logistics industry to support the export of its products for regional and international markets. The KLC is also expected to increase traffic to and from Rwanda.

18. Equally, the faster movement of goods and people at the border crossings can be facilitated by improving border management (soft infrastructure gaps) at the One Stop Border Posts (OSBP). Unlike

[10] https://www.ssatp.org/sites/ssatp/files/publications/SSATPWP98-Guidelines-Corridor-Observatory.pdf)
[11] http://www.ttcanc.org/reports.php: http://observatory.centralcorridor-ttfa.org/index.php/en/dashboard/listIndicators
[12] http://documents.worldbank.org/curated/en/248011488807240462/pdf/113173-BRI-IFC-SMART-LESSONS-BRIEF-PUBLIC-20170303T111535-2017-Rwanda-Single-Window-Trade-A.pdf)
[13] Based on the 2011 Business Environment and Enterprise Performance (BEEP) data.
[14] Latest available figures in the World Bank Doing Business data are for 2014.

with the EAC partner states, Rwanda does not have a legal agreement under which it can develop the OSBP with DRC. However, for the OSBP to function efficiently, it is essential that operations of both sides of border are efficient and coordinated. In that sense, the need for an Integrated Border Management (IBM) strategy and implementation at the OSBP is crucial. Additionally, at other border posts, Rwanda has developed Joint Border Coordination Committees. While these steps are likely to take some detailed preparation, in general coordination levels with the DRC in relation to border issues has achieved some recent successes. In particular, DRC is the first country with which Rwanda has completed the demarcation of its borders amongst its neighbors.

19. By contrast, domestic connectivity in Rwanda, especially along the primary road network connected to Kigali, is relatively good compared with regional connectivity, although rural accessibility remains challenging. For instance, the road distance from Rwamagana to Bukoba (on Lake Victoria) is six times longer than that to Kigali, and the cost to Bukoba is more than seven times higher than that to Kigali. As a result, most of the current traffic tends to be concentrated on major National Roads, such as NR1, NR2 and NR4, connected to Kigali. This has a significant implication to traffic congestion in the City of Kigali, which has become worse in recent years. All these major roads have to pass through Kigali, because the quality of the other roads is relatively poor.

20. Against these backgrounds, the project aims at promoting the efficient and safe movement of goods and people along the regional corridor from Tanzania to Rwanda and other neighboring countries, particularly through the border crossing at the Rwanda-Tanzanian border, Rusumo. The Central Corridor, through Tanzania, extends 2,170 km and connects Uganda, Rwanda, Burundi and Democratic Republic of Congo with Dar es Salaam and its Port. In the Central Corridor context, the Ngoma-Nyanza national road is about 130 km distance, which has been divided into two upgrading sections of 119.35 km, namely; Lot 1- Kibungo-Ramiro (52.8 km), and Lot 2: Kibugabuga- Shinga - Gasoro (66.55km). It is an important extension to facilitate more efficient freight movements of cargoes and passengers within the country and across countries, especially from Tanzania to Southern Province of Rwanda as well as Burundi and DRC. The proposed road when upgraded will directly serve about 28 percent of Rwandan population that lives along it. Road user costs would likely be reduced considerably. By diverting freight traffic, from the currently congested National- Roads which go through Kigali, the capital city's congestion would also be relieved. The upgraded road section will also complete the missing southern loop link in the Rwanda national paved road network.

21. The main determinant of the traffic that will be generated by the upgrading of the road is the agriculture production and other developments along the road. National statistics show that the population in Bugesera District amounts to 362,000, and together with its neighboring districts (Gashora, Kamabuye, Mayange, Ngeruka, Nyarugenge and Ruhuha), accounts for 40 percent of the total population of the country. Bugesera District is estimated to produce about 230,000 tons of agricultural produce, which accounts for 9.4 percent of total production in the Eastern Province. The agriculture sector is estimated to grow by 4.9 percent per annum. Including agricultural inputs and equipment, this will be generating significant demand for truck transportation.[15]

[15] Feasibility study for design, build and maintenance (DBM) contracting for Ngoma-Nyanza road (130km) upgrading project. Final Report, November 2016.

22. In addition, the Government of Rwanda set up 330 hectare of land for the Bugesera industrial park, which is located on the NR 5 between Ramiro and Kibugabuga towns. At present only one industry is operating in the area, a steel rolling mill, producing steel bars and some steel plates obtained from steel scraps. The plant has the capacity of 30,000 ton/year, the current output accounts for 12,000 tons. As adequate infrastructure is developed, more industries are expected to be established in the next three years. Although many inputs and outputs would be transported from and to Kigali, significant truck traffic would also be generated along the Ngoma – Nyanza Road.[15]

23. Finally, a new international airport located at 25 km south of Kigali in Bugesera District is expected to come into service in 2018. The new Bugesera International Airport will generate additional passenger and cargo traffic, and the Nyanza-Ngoma road will facilitate access to the airport for travelers coming from south-western and south-eastern districts. Currently, Kigali International Airport serves 600,000 passengers per year, which is expected to increase to 878,460 by 2019. In Rwanda, with the steady economic growth in the last five years, the air passenger traffic has grown strongly by about 10 percent per year. Assuming that half of the current traffic would be diverted to the new airport, 20 percent of the passengers would come from Nyanza and Huye, 10 percent from Ngoma and Kirehe, and with the average vehicle occupancy being four passengers per car, about 60 and 30 light vehicles per day would pass Kibugabuga-Shinga-Gasoro and Ngoma-Ramiro section, respectively.[15]

24. Rwanda places considerable priority on establishing and strengthening the institutions in the transport sector to ensure that they meet their mandate in an effective and efficient manner. The transport sector is under the responsibility of the Ministry of Infrastructure (MININFRA), which aims to enhance quality, sustainability, efficiency and effectiveness of infrastructure facilities in the country. The Rwanda Transport Development Agency (RTDA) was established as an autonomous agency to oversee the transport sector infrastructure in 2010. RTDA is currently mandated with management of 6,500 km of national and district classified road network, including more than 1,250 km paved roads. RTDA has an annual budget of approximately US$100 million from the government. It has a staffing strength of 97, of which 63 are technical staff. Rwanda has successfully maintained its road network through establishing in 2003 a functional and independent Road Maintenance Fund (RMF) with a current estimate annual revenue of 35 billion RWF. RMF is covering 100 percent of the paved roads and 70 percent of classified unpaved roads using revenue sources that include fuel levies and transit fees collected from traffic passing through Rwanda's borders.

25. In addition to the management and upgrading of the physical infrastructure, there are several other initiatives relating to safety and sustainability in the road transport sector. However, road safety, axle load control and integrated border management deserve closer attention. There are eight-axle load stations at entry points in Rwanda which are non-operational at this time for various reasons including lack of appropriate computer software. RTDA and the National Police have the mandate of checking and enforcing axle load control, however, they do not have sufficient means either in regulation or operational equipment. RTDA needs to commission assistance to make recommendations to improve/implement effective axle load regulation in harmonization with the EAC.

26. Improvements to road infrastructure coupled with speedy movement of people and goods have also increased hazards to the dwellers along the roads. World Health Organization (WHO) data estimates that 1.2 million people worldwide, and 3,782 in Rwanda, died in 2013 as a result of road

traffic injuries (RTI). In Rwanda, the rate of RTI per 100,000 population is tied with Iran as the eighth worst in the world at 32.1, only slightly better than Tanzania's rate of 32.9. Across Sub-Saharan Africa, RTIs are expected to increase from the 10th leading cause of death in 2015, with 243,000 deaths (or 25 per 100,000 population), to the 6th leading cause of death in 2030, with 514,000 deaths (38 per 100,000). Not all groups are equally vulnerable to RTIs. RTIs are the leading cause of death globally among those aged 15-29 (13.1 percent of all deaths, and especially for males in this age group (18.3 percent of deaths). Approximately 90 percent of RTI deaths occur in low- and middle-income countries (LMICs).[16] An assessment of post-crash response systems – one of the five pillars of road safety – is needed in Rwanda and the project provides the opportunity to support this activity and provide the basis for improving the system along the project corridor following the Safe System approach during implementation.

E. Higher Level Objectives to which the Project Contributes

27. **The World Bank Twin Goals**. The LVTP supports the World Bank's twin goals of reducing extreme poverty and enhancing shared prosperity, as it facilitates economic growth, trade facilitation and access to jobs, in the hinterland of Lake Victoria. The revitalization of intermodal transport on and around Lake Victoria in a sustainable manner will help to reduce transport costs and improve access, both for the communities living around the Lake, and the other Landlocked Developing Countries (LLDC) of the region, and the key maritime gateways. The provision of the second access to the sea (as part of the central corridor) for many of these LLDCs will not only lead to lower costs, but also improve the resilience of the transport system.

28. **Africa Infrastructure Country Diagnostic and the World Bank's Africa Strategy.** The LVTP and SOP1 in Rwanda are supported by the recommendations of the Africa Infrastructure Country Diagnostic (AICD) and the World Bank's Africa Strategy. AICD highlights that Africa's infrastructure networks increasingly lag behind those of other developing countries and are characterized by missing regional links and limited access. It notes that regional integration can contribute significantly to reducing infrastructure costs, by allowing countries to capture scale economies and manage regional public goods effectively. The Africa Strategy advocates regional integration and regional solutions. It notes that many of Africa's challenges can best be addressed through cooperation and integration at the regional level. Such an approach offers the prospect of larger scale and lower unit costs in the provision of key infrastructure; more efficient risk-sharing mechanisms; bigger and more competitive markets; and enhanced regulatory coherence, effectiveness, and credibility.

29. **Regional Integration Assistance Strategy**. The LVTP program and SOP1 project in Rwanda are also consistent with the Regional Integration Assistance Strategy (RIAS) for Sub-Saharan Africa. The RIAS focuses on the creation of open, unified, regional economic spaces, as a means of creating an enabling environment to foster a competitive and efficient private sector in Africa. The LVTP and SOP1 project in Rwanda directly support three pillars of this strategy: (a) development of regional infrastructure to improve cross-border interconnectivity, by developing an integrated, efficient, cost-effective and adequate transport system for economic growth and trade facilitation; (b) institutional cooperation and economic integration, by focusing on strengthening the corridor management and monitoring

[16] WHO Global Status Report on Road Safety 2015.

institution; and (c) coordinated interventions to provide regional public goods.

30. **Rwanda Vision 2020 and EDPRS II, and World Bank Country Strategy.** The objectives of this project are in line with the country's long term vision articulated in the Rwanda Vision 2020 to become a lower middle income economy by 2020. Improved condition of rural roads and increased connectivity to market centers is aligned with objectives under the new Country Partnership Strategy (CPS: FY2014-2018, report number 88941) for Rwanda in which improved access to and quality of infrastructure services is highlighted as one of the key pillars. Improved road access is considered to be a critical factor to raise agriculture production and increase commercialization, which is the core objective of the CPS, aiming to contribute to EDPRS objectives of raising growth and creating jobs, through promoting commercialization of agriculture by increasing access to markets and improving the delivery of extension services. Improvement of road conditions and road maintenance will also contribute to social protection, by promoting public works.

31. **Rwanda Agriculture Development Strategy**. The project supports the overarching agriculture development strategy outlined in the Strategic Plan for the Transformation of Agriculture in Rwanda – Phase 3 (PSTA 3); the National Post-Harvest Staple Crop Strategy; and the National Decentralization Policy of 2008. The GoR and development partners have intensified their support to agriculture and infrastructure development. In line with this, the GoR has launched the Crop Intensification Program (CIP), the Land Husbandry, Water Harvesting and Hillside Irrigation Project (LWH) and the Rural Sector Support Project (RSSP). The agriculture initiatives stress the need to develop agricultural marketing roads to reduce post-harvest loss and the price of delivering agricultural inputs in the project areas. This project will thus also enhance the impact of the ongoing operations in fostering growth and poverty reduction in the project areas.

32. **Rwanda Strategy for Climate Change and Low Carbon.** The project supports the Rwanda National Adaptation Program of Action to Climate Change adopted in 2006, and the National Strategy on Climate Change and Low Carbon Development prepared in 2011. The Strategy represents a critical step on the pathway to achieving sustainable economic growth based on building strong systemic climate resilience linked with deliberate low carbon production and lifestyle patterns. Moreover, the project also addresses the government's commitment to the "V20" or "Vulnerable 20" group of top nations globally which are most affected by the catastrophes rooted from climate change. Rwanda being one of them having mountainous/hilly terrain, an annual precipitation of 1,000 mm, and high vulnerability to extreme climate events. It has repeatedly suffered from major flood events in 1997, 2006, 2007, 2008, and 2009 and rainfall resulting in landslides, soil erosion, infrastructure damage, and fatalities. Poorly maintained roads are particularly vulnerable, so the project will support development of climate resilient and cost-effective road design, multi-year maintenance, as well as adaptation of road standards.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

33. The project is the first in a Series of Projects (SOP) comprising the Lake Victoria Transport Program (LVTP) which, in turn, aims to support key elements of the Integrated Corridor Development

Initiative (the Intermodal Strategy) in the EAC countries. The LVTP has been developed as a regional, multi-sectoral, and multi-phase program to facilitate trade integration in the EAC region. The SOP will consist of three projects, each using a blend of national IDA credit funds, regional IDA credit funds, and IDA Scale-Up Facility (SUF) credit funds, depending on the eligibility of the components. The total LVTP program is envisaged to amount to some US$500 million, allocated as follows: (i) Rwanda US$81.0 million for a key regional access road, counterpart financing of US$23.0 million, and parallel finance from JICA in the amount of US$65 million; (ii) Uganda US$125 million, including US$25 million in grant finance from the European Union, for improvements to ports, roads, and ferry services; and (iii) Tanzania US$205 million for improvements to ports, roads, and ferry services, excluding the finance committed to revitalise the railway on the Central Corridor. The discrete projects are to be prepared in parallel, with SOP1 in Rwanda scheduled to be the first phase of the program, reflecting the advanced state of preparation in the country. The remaining projects in Tanzania and Uganda are intended to follow closely in sequence, with readiness determining which is submitted next for approval to the Board of Executive Directors of the World Bank. The Tanzanian phase will also involve the provision of an IDA grant in parallel to both of the regional bodies (Lake Vitoria Basin Commission working under the EAC but separately located) to facilitate the management of the program, and the harmonization of the institutional framework as presented in section III C below.

34. **The Program Objective:** The program development objective is to facilitate the sustainable movement of goods and people in the Lake Victoria region, whilst strengthening the institutional framework for transport safety.

35. **The Project Development Objectives:** The project development objective for SOP1 Rwanda is to improve the efficient and safe movement of goods and people along the regional corridor from the border crossing at Rusumo to the border crossing at Nemba and Rusizi together with upgrades to road asset management and road safety in Rwanda.

B. Project Beneficiaries

36. The beneficiaries of the project will include: pastoralist communities, farmers and businesses through the road corridor, road users (passengers and freight), tradable sectors of the economy, agriculture, tourism and ultimately, consumers and producers both inside and outside Rwanda. The project will stimulate new jobs and income earning opportunities to the people in Ngoma, Bugesera and Nyanza districts through upgrading and maintenance works as well as downstream development activities generated along the corridor as a result of the improved access. Due to the poor state of this corridor, the inhabitants are occasionally cut off from the rest of the country, particularly during the rainy season. Road users will also benefit from improvements to Emergency Medical Services (EMS) under the existing system in Rwanda, as a result of the post-crash response assessment along the corridor. Victims of other sources of injury will also benefit from these system improvements.

37. Improving access to market and social services, reduction in post-harvest loss, and enhancing agricultural and livestock, production and productivity are the primary social and economic benefits of the project. In addition, the project will help to create short-term employment opportunities and attract new development and investment. Agricultural and agro-processing developments that are based within the project areas, and the transport, logistics and supply industries that support them, also benefit

indirectly from the project.

38. Moreover significant parts of the agricultural works are performed by women. In terms of gender analysis, the specific anticipated outcomes for women in the project areas include: (i) improvements in accessibility by women and their children to social, education and medical facilities; including pre and post-natal health attention for women; (ii) reduction in the time that women spend in transporting product to market and in the collection of water and firewood; and (iii) opportunities for employment within small-scale, road-side commercial operations.

C. PDO-Level Results Indicators

39. **The Program Level Indicators.** Progress towards the attainment of the program objectives will be assessed through the program indicators outlined below (and detailed in the Program Results Framework in Section VII).

(a) Reduction in travel time between defined origins and destinations (percentage);
(b) Reduction in transport cost for users (percentage);
(c) Actual throughput/capacity in the lake ports/border crossings (million tons per annum);
(d) Direct project beneficiaries of improved roads/ports/ferries (number), percentage of which female; and
(e) Share of rural population with access to all-weather road/ferry service (percentage); number of rural people.

40. **PDO Level Results Indicators.** The project development objective will be realized by the following components: (i) Component 1: Improving the Physical Infrastructure and (ii) Component 2: Improving the institutional infrastructure and implementation assistance. Progress towards the attainment of the PDO will be assessed through the following indicators (detailed in Section VII).

(a) Reduction in travel time from Kibugabuga to Gasoro (hours);
(b) Reduction in transport cost for users (percentage);
(c) Roads in good and fair condition as a share of total classified road network in Rwanda (Percentage);
(d) Direct project beneficiaries (number);
(e) Share of rural population with an access to all-season road (Percentage);
(f) National paved roads network sections maintained using Road Maintenance Fund (km); number of permanent jobs created using Local Community Associations (LCAs)
(g) Survey reports on citizen engagement available (Yes/No);
(h) Road safety measures introduced from Kibugabuga to Gasoro (Yes/No); Guardrails and Footpaths for pedestrian & vehicle safety (km); and
(i) Progress on post-crash response (Yes/No).

III. PROJECT DESCRIPTION

A. Project Components

41. The LVTP SOP1, Rwanda (Ngoma-Nyanza road) represents the first project(s) to be prepared under the Integrated Corridor Development Initiative (the Intermodal Strategy) in the East Africa Community (EAC) countries. The World Bank's financing is sought for the upgrading of the proposed road section, paved to bitumen standards under Lot 2: Kibugabuga- Shinga - Gasoro (66.55/km), and it includes three-year multi-year maintenance. The components, the constituent activities and provisional costs for SOP1 in Rwanda are described below:

42. **Component 1: Improving the physical infrastructure (US$96.90 million of which IDA US$76.30 million)** including:

43. ***Sub-component 1.1: Road Infrastructure - Upgrading Ngoma-Nyanza road Lot 2: Kibugabuga- Shinga - Gasoro (66.55 km).*** The improvement of the primary infrastructure through design, build (30-months) and multi-year maintenance (for three years) after completion of upgrading works under Lot 2- Kibugabuga- Shinga - Gasoro road section 66.55km. This section is a part of the Ngoma-Nyanza upgrading road section (119.35km) and it includes drainage structures, and other necessary complementary infrastructure for corridor management. The cost of this sub-component includes contingencies, whereas the contract shall be awarded on a lump sum basis. The implementation will be accomplished using Design-Build-Maintain (DBM) type of contracting, and among key implementation features the Safe System approach for road safety will be an integral part of the road design and implementation.

44. ***Sub-component 1.2: Implementation of the Resettlement Action Plans (RAPs) –*** compensation related to road works on Lot 2 Kibugabuga- Shinga - Gasoro road section under sub-component 1.1 above with counterpart contribution by the GoR.

45. **Component 2: Improving the institutional infrastructure and implementation assistance (US$7.10 million of which IDA US$4.70 million)** - This component will provide support to strengthen and harmonize the institutional framework to ensure safe and efficient operation of private and public transport including cargo and transit traffic, and capacity building and assistance to support implementation of the project, including:

46. ***Sub-component 2.1: Monitoring/supervision of Upgrading Ngoma-Nyanza road Lot 2: Kibugabuga- Shinga - Gasoro (66.55km).*** Technical assistance (TA) to RTDA for monitoring of the Design-Build and Maintenance (DBM) civil works for Lot 2, Kibugabuga- Shinga - Gasoro road section 66.55 km including review and approval of design reports prepared by the Contractor as well as monitoring of implementation of the ESIA, RAPs, and Safe System approach along the road corridor. As part of this TA, an assessment of the post-crash response system will also be made and recommendations provided to the concerned line ministries and agencies for follow-up and implementation.

47. ***Sub-component 2.2: Technical Assistance (TA) to RTDA and Ministry;*** (1) support to Single Project Implementation Unit (SPIU) in RTDA for Program Implementation including incremental operating cost funded by counterpart financing; (2) TA to review and update of the Axle Load Enforcement; (3) TA and training to RTDA/MININFRA to build capacity in Environment and Social safeguards (including on gender related risks); (4) TA for baseline surveys and monitoring and evaluation of the project activities; (5) TA to strengthen the Technical and Fiduciary systems at RTDA; and (6) TAs for Technical and Safeguards Audits.

B. Project Cost and Financing

Lending Instrument

48. The SOP1 Rwanda will provide an IDA Scale-Up Facility (SUF) credit of Euro 75.9 million (US$81.0 million equivalent) through Investment Project Financing.

Financing Arrangement

The First in a Series of Project:

49. The total cost for the SOP1 Rwanda is US$104.0 million (Table 1) of which US$81.0 million equivalent would be from IDA SUF credit; US$23.0 million is government counterpart financing to cover compensation cost of Project Affected Persons (PAPs), Value Added Tax (18 percent) for all contracts, and SPIU cost. The cost of the road upgrading works to be financed by the World Bank are based on estimates provided by the feasibility studies recently completed by an international engineering consultancy firm. The World Bank financing is for upgrading of the road section under Lot 2: Kibugabuga- Shinga - Gasoro (66.55 km) of overall Ngoma – Nyanza upgrading road section (119.35 km length) and it includes three-year multi-year maintenance. RMF will take over the responsibility of maintenance financing upon completion of the project financed maintenance phase. This funding is considered to be adequate to ensure the sustainability of the investment.

50. **Partnerships under parallel financing.** The Japan International Cooperation Agency (JICA) have expressed interest to provide a loan, with an approximate amount of US$65 million in total, to upgrade part of the Ngoma – Nyanza road based on terms to be negotiated between the GoR and Government of Japan (GoJ). This parallel loan will support the upgrading of Lot 1- Kibungo-Ramiro (52.8km) section of Ngoma – Nyanza upgrading road section of 119.35 km, and GoR have formally requested JICA to finance the upgrading of above road section as part of the bilateral cooperation between GoR and GoJ. During appraisal, the mission coordinated with a pre-appraisal mission from JICA working with RTDA in Kigali and confirmed the form of JICA parallel financing as Official Development Assistance (ODA) loan. The ODA loan will have a Repayment Period of 40 years and a Grace Period of 10 years. JICA updated the mission on the progress of its preparation with the tentative timeline for JICA appraisal in June 2017, pledging (funding commitment) in July 2017, and (subject to approval) an expected signing of the loan agreement by early September 2017. Cabinet approval is required by the GoJ as part of the JICA loan approval process. The financing will cover the cost of works, detailed design and supervision consultancy services as well as a separate Technical Assistance (TA) for capacity building of the national contracting entities in asphalt road construction. GoR will provide funds for implementation of the RAPs and payment of taxes (VAT and Import Duties). The construction works will be implemented following the traditional approach with the detailed design expected to be conducted by a consultancy firm before procurement of works contractor. By the current time estimates of JICA, considering its loan approval, then detailed design phase, and then the procurement of works, Lot 1 works may be awarded by end of 2018 for a construction period of 30-months duration. JICA will not finance the maintenance of the completed road works, which will be undertaken by the Government under the RMF. The works will be carried out using local competitive bidding in order to attract the national construction industry. The Government confirmed that should for any reason the JICA financing fail to materialize, the GoR will

cover financing for Lot 1 section.

51. **Integrated Border Management at Rusizi I.** The immigration department and Rwanda Revenue Authority (RRA) have identified the need to engage at an early stage with their DRC counterparts to agree on the different aspects and issues related to the OSBP at Rusizi I. Unlike the EAC partner states, Rwanda does not have a legal agreement under which it can develop the OSBP. This legal agreement would need to be approved by the Rwandan Parliament. It is important that the legal agreement be completed to ensure that both parties have clarity on the OSBP model and the responsibilities for each party. As such the Government is contemplating parallel financing to implement IBM at Rusizi I. This would include work on finalizing the legal agreements, workflow and process design among other areas and include capacity building, stakeholder sensitization, training and monitoring and evaluation. IBM is already under implementation at Rusizi II, which is located near Rusizi I, under TMEA support using grant financing. The Government confirmed requesting support of TMEA or other cheaper resources to extend the critical scope of IBM at Rusizi I in parallel to the activities financed by this project.

52. The implementation arrangements of the Rwanda road corridor under SOP1 upgrading is presented in Figure 1 below.

Figure 1. Rwanda Road corridor upgrading implementation arrangement and status of financial commitment

	Road Infrastructure Upgrading in Rwanda (119.35 km) Total cost US$169.0 million	
Road Section [17]	Lot 1- Kibungo-Ramiro	Lot 2 - Kibugabuga- Shinga - Gasoro
		
	52.8 km	66.55 km
Cost US$M	65.0	104.0
Potential financier	JICA/GoR	IDA/GoR Not Committed
Commitment Status	Discussion In progress (DIP)	DIP Not committed
SOP	One	One

[17] See project location map

Table 1. Estimated Project Costs and Financing (US$ Millions)

Project Component	Project Cost	IDA SUF*	Counterpart Funding[18]
Component 1: Improving the physical infrastructure (US$96.90 million)	**96.90**	**76.30**	**20.60**
Sub-component 1.1: Road Infrastructure - Upgrading Ngoma-Nyanza road Lot 2: Kibugabuga- Shinga - Gasoro (66.55 km) - Design, Civil works, and multi-year routine maintenance	90.00	76.30	13.70
Sub-component 1.2: Implementation of the Resettlement Action Plans (RAPs) related to road works	6.90	-	6.90
Component 2: Improving the institutional infrastructure and implementation assistance (US$7.10 million)	**7.10**	**4.70**	**2.40**
Sub-component 2.1: Monitoring/supervision of Upgrading Ngoma-Nyanza road Lot 2: Kibugabuga- Shinga - Gasoro (66.55km)	4.48	3.80	0.68
Sub-component 2.2: Technical Assistance (TA) to RTDA and Ministry	2.62	0.90	1.72
2.2.1: Support to SPIU in RTDA for Program Implementation	1.55	-	1.55
2.2.2: TA to review and update Axle Load Enforcement	0.35	0.30	0.05
2.2.3: TA and training to RTDA/MININFRA to build capacity in Environment and Social safeguards (including on gender related risks)	0.18	0.15	0.03
2.2.4: TA for baseline surveys and monitoring and evaluation of the project activities	0.24	0.20	0.04
2.2.5: TA to strengthen Technical and Fiduciary systems at RTDA	0.18	0.15	0.03
2.2.6: TAs for Project Technical and Safeguards Audits	0.12	0.10	0.02
Total Financing Required with Taxes	**104.00**	**81.00***	**23.00**

[*] – US$ equivalent of financing confirmed at EURO 75.9 million using exchange rate of 0.93624192. The Credit amount is rounded up to the nearest One Hundred Thousand.

C. Series of Project Objective and Phases

53. **Complementary Policy reforms.** One of the key findings of the Integrated Corridor Development Initiative in the EAC countries was that improvements to the institutional framework was as important, if not more important in some cases, than investment in the physical infrastructure. The LVTP will support the implementation of commitments in policy reform, made at the Heads of State Level, but not yet fully implemented consistently in the EAC countries. The following issues have been identified: (i) introducing the Common Market for Eastern and Southern Africa (COMESA) single carrier licensing; (ii) simplifying the visa requirements for truck drivers; (iii) removing the restriction on foreign ownership of road hauliers; (iv) allowing cabotage; (v) supporting the introduction of the COMESA regional bond guarantee scheme; and (vi) supporting the introduction of the harmonized axle load regime; and (vii) improving road safety. The EAC Secretariat, with the support of the World Bank, will continue discussions with stakeholders, including three country Ministries of Infrastructure/Transport, the Northern Corridor Transit and Transport Coordination Authority (NCTTCA), the Central Corridor Trade

[18] Government counterpart financing to cover compensation cost of Project Affected Persons (PAPs), Value Added Tax (18 percent) for all contracts; and SPIU Cost

and Transport facilitation Agency (CCTTFA) and the EAC Secretariat, to support the implementation of these agreed policy reforms across all countries. These activities will be supported by an IDA grant to be provided in parallel with SOP2/3. Appropriate corridor indicators will be identified for use in SOP2 based on activities identified, but for the current project an intermediate indicator is proposed to measure IBM performance at Rusizi I.

54. The provisional cost of the overall LVTP is estimated at about US$500 million, and a summary of the share of financing provided by IDA is presented in Table 2 below.

Table 2. Indicative Program Cost and Financing by IDA

Program Phases	Provisional Program Components (US$ M)		Total (inclusive of taxes)
	Improvement of physical infrastructure	Improving the institutional infrastructure and implementation assistance	
Phase 1 - (SOP1) Rwanda - 2017 - 2022	76.30	4.70	81.00
Phase 2 - (SOP2) Tanzania - 2018 - 2019	188.00	17.00	205.00
Phase 3 - (SOP3) Uganda - 2018 – 2019	72.00	28.00	100.00
Total	336.30	49.70	386.00
Percentage of Total	87%	13%	

55. The second and third series of projects would support the overarching program objective and will have the following key components:

The Second in the Series of Project in Tanzania

56. **Component 1: Improving the physical infrastructure (Estimated cost US$188 million).** The first component comprises the necessary civil works and dredging in and around the ports:

(i) The improvement of the port infrastructure at Mwanza North
(ii) The improvement of the port infrastructure at Mwanza South
(iii) The improvement of the port infrastructure at Bukoba
(iv) The improvement of the port infrastructure at Kemondo Bay (tbc)
(v) The improvement of the port infrastructure at Musoma (tbc)
(vi) The improvement of access to the ports and associated infrastructure

57. **Component 2: Improving the institutional framework, strengthening port operations and implementation assistance (Estimated cost US$12 million).** The second component comprises two sub-components:

(i) The improvement of the institutional framework
(ii) Implementation assistance

The Third in the Series of Project in Uganda

58. **Component 1: Improving the physical infrastructure (Estimated cost US$72 million)**. The first component comprises the necessary civil works and dredging in and around the port:

(i) The improvement of the port substructure at Port Bell (US$30million)
(ii) The improvement of the port infrastructure at Jinja (US$15 million)
(iii) The improvement of port access infrastructure (US$27 million)

59. **Component 2: Improving the institutional infrastructure and implementation assistance (Estimated cost US$28 million**). The final component comprises two sub-components involving civil works on the corridor:

(i) The improvement of the institutional framework (US$14 million)
(ii) Implementation assistance (US$14 million)

D. Lessons Learned and Reflected in the Project Design

60. Project design takes stock of country specific lessons and of international best practices for similar transport operations including the experience from the ongoing transport projects under implementation.

61. The LVTP design has taken into consideration the recommendations provided by the World Bank Independent Evaluation Group on its review of various regional programs around the World Bank,[19] in particular the need to: (a) have a strong country commitment to regional cooperation; (b) match the scope of objectives with national and regional capacities; (c) have clear delineation and close co-ordination between the regional and national stakeholder institutions; (d) have in place accountable and well-designed governance and management arrangements; and (e) ensure sustainability after external support ends.

62. **Sustainable road asset management through DBM Contracting.** Using the DBM type contracting approach, the project attempts to mitigate factors affecting planned implementation of the project adversely in terms of time and project costs involved: (a) land acquisition and resettlement aspects not resolved in a timely manner to enable the contractor to start the construction for a section/phase as soon as the design part is completed; (b) lack of effective supervision by the executing agency and supervision teams; and (c) exclusion of the price escalation clause caused problems in the projects delayed due to reasons other than design or contractor's fault. The DBM approach has been successfully used globally, with the following key advantages observed:
(i) time savings through early contractor involvement that enables construction engineering considerations to be incorporated into the design phase and enhances the constructability of

[19] The World Bank Group (2007a). *The Development Potential of Regional Programs. An Evaluation of World Bank Support of Multi-country Operations*. A report by the Independent Evaluation Group.

the engineered project plans;

(ii) fast-tracking of the design and construct portions of the project, with overlapping (concurrency) of design and construction phases for different segments of the project;

(iii) elimination of a separate construction contractor bid phase following completion of the design phase;

(iv) cost savings from communication efficiencies and integration between design, construction engineering, and construction team members throughout project schedule and from reduced construction engineering and inspection (CEI) costs to the implementing agency when these quality control activities and risks are transferred to the Contracting Entity;

(v) fewer change and extra work orders resulting from more complete field data and earlier identification and elimination of design errors or omissions that might otherwise show up during the construction phase;

(vi) reduced potential for claims and litigation after project completion as issues resolved by the contracting entity;

(vii) shortened project timeline that reduces the level of staff and motorist inconvenience due to reduced lane closures; and

(viii) improved quality through: greater focus on quality control and quality assurance through continuous involvement by contractor's design team throughout project implementation; and potential for innovations uniquely fashioned by project needs and contractor capabilities.

63. The maintenance phase is an extension of design-build that provides an inherent incentive for the design-builder to provide a better quality plan and project by creating a lifecycle responsibility and accountability for the performance of the facility by the design-builder.

E. Alternatives Considered and Reasons for Rejection

64. The idea of preparing a multi-country investment operation in the form of a single IPF was considered and rejected. Implementation of all infrastructure improvement and trade facilitation measures in all the countries in one operation was precluded, as the project would be far too complex. Resource limitations also do not allow the implementation of all anticipated activities under one operation. Therefore, developing the remaining parts of the LVTP stage by stage was considered.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

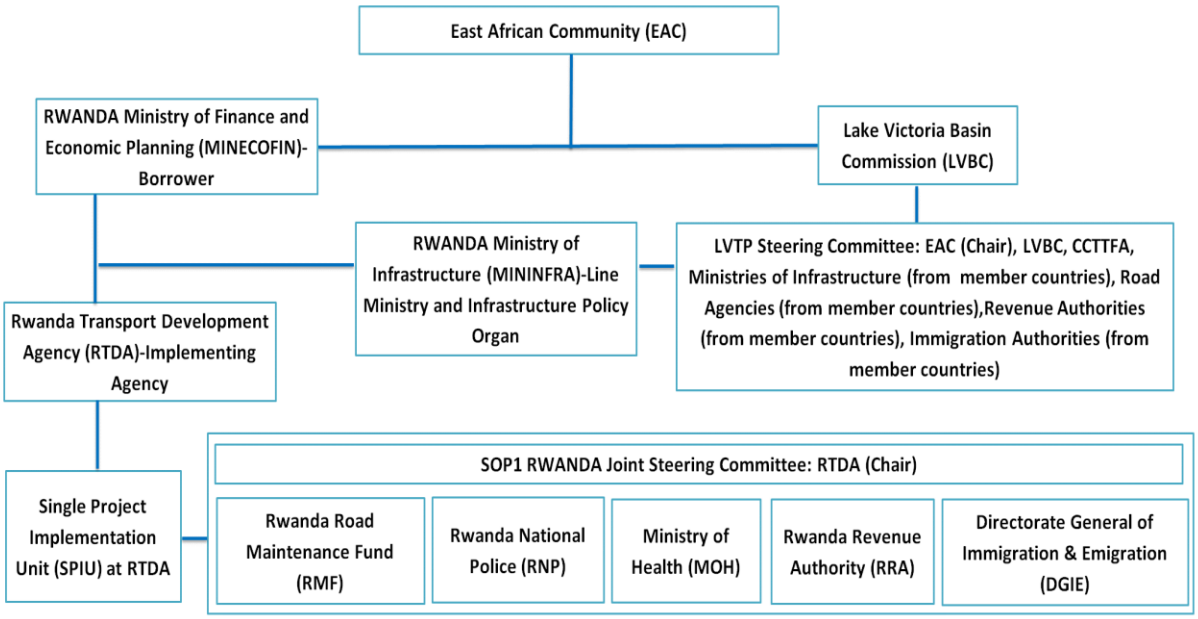
65. The Lake Victoria Transport Program will be implemented by a defined Project Implementation Team (PIT) in each of the three countries. These national level teams will be coordinated by a steering committee established under the Lake Victoria Basin Commission (LVBC), based in Kisumu, and the EAC Secretariat, based in Arusha. The latter would also support the harmonization and implementation of the necessary changes to the institutional framework to support the introduction of safe and efficient transport on Lake Victoria and the regional transport network.

66. At the national level, under the overall coordination by the Ministry of Infrastructure

(MININFRA), the project in Rwanda will be implemented by the Single Project Implementation Unit (SPIU) within the Rwanda Transport Development Agency (RTDA) as the lead agency dealing with coordination for restoring the physical infrastructure and strengthening the institutional framework for transport. RTDA will serve as the direct interlocutor with the World Bank and establish an oversight steering committee monitoring mechanism, and report semi-annually on progress to the Bank and stakeholders. SPIU is currently serviced by contractual staff who were competitively selected by the RTDA. It will play a supervisory role, offering guidance to project implementation, focusing on technical, procurement, supervision, social and environmental safeguards, and financial management aspects. Roles and responsibilities of dedicated SPIU staff were provided to the World Bank as part of the Project Implementation Manual (PIM) prior to negotiation. RTDA will draw on expertise from the RRA, Directorate of Immigration and Emigration (DGIE), Rwanda National Police (RNP) and Ministry of Health (MOH) for the coordination of parallel implementation of IBM and road safety (including coordination on emergency medical services). RMF will provide guidance on the sustainability of the investments. The implementation oversight and coordination will be done as mapped out in Figure 2 below.

67. RTDA will organize quarterly joint steering committee review meetings during implementation owing to the multi-sectoral nature of activities involving various ministries and agencies in Rwanda. The Rwanda Environmental Management Agency (REMA), the Ministry of Disaster Management and Refugees Affairs (MIDIMAR), and the Ministry of Gender and Family Promotion (MIGEPROF) will advise on crosscutting areas relating to safeguards, climate change and disaster risk mitigation; and mainstreaming of gender in project design and implementation. The Ministry of Agriculture (MINAGRI) and the Ministry of Trade, Industry and East Africa Community Affairs (MINEACOM), will be engaged time-to-time as part of key patrons of the proposed investments and reforms for the improved economic growth and regional development dynamics.

Figure 2: SOP1, RWANDA – Implementation Arrangements at Program and National Level



B. Results Monitoring and Evaluation

68. The Program objectives and corresponding indicators are designed to measure the results of the entire regional program, once it is completed in the three participating countries, reflecting not only the sum of benefits in each individual country, but the effects of cross-project or cross-country synergies and spillovers.

69. The project (SOP1) has established indicators and baseline data to monitor the outputs and outcomes of the project, as presented in the Results Framework. The baseline conditions have been established through the Feasibility Study undertaken during preparation and will be followed up with beneficiary surveys and other assessments at the midterm review (MTR) and at project closing to evaluate qualitative and quantitative aspects of project results. The M&E for the SOP1 project, including data collection, monitoring, reporting, and dissemination, will be the responsibility of RTDA. Data will be disaggregated by gender. RTDA will prepare semiannual progress reports, as stated in the project's results framework. Specific details for program management and reporting are available in the PIM that will serve as the overall guiding document for SPIU. The Recipient will carry out a Mid-Term Review, about three years into implementation, as stipulated in the Financing Agreement.

70. The Results Frameworks for the Program and the SOP1 project, together with the monitoring and evaluation arrangements, are detailed in Section VII.

C. Sustainability

71. The program is expected to address sustainability of the infrastructure investments and trade facilitation measures, through enhanced ownership of the participating countries and by establishing trade facilitation groups in each project. Rwanda continues to show it is always at the frontier of exploring new approaches to solve problems. The road upgrading under SOP1 in Rwanda therefore will be implemented through a DBM arrangement to ensure that maintenance of the investment is guaranteed for the initial three years after completion of the upgrading works. The program will encourage the three participating country governments to put in place an appropriate road asset management system, with Rwanda already taking lead in developing it. This system will facilitate the undertaking of maintenance along the corridor after completion of the program. In Rwanda, the existing RMF will ensure sustainability of long-term maintenance, and enforcement of axle load control by Rwanda along the corridor will help preserve the road asset. The GoR has managed to keep the national paved road asset at an acceptable riding standard since creation of RTDA in 2010 using the RMF as core financing source for maintenance. Annual assessment of the riding quality is conducted with the use of Roughness meters and Bump integrators and reports are shared with the Development Partners via Transport Sector Working Group sessions annually. A Road Asset Management System (RAMS) is presently under development (for RTDA and RMF) with the assistance of the African Development Bank (AfDB). Uganda and Tanzania are also expected to ensure a stable flow of funding, for maintenance of all projects completed under their respective SOPs.

D. Role of Partners

72. Trademark East Africa (TMEA) has been providing the GoR with extensive support in the area of

trade facilitation and logistics. Their projects, including those in the pipeline, have the extension of the Rwanda Electronic Single Window (RESW) which aims to provide single submission of documents for trade and the Single Window Information for Trade (SWIFT) that seeks to automate key trade related agencies (RSB, RALIS, NAEB, RDB and RAB) processing systems that would link with RESW. Coupled with the plan to develop a trade information portal, the Rwandan trade system will largely be electronic in the next few years. TMEA also conducted feasibility studies and follow on transaction work for the projects developed in the National logistics strategy through World Bank support. Of those projects, the bonded warehouse in Rubavu is expected to begin construction in 2017 boosting cross-border trade with DRC; while the Kigali Logistics Platform (KLP) bid winner, Dubai World, signed the agreement with the GoR in 2016. The development of the logistics platform, which is expected to create a regional hub for cargoes, is also expected to positively impact cargo flows along the Ngoma-Nyanza road and flows to Rusizi I OSBP as DRC traders utilize the KLP for purchasing goods.

73. The role of the JICA, in parallel financing of the upgrading of the Lot1 – Kibungo - Ramiro (52.8km) road section, is discussed above under the financing section.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

Systematic Operations Risk- Rating Tool (SORT)	
Risk Category	**Rating**
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Moderate
9. Others (Program Level)	Substantial
10.OVERALL	Substantial

74. The overall risk is considered to be Substantial, reflecting the spatial (rather than technical) complexity of the regional project, the weak institutional capacity for the implementation of the project and the risk of delay in the implementation of the required RAPs.

75. **Program Level.** The key program risks are mostly related to the multi-country, multi-sectoral dimension of the program, reflecting that the regional benefits will not be fully realized until all the phases have been implemented, in parallel with the more difficult changes in the policy framework

necessary for effective trade and transport facilitation, both across and in the hinterland of Lake Victoria. The risks associated with the national activities in SOP1, the upgrading of the Nyanza - Ngoma road, and the inter-agency co-operation for the effective introduction of Integrated Border Management, are considered to be Substantial.

76. **Technical Design and Delivery Approach.** On technical design and the use of design-build-maintain type project delivery, the risk is rated Substantial. A number of risk factors were evaluated and the team will endeavor to address them in bid documents. The risk whether adequate checks and balances (between design and construction parties) are provided to ensure product quality, integrity in the procurement function, and fairness to established businesses that compete for these contracts, needs to be thoroughly covered. The risk related to the warranty, insurance (for errors and omissions) and bonding to be provided by the design-build parties must be sufficiently covered to avoid problems at a later stage. Errors and omissions insurance usually exclude construction services and contractors' general liability policies exclude professional services. Cross agreements with the design professional, and the contractor may be appropriate as a cover, supported by the design professional's errors and omissions insurance. Other risks relating to the design-build-maintain type project delivery approach are: (a) project outcome might not produce the expected results; (b) project, if not scheduled properly for various implementation activities, might be substantially delayed; (c) assurance that the lump sum contract cost will be maintained in case final costs is unreasonably higher; (d) reduced competition for construction services due to lack of participation of smaller firms unable to compete with the larger projects; (e) risk to the traditional quality assurance/quality control roles for engineering and construction; (f) increases in project costs due to the elimination of the low bid contractor selection criteria; and (g) lack of capacity and experience of the executing agency. These potential risks can be mitigated through professional monitoring support to the RTDA and sufficient coordination with contractor during implementation.

77. **Institutional Capacity for Implementation and Sustainability.** RTDA as Implementing Agency has good experience in implementing road projects with proven success rate in implementing complex activities. It has good ability to deal with various related issues, and has efficient internal processes established as part of its ongoing portfolio. There is however a stronger competition developing in Rwanda for road works contracts with increasing number of international contractors registering, taking advantage of the positive country environment. This calls for increasing technical capacity within the RTDA organization as the current staffing will become over-stretched in coming years. Furthermore, the project will move RTDA into second generation of contracting using the DBM type approach, so experience in bidding process and contract management of such contracts will be an initial challenge. The immediate strategy of RTDA is to: (i) build its capacity in procurement and contract management of DBM contracts with support from technical assistance, and (ii) arrange series of trainings for technical specialists and internal tender committee.

78. **Environmental and Social Safeguards.** Environmental and social safeguards risks are rated Substantial. For details on risks and mitigation, see section VI E and F and the Integrated Safeguards Data Sheet (ISDS).

79. **Fiduciary.** Financial Management and Procurement risks are rated Substantial. For details on risks and mitigation, see section VI C and D below, the Project Implementation Manual (PIM), and the

Project Procurement Strategy for Development (PPSD).

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

80. **Regional Economic Analysis.** A detailed economic analysis on regional transport connectivity around Lake Victoria was carried out, which shows that integrated regional transport systems could bring broader economic benefits than traditional road user cost savings.[20] EAC member countries have already achieved relatively high intra-regional trade and integration. However, regional transport networks, including road, rail and inland water systems, are still fragmented, causing significant costs particularly to landlocked countries. The analysis indicates that improved access to markets and seaports is critical to unleash agricultural potential. For Rwanda, it is estimated that a 10-percent transport cost reduction would increase cassava production by 0.4 percent, and tea production by 2.5 percent. In the EAC region, growth potential in the agriculture sector is estimated to be of the order of US$100 million or more. Seamless regional transport connectivity is also expected to contribute to reducing firms' trade and transaction costs, attracting more investments and strengthening competitiveness of the region. The analysis found that improved regional connectivity, including port access, could reduce firm inventory costs by 15 to 35 percent. Significant extra costs could be avoided. The industrial sector remains thin in the region. However, there is potential with a total population of approximately 160 million. The data supports the view that better access would attract more investments. Regional port access is particularly important, a 10 percent improvement of port access from Kigali would increase attractiveness of Kigali City by 6 to 14 percentage points. All of these economic benefits are expected to contribute to regional competitiveness and growth as a whole.

81. **Project-Level Analysis.** The economic analysis of the Ngoma – Nyanza road upgrading to bitumen standard is focused on direct road user cost benefits from the improved road condition, using standard road development software, Highway Development and Maintenance Model (HDM-4). The analysis takes the consumer surplus approach to compare road user benefits and investment costs and was completed for the whole project road and, separately for three sections namely, (i) Kibungo – Ramiro proposed under JICA parallel financing (52.8 km); (ii) Kibugabuga – Shinga (42.2 km); and (iii) Shinga – Gasoro (24.15 km). The last two sections are combined into Lot 2: Kibugabuga- Shinga - Gasoro (66.55 km) to be financed under IDA SUF.

82. **Traffic Growth.** Given the project's strategic location connecting Eastern and Western Rwanda, it is of particular importance to assess how much traffic would be diverted from the current main roads, such as NR1 (i.e., diverted traffic). The project is expected to contribute to diverting some of the traffic from Tanzania to Southern Province of Rwanda, Burundi and DRC, which currently goes through NR1 and NR4. Given the shorter road distance and travel time, road user costs would be reduced considerably. It is also important to project how much traffic would be generated locally because of the improved road condition (i.e., induced traffic). Along the three sections, the current traffic is generally limited, presumably because of the poor quality of the road with no pavement. According to a traffic

[20] World Bank and EAC (2015). *Building a Reform Consensus for Integrated Corridor Development in the East African Community: Pillar 2 – The Assessment of Wider Economic Benefits.* Washington DC.

count survey carried out in 2015, average daily traffic was estimated at 593 and 243 vehicles and motorcycles for the Kibungo-Ramiro and Kibugabuga-Gasoro sections, respectively. Given the country's development level, transport demand is considered highly elastic. In recent years, Rwanda has been experiencing strong economic growth, with an average growth rate of 7.7 percent. The transport sector has been growing at 9.6 percent. Thus, the existing and divertible traffic is assumed to grow at 7 percent per annum for the 20-year project life. With anticipated local developments, such as new Bugesera Airport and Bugesera Industrial Park, taken into account, it is assumed that 5 percent of the normal and diverted traffic would be generated as induced traffic in the first three years after the project completion. The growth effect tends to taper off over time. Thus, 1 percent of the normal and diverted traffic would be induced during the rest of the project life.

Table 3. Summary of traffic forecasts (AADT)

Vehicle type		Light vehicles			Heavy vehicles		Motorcycle		Total
Traffic type		Existing	Diverted	Induced	Diverted	Induced	Existing	Induced	
Kibungo – Ramiro	2016	136	0	0	0	0	455		591
	2020	197	366	28	380	19	564	17	1571
	2029	361	674	31	699	21	1036	10	2832
	2039	711	1328	61	1374	41	2038	20	5573
Kibugabuga -	2016	44	0	0	0	0	199		243
Shinga -Gasoro	2019	80	263	11	218	11	246	7	836
	2029	145	480	12	401	12	453	5	1508
	2039	286	944	24	788	24	891	9	2966

83. **Evaluation results.** The HDM4 model is performed with the above parameters and assumptions taken into account. The project is evaluated over the 20 year project life from 2020 to 2039, with construction works assumed from 2018 to end 2019. The discount rate is assumed to be 12 percent.[21] The costs and benefits are compared between the "with project" and "without project" scenario. For the Kibugabuga – Gasoro section, which is financed by the project, the road agency costs would increase by US$22.1 million, and the expected road user cost benefits would amount to US$38.3 million. Thus, the net present value at a discount of 12 percent is US$16.2 million. The economic rate of return is estimated at 19.5 percent, well above the conventional threshold. The other sections are also found to be economically viable.

Table 4. Summary of investment efficiency assessment

Costs	Kibungo - Ramiro	Kibugabuga - Shinga	Shinga - Gasoro
Change in Road Agency Costs	47.95	34.35	22.10
Of which: Capital costs	50.02	36.03	23.10
Recurrent costs	-2.08	-1.68	-1.00
Benefits			
Road User Cost Benefits	158.66	69.97	38.30
Of which: VOC savings	121.76	53.67	29.00
Time savings	36.90	16.30	9.30

[21] The World Bank recommended discount rate is 5 percent. The analysis here is more conservative.

Indicators			
Net present value @ 12%	110.71	35.62	16.20
EIRR (%)	36.0%	22.2%	19.5%
Present value of total road agency costs	53.80	38.93	24.70

84. **Sensitivity analysis.** To see robustness of the assessment result, other possible scenarios are considered. First, traffic growth may be less strong than assumed. Second, investment and maintenance costs may be greater than expected. Finally, these two cases may happen simultaneously. Regardless of these different assumptions, the investment efficiency is found broadly unchanged (Table 5). The baseline scenario assumes a traffic growth of 7 percent. Under lower growth rates, the EIRR remains higher than the threshold. If the construction and maintenance costs increase by 30 percent, the investment efficiency would not change much. Even under the worst-case scenario where traffic growth is stagnant and costs increase significantly, the EIRR for the Shinga-Gasoro section is still estimated at 11.2 percent, well above the World Bank's recommended discount rate, which is 6 percent, or 10 percent for high-growth countries, like Rwanda, confirming robust efficiency of this investment.

Table 5. Summary of sensitivity analysis

Scenario		Kibungo - Ramiro	Kibugabuga - Shinga	Shinga - Gasoro
(1) Traffic growth rate:	(baseline)	36.0%	22.2%	19.5%
	-30%	33.0%	19.2%	16.4%
	-40%	31.1%	17.5%	14.7%
(2) Capital & maintenance cost increases	(baseline)	36.0%	22.2%	19.5%
	+20%	31.3%	19.2%	16.8%
	+30%	29.4%	18.0%	15.7%
(3) Traffic growth rate -40% & Cost increase +30%		24.6%	13.5%	11.2%

85. **Trade Facilitation.** The Ngoma-Nyanza road is an important extension to facilitate more efficient freight movements of cargo and passengers within the country and across countries, especially from Tanzania to the Southern Province of Rwanda, as well as Burundi and DRC. Road user costs including vehicle operating costs, would likely be reduced considerably and will be measured as an outcome indicator for the project. By diverting freight traffic from the currently congested National Road through Kigali, the city congestion would be considerably relieved. Moreover, with the development of the proposed Kigali Logistics Platform and the likely increase in regional trade, the project intervention is timely.

86. **Poverty Reduction.** The project is expected to provide better access to rural communities living alongside the roads that rely almost exclusively on agriculture and livestock for their subsistence. Agricultural and agro-processing developments that are based within the project areas, and the transport, logistics and supply industries that support them, can benefit from reduced transport costs. Over the medium to long term, poverty would be reduced and people's welfare is expected to improve.

87. **Rationale for public sector provision/financing**. The proposed investments are primarily public goods with positive externalities on economic development and environmental quality. These are

usually provided by the public sector and there is very low likelihood and opportunity for private sector financing of these interventions, especially at this stage of the development of the road infrastructure, thus public financing is required.

88. **Value added of World Bank's support.** The World Bank is consistent in promoting the removal of barriers to trade and regional integration, as key development priorities for the region. Inadequate and unreliable infrastructure services increase input costs, raise transaction costs, and lower productivity. In this case, the World Bank's experience, with regional infrastructure projects, brought benefit in preparation and in mobilizing development partner financing for road infrastructure, together with the expertise garnered in preparing and implementing large and complex multidisciplinary infrastructure projects.

B. Technical

89. An engineering design for the project road was completed in December 2014, and RTDA has updated the road feasibility study and the previous design under a review for cost optimization that will serve as a Concept Design for the Design, Build and Maintain Contract. The concept design and draft bid documents were reviewed by the World Bank during appraisal to ensure implementation readiness. It is crucial that in this Design-Build type project delivery approach, the scope of the project is well defined. A joint technical review by the RTDA and the World Bank confirmed that this was adequately captured in the bidding documents and consistent with the ground conditions. The specific requirements for the road rehabilitation works under upgrading have been emphasized whereas any extra requirements have been eliminated to ensure technical soundness of the design phase, and fit-for-purpose construction. Maintenance scope is an extension of design-build that provides an inherent incentive for the design-builder to provide a better quality plan and project through the pavement service lifecycle.

90. The upgradable section of the road corridor from Kibungo in Ngoma district to Gasoro in Nyanza district measures 119.35 km and is sub divided into two construction Lots, namely Lot1 - Kibungo-Ramiro (52.8 km) and Lot 2- Kibugabuga-Gasoro (66.55 km). The road Ngoma to Nyanza is about 128.55 km in length, including a short stretch of 9.2 km from Ramiro to Kibugabuga presently pertaining to NR 5, already in paved to bitumen standards. The proposed upgrading will have single carriageway with two lanes, each with a width of 3.5 meters and with shoulders of 1.5 meters on each side, except in urban sections where the carriageway will be divided with a single lane on each side, plus pedestrian footpaths on both sides and a 1.5 meters shoulder width for non-motorized traffic to increase road safety. Footpaths have also been designed for small towns and villages. Vertical re-alignment has been provided along the Shinga to Gasoro road section to reduce earthworks hence cost of construction and an alignment has been adopted in the Ruhuha Town area in order to improve landscaping and the urban plan. Two major bridges along the project road, Akagera and Akanyaru, which recently collapsed have been assigned to a separate contractor under a Design and Build (DB) contract under government financing. In order to minimize misalignment between the road design and the two bridges, it will be ensured that the bridge and road contractors will interact during the development of detail design of the road contract.

91. The proposed pavement structure is to be designed for a 20 year design life and comprises a 50mm thick bituminous concrete wearing course, and 200 mm granular road-base, on a 175 mm

granular sub-base layers with an improved subgrade. The road service parameters will be applied consistently across the Lot 1 and Lot 2 sections.

92. **Contracting Methodology.** The works will be implemented under asset management principles using DBM approach where the contractor would be responsible for the design of the road works, construction of the agreed design and maintaining the road at pre-defined levels of service. The pavement design criteria with minimum strength parameters, cross section and horizontal and vertical alignment standards are included in the employer's requirement in the bidding document. These contracts will be lump sum contracts with the contractor taking responsibility for the design and quality of construction and maintenance. Should the contractor not maintain the levels of service during a specific period, the Government will reduce the relevant lump sum payment based on the extent of the non-compliance. Furthermore, it was emphasized to the Government that since it will be a design-build-maintain type of contract all the data/information required for the respective clauses/sub-clauses of the bidding documents must be completed before issuing the documents to prospective bidders. More specifically, the information relating to the specific risks involved and their allocation, liability insurance, employer's minimum insurance coverage requirements, performance security reductions arrangements towards the project completion, claim disputes and Arbitration terms, etc., are to be provided under the Particular Conditions of Contract, Part-A. The sub-clauses relating specifically to risks and insurance required special attention. This is to ensure that the Recipient does not end up carrying undue liabilities. Cost and time overrun has been a common problem of the RTDA in past, and therefore DBM will contribute to solving this problem and developing RTDA expertise in second generation contracting approaches practiced around the globe successfully.

93. **Bidding Preparation.** The appraisal confirmed (with details and risks assessment covered under PPSD) that the RTDA have adequate experience both in the bidding process and contract management of road construction contracts in the traditional design-bid-and build approach for the contract size proposed in the project. DBM project does not constitute a real challenge for RTDA-SPIU though some support will be needed during the bidding process and contract management. This is already adequately covered by the current TAs working in RTDA under different externally funded programs. Furthermore, the project will support procurement of a monitoring firm for the overall design review and contract administration, hence no major problems were envisaged. The average bidding period for DBM type bids ranges between 12 to 16 weeks, and the average process lead time is estimated at 4 to 8 weeks depending on the number of bids received. The RTDA confirmed its plans to conduct at least one sensitization workshop for the construction industry on the use of DBM approach prior to issuing invitation for bids. The World Bank agreed with the RTDA approach on bidding process during appraisal, and on the value of a targeted workshop that would help incorporating any industry feedback in final bid documents. This would further enable adequate participation and increased number of responsive bids for a good competition.

94. **Sustainable Road Asset Management**. During appraisal, the Government shared its program for national road maintenance works (using Output and Performance-based road contracting) on about 185 km on the following road sections as part of the next RMF budget cycle in FY2018-20. These multi-year (3-year) contracts will be awarded along sections already selected based on their condition assessment, namely; (i) Kigali-Kayonza (75 km); (ii) Kigali-Nemba (60 km); and (iii) Rusizi-Bugarama (50 km) roads. Based on precedence set under previous World Bank intervention completed in 2014, all such contracts

shall continue to develop and use local community associations (LCAs) thereby generating sustainable job creation through road maintenance. Government agreed to introduce the following indicators in the project Results Framework to monitor sustainability of sector investments through implementation of these road asset management activities as well as gender segregated employment data monitoring, viz (i) PDO Level - Rwanda national roads sections maintained under RMF (target 185 km), and (ii) Intermediate Level - Number of permanent jobs generated from road maintenance works through LCAs (target employment 500 of which females at least 100).

C. Financial Management

95. A Financial Management (FM) assessment was conducted of the project implementing entity (RTDA). The objective was to determine whether the financial management arrangements (a) are capable of correctly and completely recording all transactions and balances relating to the project; (b) facilitate the preparation of regular, accurate, reliable and timely financial statements; (c) safeguard the project's assets; and (d) are subject to auditing arrangements acceptable to the World Bank. The assessment complied with the Financial Management Manual for World Bank-Financed Investment Operations that became effective on March 1, 2010 and AFTFM Financial Management Assessment and Risk Rating Principles.

96. The legal framework for budgeting, financial reporting, and auditing is acceptable. RTDA FM system covers all the FM cycle (Budget, accounting, internal control, audit, internal audit and reporting). The project FM system will rely primarily on the country PFM system and will support the strengthening of the country system. Nevertheless, to ensure the timeliness and reliability of the financial report, the existing Rwanda Integrated Financial Management Information System (IFMIS) will be upgraded and the format of the financial report agreed upon with the Recipient. The RTDA is presently staffed with one FM Specialist and two accountants who are all professionally qualified accountants. They operate under the supervision of the RTDA Director of Administration and Finances who also oversees the work of the Procurement Specialists, the Budget Officer, and the Accounts Secretary. RTDA has previously managed World Bank projects (closed in 2014 and 2015 respectively), however the FM knowledge of the previous staff under World Bank financed projects shall be refreshed. The funds will flow from the World Bank into the Designated Account (DA) opened in Euros at the National Bank of Rwanda to be managed by the RTDA. The DA signatories' letter shall be sent to the World Bank by the Ministry of Finance. A subsidiary agreement will be signed, between the Recipient, the RTDA and an 'effectiveness condition'.

97. A separate account will be opened at the National Bank of Rwanda (BNR) in Rwandan Francs to receive the counterpart fund in the amount agreed in the Financing Agreement to cover the resettlement compensation, SPIU cost, and the rest represents taxes for the works and consultancy contracts.

98. The FM assessment for the project concluded that the existing project financial management arrangements are adequate and meet the World Bank's minimum requirements as outlined in Operational Policies/World Bank Procedures (OP/BP 10.00). The PFM system in place at the RTDA is acceptable subject to (i) the recruitment of one additional accountant well experienced to handle the workload generated by the project; (ii) the agreement on the financial reporting format to include budget execution monitoring by component, and (iii) the inclusion of the project in the Government of

Rwanda IFMIS and in the Office of Auditor General's (OAG) Audit Plan. The overall financial management risk is rated as 'Moderate'.

99. **FM Covenants**. The following are the main FM covenants, which are included in the Financing Agreement. (1) Rolling out of the project into IFMIS –not later than 3-months after Effectiveness; (2) Recruiting an additional accountant well experienced – not later than 3-months after Effectiveness; and (3) Signing a subsidiary agreement between the Recipient and the RTDA as an Effectiveness condition.

D. Procurement

100. Procurement for the project will be carried out in accordance with the "World Bank Procurement Regulations for Recipients under Investment Project Financing", dated July 1, 2016, and hereafter referred to as "Procurement Regulations". The project will also be subject to the World Bank's Anticorruption Guidelines, dated July 1, 2016.

101. As required by the Procurement Regulations, a Project Procurement Strategy for Development (PPSD) has been developed by RTDA and was finalized during Appraisal, based on which the draft Procurement Plan (PP) was prepared and finalized to set out the selection methods to be followed by the Recipient in the procurement of goods, works, non-consulting and consulting services financed by the World Bank. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

102. PPSD provides a strategic assessment covering specifically: (i) assessment of country operating context and RTDA capability, involving (a) governance; (b) economics; (c) sustainability; and (d) technological aspects; (ii) market research and analysis; (iii) procurement risk analysis; and (iv) stakeholders analysis. RTDA undertook required detailed data collection, surveyed concerned agencies, and researched relevant documents to substantiate information leading to conclusions made. For example, on the governance aspects, information was gathered from reports published by the Rwanda Governance Board, World Bank Doing Business Report 2016, and Rwanda e-procurement website. For market analysis, Rwanda procurement law, national categorization of construction and consulting companies, association of procurement professionals were researched to prepare strengths and weaknesses analyses. On transparency and perception regarding procurement risk analysis, Rwanda Governance Scorecard for 2016 as published by the Rwanda Governance Board was reviewed. List of contracts in works and services, size and contract values, numbers of contractors and consultants bids etc. were prepared from RTDA internal procurement reports for the last five years. Data on volatility of commodities, e.g. fuel product prices, were collected from the Ministry of Commerce and East African Community (MINEACOM) on historical trends for fuel product prices. Based on the analysis, key procurement objectives were drawn which include (i) procurement of contractor with experience in DBM; (ii) ensuring healthy competition; (iii) streamlining the procurement processes; (iv) initiating procurement of monitoring/supervision services prior to invitation of bids; and (v) reducing internal administrative processes in relation to contract signature.

103. The project will use Systematic Tracking of Exchanges in Procurement (STEP), a planning and tracking system prepared by the World Bank, to provide data on procurement activities, establish benchmarks, monitor delays and measure procurement performance.

104. A procurement capacity and risk assessment was carried out by the World Bank for RTDA-SPIU to review the organizational structure for implementing the project and the adequacy of procurement staff. The assessment was fed into the Procurement Risk Assessment and Management System (PRAMS) and finalized during appraisal. Based on the assessment and taking note of the role and responsibility of RTDA-SPIU for procurement, the procurement risk rating was rated as "Substantial". The number of procurement specialists in RTDA would probably have to be increased. Also, RTDA would need capacity building in contract management with a particular focus on claims management.

E. Social (including Safeguards)[22]

105. On social safeguards, the project triggers OP/BP 4.12 on Involuntary Resettlement as physical displacement and economic displacement will result in land acquisition and relocation of people. The project has developed a Resettlement Action Plan (RAP) that was cleared by the World Bank on March 10, 2017, and disclosed in Rwanda on March 21, 2017 and in the World Bank InfoShop on March 23, 2017. A socio-economic survey and valuation of the affected assets and livelihoods was undertaken and a compensation proposed as part of RAP. Compensation and resettlement assistance will be carried out before the commencement of the civil works. As the project is following DBM type of contracting for construction and maintenance, the final road design shall be completed by the Contracting Entity with subsequent necessary updates, as needed, to the disclosed RAP that shall be cleared by the World Bank, and re-disclosed for compensation prior to start of any civil works. The socio-economic Survey was conducted between June and August 2016 and was completed for the entire project road and, separately for three sections namely, (i) Kibungo – Ramiro proposed under JICA parallel financing (52.8 km); (ii) Kibugabuga – Shinga (42.2 km); and (iii) Shinga – Gasoro (24.15 km). The last two sections have been combined into Lot 2 - Kibugabuga- Shinga - Gasoro (66.55 km) to be financed under the project.

106. The RAP highlighted that up to 312 Project Affected Households (PAHs) will be physically displaced with a total number of 1,966 Project Affected People (PAPs) along the road, which is divided into two lots, namely; Lot 1 - Kibungo (in Ngoma District) to Ramiro (in Bugesera District) with 68 PAHs physically displaced with a total number of 429 PAPs; and Lot 2 - Kibugabuga (in Bugesera District) to Shinga (in Nyanza District) and Gasoro (in Nyanza District) with 244 PAHs physically displaced with a total number of 1537 PAPs.

107. Of those affected PAHs, 167 were identified to be vulnerable as widows/divorcee women, including 52 in Nyanza, 32 in Bugesera and 16 in Ngoma districts. In addition to widow/divorcee, 67 PAHs including children heading households and those aged beyond 65 years were identified as vulnerable (39 in Nyanza, 23 in Bugesera and 5 in Ngoma), and would be given additional assistance. In total, 586 households will be partially affected by losing crops, trees, land and part of premises without necessarily having to be displaced to give way for the implementation of the road-upgrading project. Also, 11 social structures, which include four schools, two churches, four hospitals and one market, which will be partly or completely affected. From the market, 100 traders will be temporarily economically displaced.

[22] Please refer to the Project Integrated Safeguards Data Sheet (ISDS) for full details

108. Lot 1 of the project is planned to be implemented through JICA parallel financing. JICA safeguards policies refer to the World Bank's safeguards policies, thus World Bank Safeguards Policies will apply also under Lot 1 throughout the project life (preparation and implementation). The Government will ensure that the Lot 1 will remain subject to the World Bank Safeguards requirements.

109. Terms of Reference (ToRs) for monitoring and supervision services will cover training for contractor's employees and monitoring of the contractors on labor issues and the prevention of sexual abuse. This includes analyzing and describing all occupational health and safety concerns brought about by activities during all the phases of the project. This covers potential for sexual abuse and violence against women and children, and designing and implementing training programs on corrective and remedial measures to be implemented and monitored under the Environmental and Social Management Plan (ESMP). Complaints on the matter will be channelized through the Grievance Redress Mechanism, which will count with information on the referral route for cases of Gender-Based Violence (GBV) and child abuse, such as the Isange One Stop Centers. The project works bidding documents will include Code of Conducts covering GBV and that contractors will be responsible for the implementation, enforcing and monitoring of these codes, and an Action Plan will be designed to effectively implement the Code of Conduct and managing adverse impacts on communities from temporary project induced labor influx. Once the procurement activities commence on the project, the World Bank will also assess the technical proposals submitted so that the technical elaboration of the labor and prevention of sexual abuse becomes a competitive parameter of the consultant technical evaluation. In addition, the World Bank would review the wording of the Works Contracts with particular attention to 'enforceable mitigation measures' on above based on lessons learned from recent World Bank projects in Uganda, and with reference to the World *Bank's Guidance Note on Managing the Risks of Adverse Impacts on Communities From Temporary Project Induces Labor Influx (December 1, 2016)*.

F. Environment (including Safeguards)[22]

110. The project has moderate environment impact localized to the project site, therefore the project was assigned EA category B. The Integrated Safeguards Data Sheet/Project Information Document, provides more information about the associated safeguards risks and impacts, key safeguard policy issues and their management, and compliance with disclosure requirements.

The environmental safeguards policies triggered include WB OP 4.01 – Environmental Assessment, OP 4.04 – Natural Habitats and OP 4.11 – Physical Cultural Resources. The policy on Natural Habitats applies as the road crosses two wetlands, which will be addressed in the Environment and Social Impact Assessment (ESIA) as per provisions of OP4.04. The Recipient has already prepared the ESIA for the project, which was cleared by the World Bank on March 15, 2017, and disclosed in Rwanda on March 21, 2017 and in the World Bank Infoshop on March 23, 2017 prior to project appraisal. The ESIA identifies that the project impacts include potential disturbance of the national habitats, and construction related impacts, such as management of vibration, borrow pit management, road safety training for stakeholders in the road corridor, prevention of HIV/AIDS and sexually transmitted diseases, worksite health and safety, general environmental management of construction sites, quarry sites and borrow pits, solid waste disposal, traffic management, access, road safety. Specific attention is dedicated in ESIA to labor camps, out of area workers, including protection on minors, gender equity, sexual harassment

prevention, crime management, labor rights, and employment of community members. The report also covers social impacts such as land, property and livelihood compensation, liability for loss of life and injury or damage to private property, among other mitigation measures. As the project is following DBM type of contracting for construction and maintenance, the final road design shall be completed by the Contracting Entity with subsequent necessary updates, as needed, to the disclosed ESIA (that will include an updated ESMP) that shall be cleared by the World Bank, and re-disclosed prior to start of any civil works.

111. **Safeguards Capacity.** The responsibility for safeguard compliance is fully integrated into the overall implementation arrangements for the project, with the RTDA and having previous experience as the main Implementing Agency implementing several similar projects under government, World Bank and AfDB financing. An initial capacity assessment indicates that the RTDA has limited capacity for implementation of World Bank safeguards. The RTDA has environmental and social safeguards officers allocated to the project, but their capacity can be supplemented through collaborating with MINAGRI's safeguards team which provides an opportunity for interagency learning. The districts along the road already have positions of Environmental Officers who are already working with the RTDA in preparing project documentation. They do not, however, have a position of a social expert and will have to rely on RTDA or consulting services for social assessment and management needs. The project includes an allocation for technical assistance under component 2 for safeguards capacity building. The preparation of the ESIA and RAP have integrated the social safeguards screening tool developed by the World Bank Transport and ICT Global Practice.

112. **Citizen Engagement, Public Consultations and the GRM.** Rwanda has a very robust Grievance Resolution Mechanism (GRM) at the grassroots level by the Government. In the past two decades, the main lesson that Rwanda has learned as a post conflict country is that sustainable progress can only be built on a strong leadership where leaders and citizens have a shared vision of the upcoming development projects. In particular for the project of upgrading Ngoma–Nyanza road, RTDA organized from August 9-11, 2016 a public and stakeholders' consultation to collect their views and concern on the project and hear their proposals to remedy any adverse impact to their socio-economic activities. Participants were briefed on the project Ngoma-Nyanza and opinion leaders were given opportunity to express their views and concerns on the project. All concerns and recommendations were focused on the expropriation, access roads to public places, bypasses in busy areas and ancillary facilities of the road (trucks parking, markets, access roads, water points, etc.). This consultation exercise was conducted in three project road districts (Bugesera, Ngoma, and Nyanza) with the support of local authorities and it was done as part of the Environmental and Social Impact Assessment (ESIA) study including a Resettlement Action Plan (RAP).

113. The project will adopt the existing GRM to create a project specific grievance redress mechanism that will be further developed. A description of such GRM is presented in the project ESIA, which outlines the various avenues for grievance registration, investigation, response time and closure. During the RAP implementation and project implementation stage a Stakeholder Engagement Plan (SEP) will be prepared that will ensure a continuous engagement of all stakeholders throughout the implementation. A communication strategy will also be developed. Under the SEP, the project will support local administration in undertaking monthly gender representative consultations to all the project benefits including the local communities. The beneficiaries will be informed on the status of

project implementation and other project related activities. The key messages will be project related activities, land acquisition updates and compensation, monthly planned works and resolution of grievances that have been raised. The community meetings will form part of the communication strategy which will include a SEP.

114. **Road Safety.** Rwanda is currently implementing a Road Safety Strategy including an Action Plan that was developed in 2014 as part of consulting services to conduct a Road Safety Audit for the Rwanda Road Network, financed by the World Bank through the Transport Sector Development Project (P079414). The action plan includes a package of road safety remedial actions, such as the application of relatively low-cost engineering solutions. The Audit recommended that Rwanda set a measurable road safety target in terms of the number of fatalities per 10,000 motor vehicles. This statistic was in 2014 estimated in the range of 50-55 fatalities per 10,000 motor vehicles (including traffic victims dying in hospitals), and a (realistic) strategic target could be to bring this figure down to 25 fatalities per 10,000 motor vehicles in 2025. An intermediate target figure for 2020 could be set at 40 fatalities per 10,000 motor vehicles.[23] The study suggests that the most vulnerable road users are pedestrians and bicyclists (7 out of 10 victims in fatal accidents) and recommends upgrading of the road network by adding pedestrian footpaths where possible. Since 2015, all road-upgrading projects include provision of pedestrian footpaths in urban zones or commercial centers.

115. Rwanda is planning to upgrade the national crash database through separate ongoing projects funded with Grants to be negotiated with EU Trust Funds through AfDB. The project supports efforts to improve post-crash response – an important and often neglected pillar of the Road Safety framework – with an assessment of the current state of post-crash response systems along the corridor and the development of recommendations for improvements following a Safe systems approach. Any improvements resulting from this assessment will be carried out by the relevant ministries and agencies.

116. The project road concept design includes traffic calming measures and other road safety-related infrastructures especially near highly frequented zones such as footpaths and road side rails for pedestrian and vehicle safety. As part of the Design-Build approach, the final design to be prepared by the Contractor will specify exact locations and details of such road safety engineering measures for implementation. Furthermore, during the construction phase all the citizens living along the road as well as affected communities will be sensitized on road safety guidelines during and after improvement works of the existing road through citizen engagement programs. Road safety and post-crash response sensitization will be conducted for schools, health centers, and markets in behavioral change vis-à-vis the newly upgraded road. In order to ensure continued attention to above issues throughout the project period, a set of trigger actions are included as project outcome indicators. The World Bank team will also look to apply for funds for above activities to the Global Road Safety Facility (GRSF) housed at the World Bank.

117. **Gender Equality in Rwanda.** Several data sources showcase Rwanda's progress in promoting gender equality and achieving improvements in women's access to health endowments. Rwanda now ranks number five out of 144 countries in the Global Gender Gap Report, and maternal mortality rates have decreased during 2000-2015, from 1070 death per 100,000 live births to about 290 deaths.

[23] Source: National Road Safety Strategy report 2014 conducted by RTDA, Rwanda

Women have also benefited from government's strategies, policies and actions, as it is reflected in government gender-based budgeting and engagement to fight gender-based violence. Women traders are already benefiting from the government's National Cross Border Trade Strategy 2012-2017 (NCBTS); Rwanda has engaged with some of its neighbors, such as Uganda, for improving conditions of women's traders through a memorandum of understanding to facilitate trade procedures. Facilitating trade at other border crossings will help 70% of informal women traders,[24] as trade is the only source of income for 90 percent of them. Besides these advancements, there are still some gender gaps, related to the project objectives that need to be considered in the specific areas of intervention. As for cross-border trade, data from the NCBTS shows that (i) men trade more capital intensive goods and women trade lower value primary products; (ii) only 10 percent of traders in cooperatives are women; (iii) women traders are frequent victims of sexual harassment from officials at the border or forced to pay additional fees; (iv) women face lack of gender-informed infrastructure when crossing the border, like proper facilities such as warehouse to store their products; and (v) lack of information on border regulations is more prevalent among women. The Government confirmed that under parallel financing support for Integrated Border Management, the terms of reference for Technical Assistance (TAs) will incorporate a gender perspective by (a) reviewing existing data and analysis of the constraints on trade facilitation that Rwandan women face; and with that information prepare plans for (b) trainings to border officials to raise awareness on women cross border trade issues and how to address them. Furthermore, the trainings during implementation will include issues related to gender-based-violence (GBV) and legal procedures, and (c) recommendations for border infrastructure to incorporate women's needs. In terms of GBV and child abuse, the project ESIA has identified the need to pay special attention to the potential impacts of work camps and labor influx on these issues. In this sense, given certain gender vulnerabilities and discriminations, potential harm for women and girls from the project will be mitigated as already covered above in Section E and F on Social and Environmental Safeguards respectively.

118. **Climate Resilient Road Transport Infrastructure in Rwanda**. Rwanda is a hilly country surrounded by mountains with an annual precipitation of 1,000 mm, and highly vulnerable to extreme climate events, increased temperatures and changing rainfall patterns. Rwanda is among the six African nations of the "V20" or "Vulnerable 20" group of the top nations from all over the world that are most affected by the catastrophes rooted from climate change. It has committed itself as part of its Intended Nationally Determined Contributions (INDCs) to developing efficient and resilient transport systems by 2030.[25] In the transport sector, both existing and future infrastructure is susceptible to damage. Increased temperature can increase pavement buckling and changing rainfall patterns can increase landslides, potholes and material losses to the structures and cause road and bridge failures. Due to increased climate related-risks, the current road design standards in Rwanda guarantee all-season accessibility, and are already relatively expensive. The estimated cost of the World Bank supported road section is around a million dollar per kilometer including multi-year routine maintenance after the upgrading phase. The project includes provision for emergency works caused by climate incidents, and other unexpected events. To further address these problems RTDA, with the financing of Nordic Development Fund (NDF) of €4,4million signed in April 2016, plans to acquire technical assistance to

[24] Source: National Cross-Border Trade Strategy 2012-2017 conducted by the Ministry of Trade and Industry, Rwanda

[25] Climate-Resilient and Low-Carbon Transport in Sub-Saharan Africa, A Contribution to the Africa Climate Business Plan, 2016, the World Bank

build the knowledge and develop technical and policy tools for the transport sector to integrate climate change as well as other natural disasters into all aspects of the transport life cycle. Opportunities will also be provided to pilot innovative approaches to reduce damages and prevent them from occurring. Cross-cutting approaches to the component include: environment and social co-benefits and developing human resources through multiple channels. These approaches should ensure the sustainability and scaling-up of the results of the technical assistance. The NDF financing is linked to the Base-Nyagatare road upgrading project Phase I (Base-Rukomo) that is financed by the African Development Bank. Specifically, the outcomes of the TA will include: (i) Improved tools and knowledge of road transport sector to integrate climate change adaptation and disaster risk management throughout the transport life-cycle; (ii) Physical works put in place to enhanced landslide protection in right-of-way areas prone to landslides and erosion while providing benefits to local populations; and (iii) Increased involvement by transport sector experts in disaster risk management.

119. **Greenhouse Gas (GHG) Emissions.** The impacts on Carbon dioxide (CO2) emissions due to the project are estimated based on the aggregated composition of traffic, existing travel conditions, and the estimated impacts from the project interventions. The evaluation compares anticipated baseline without project emissions, when there are no project interventions, and with project scenario emissions. Baseline emissions are estimated from the existing traffic allowing for annual growth, while the "with" project scenario accounts for changes in emission levels of (i) the normal traffic, due to improved ride quality conditions and speeds; and (ii) the added diverted and generated traffic with the project. Table 6 below presents a summary of the estimated CO2 emissions with and without the project in year 2020, and over the entire evaluation period (2017 to 2039). In year 2020, when the road improvement road works are completed, the total CO2 emissions will decrease from 35,696 tons without the project to 24,830 tons with the project (30 percent decrease). Over the valuation period, the total CO2 emissions will decrease from 1.52 million tons without the project to 0.99 million tons with the project (35 percent decrease). The decrease in CO2 emissions with the project is due to the increase in vehicle speeds of the normal traffic brought by the project[26] that decrease fuel consumption of the normal traffic and decrease corresponding CO2 emissions.

Table 6. CO2 Emissions Over the Evaluation Period (Tons)

CO2 Emissions	Kibungo - Ramiro	Kibugabuga - Shinga	Shinga - Gasoro	Total
Without the Project in 2020	20,827	9,504	5,365	35,696
With the Project in 2020	14,441	6,628	3,761	24,830
Percent Change (%)	-31%	-30%	-30%	-30%
Without the Project Over Evaluation Period	889,246	406,596	229,517	1,525,358
With the Project Over Evaluation Period	578,837	265,413	150,595	994,844
Percent Change (%)	-35%	-35%	-34%	-35%

120. A sensitivity analysis including the benefits due to the reduction of CO2 emission with the project on the economic evaluation shows that it affects slightly the economic evaluation results.

[26] Vehicle speeds are estimated to increase on average from around 40 to 80 km per hour with the project.

Including CO2 emission benefits on the economic evaluation[27], for the Shinga – Gasoro Section, which is financed by the project, the EIRR increases to 19.7 percent from the base 19.4 percent. Table 7 below presents the distribution of the project net benefits (NPV) indicating that the emission benefits (US$1 million) represent 2 percent of the total road user cost benefits (US$39 million) derived from the normal and generated traffic.

Table 7. Economic Evaluation Results Including CO2 Emissions Benefits

Road Section	Agency Cost (US$ M)	Normal Traffic (US$ M)	Generated Traffic (US$ M)	CO2 Emissions (US$ M)	NPV (US$ M)	EIRR (%)
Kibungo - Ramiro	-48	155	4	3	114	36.4%
Kibugabuga - Shinga	-34	68	2	1	37	22.5%
Shinga - Gasoro	-22	37	1	1	17	19.7%
Total	-105	261	6	5	167	28.0%

G. Other Safeguard Policies (if applicable)

121. No other safeguard policies are triggered for the Project.

H. World Bank Grievance Redress

122. 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 World 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/en/projects-operations/products-and-services/grievance-redress-service*. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

[27] CO2 emission benefits were included on the economic evaluation based on a unit cost of CO2 emissions of US$ 30 per ton of CO2 increasing by 3 percent per year.

VII. RESULTS FRAMEWORK AND MONITORING

Program Results Framework
COUNTRY : Eastern Africa
LAKE VICTORIA TRANSPORT PROGRAM - SOP1, RWANDA

Program Development Objectives

The program development objective has been identified as the following: to facilitate the sustainable movement of goods and people in the Lake Victoria region, whilst strengthening the institutional framework for transport safety.

Program Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: Reduction in travel time between defined origin and destination		Percentage	0.00	20.00	Annual	Collated from individual SOPs	As per individual SOPs
Description: Based on field survey data from respective SOPs.							
Name: Reduction in transport cost for users		Percentage	0.00	10.00	Annual	Collated from individual SOPs	As per individual SOPs
Description: Using HDM based economic analysis data to calculate user cost for ex ante and ex post, by vehicle category aggregated for two types of vehicle; (i) articulated heavy truck and (ii) passenger cars.							
Name: Actual	✔	tons	150,000/50	500,000/1,	Annual	Collated from individual	As per individual

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
throughput/capacity in the lake ports			0,000	000,000		SOPs	SOPs

Description:

Name: Direct project beneficiaries of improved roads/ports/ferries	✔	Number	0.00	3000000.00			
Female beneficiaries	✔	Percentage	30.00	51.00			

Description: Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.

Name: Share of rural population with access to all-weather road/ferry service	✔	Percentage	0.00	tbc			
Number of rural people with access to an all-season road/ferry service	✔	Number	0.00	tbc			

Description: Percentage of rural people in the project area who live within 2 kilometers (typically equivalent to a 20-minute walk) of an all-season road. This indicator is also known as Rural Access Index (RAI). An all-season road is motorable all year by the prevailing means of rural transport (often a pick-up or a truck which does not have

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
four-wheel-drive). Predictable interruptions of short duration during inclement weather (e.g. heavy rainfall) are acceptable, particularly on low volume roads. Please note that this indicator requires supplemental information Supplemental Value: Number of rural people with access to an all-season road The Supplemental Value is the total number of rural people with access to an all-season road. An all-season road is a road that is motorable all year by the prevailing means of rural transport (often a pick-up or a truck which does not have four-wheel-drive).							

Results Framework

COUNTRY : Eastern Africa

LAKE VICTORIA TRANSPORT PROGRAM - SOP1, RWANDA

Project Development Objectives

The program development objective is to facilitate the sustainable movement of goods and people in the Lake Victoria region, whilst strengthening the institutional framework for transport safety.

The project development objective for SOP1 Rwanda is to improve the efficient and safe movement of goods and people along the regional corridor from the border crossing at Rusumo to the border crossing at Nemba and Rusizi together with upgrades to road asset management and road safety in Rwanda.

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: Reduction in travel time from Kibugabuga to Gasoro		Hours	2.75	1.75	Annual	The baseline was determined in the Feasibility Study. Collection of data will be done by using the Moving Observer method assisted by GPS.	RTDA/MININFRA
Description: The travel time from start to the end of the project road measured in hours. The current travel time is 2 hours 45 minutes and after project completion it is expected to reduce by 1 hour.							
Name: Reduction in		Percentage	0.00	10.00	End of project.		RTDA/MININFRA

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
transport cost for users							
Description: Using HDM based economic analysis data to calculate user cost for ex ante and ex post, by vehicle category aggregated for two types of vehicle; (i) articulated heavy truck and (ii) passenger cars.							
Name: Roads in good and fair condition as a share of total classified roads		Percentage	45.00	48.00	Annual	Project progress reports by implementing entities.	RTDA/MININFRA
Size of the total classified network		Kilometers	1250.00	1316.00	Annual	Project progress reports by implementing entities.	RTDA/MININFRA
Description: Percentage of the total classified road network in the project area that is in good and fair condition depending on the road surface and the level of roughness. Classified roads are the roads that have been included in the roads legislation as public roads. Please note that this indicator requires supplemental information Supplemental Value: Total classified network in the project area (KM) The Supplemental value is the total classified network in the project area. Classified roads are the roads that have been included in the roads legislation as public roads.							
Name: Direct project beneficiaries		Number	0.00	500000.00	Annual	The data will be collected by the M&E Consultant to conduct baseline survey and monitoring and evaluation of the project. His/her reports will be approved by the RTDA	RTDA/MININFRA and National Statistics Office

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Description: Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.							
Name: Share of rural population with access to an all-season road		Percentage	0.00	4.00	Annual	The data will be collected by the M&E Consultant to conduct baseline survey and monitoring and evaluation of the project. His/her reports will be approved by RTDA.	RTDA/MININFRA
Number of rural people with access to an all-season road		Number	0.00	100000.00	Annual	Project progress report by implementing entities	RTDA/MININFRA
Description: Percentage of rural people in the project area who live within 2 kilometers (typically equivalent to a 20-minute walk) of an all-season road. This indicator is also known as Rural Access Index (RAI). An all-season road is motorable all year by the prevailing means of rural transport (often a pick-up or a truck which does not have four-wheel-drive). Predictable interruptions of short duration during inclement weather (e.g. heavy rainfall) are acceptable, particularly on low volume roads. Please note that this indicator requires supplemental information Supplemental Value: Number of rural people with access to an all-season road The Supplemental Value is the total number of rural people with access to an all-season road. An all-season road is a road that is motorable all year by the prevailing means of rural transport (often a pick-up or a truck which does not have four-wheel-drive).							
Name: National paved roads network sections maintained using Roads Maintenance		Kilometers	0.00	185.00		Multi-year maintenance contracts are awarded by RTDA for 3 years. Collection	RTDA

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Fund (RMF)						of data on the number of kilometer of roads annually maintained through multi-year maintenance contracts will be done by RTDA.	
Number of permanent jobs created using Local Community Associations (LCAs)		Number	0.00	500.00	Annual	On a monthly basis, districts produce reports for RMF on the use of routine maintenance funds. Data will be collected from those reports as they include details such as the number of LCAs and workers involved (by sex), and length maintained.	RTDA/RMF
Description: The GoR will finance Multi-Year maintenance contracts for at least 185km of the paved road network through the Road Maintenance Fund (RMF). The indicator will enable monitoring the length of network maintained through multi-year contracts for periodic maintenance.							
Name: Survey reports on citizen engagement available		Yes/No	N	Y	Beginning and end of implementation of the Ngoma-Nyanza road project and selected trade and development facilitation	Citizen engagement monitored by carrying out Social Monitoring and Evaluation Surveys before, at MTR and after the implementation of contracts for the upgrading and maintenance of the	RTDA/MININFRA

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
					interventions.	Kibugabuga-Gasoro road section. The survey will use gender-disaggregated data and will be done by the Consultant to conduct baseline surveys and monitoring and evaluation of the project.	
Description: The Strategic Framework for mainstreaming citizen engagement in World Bank group operations requires that feedback from projects beneficiaries on their expectations, experience and lessons learnt should be captured to enable a more results-focused preparation of new projects							
Name: Road safety measures introduced from Kibugabuga to Gasoro		Yes/No	N	Y	Annual	Monitoring Consultant progress reports approved by RTDA.	RTDA/MININFRA
Guardrails for pedestrian & vehicle safety		Kilometers	0.00	9.00			
Footpaths for pedestrian & vehicle safety		Kilometers	0.00	11.00	Annual	Monitoring Consultant progress reports approved by RTDA	RTDA/MININFRA
Description: As part of works contract, guardrails and footpaths will be provided for urban centers and populated zones to segregate pedestrians from vehicle traffic.							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: Progress on post-crash response		Yes/No	N	Y	Annual	Any improvements resulting from this assessment will be carried out by the relevant ministries and agencies. Reported in Monitoring consultant's progress reports approved by RTDA.	RTDA/MININFRA/RNP/MINISANTE
Description: An assessment of the current state of post-crash response systems along the corridor and the development of recommendations for improvements.							

Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: Roads rehabilitated, Non-rural		Kilometers	0.00	66.00	Annual	Monitoring Consultant progress reports approved by RTDA	RTDA/MININFRA
Description: Kilometers of all non-rural roads reopened to motorized traffic, rehabilitated, or upgraded under the project. Non-rural roads are roads functionally classified in various countries as Trunk or Primary, Secondary or Link roads, or sometimes Tertiary roads. Typically, non-rural roads connect urban centers/towns/settlements of more than 5,000 inhabitants to each other or to higher classes of road, market towns and urban centers. Urban roads are included in non-rural roads.							

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: Road safety and post-crash response sensitization conducted for schools, health centers, and markets from Kibugabuga to Gasoro		Number	0.00	20.00	Annual	Trainings are foreseen to be conducted through monitoring consultant's contract. Data on progress will be obtained from reports of the Monitoring Consultant approved by RTDA.	RTDA/MININFRA/RNP/MINISANTE
Description: Road safety and post-crash response sensitization will be conducted for schools, health centers, and markets in behavioral change vis-à-vis the newly upgraded road.							
Name: Agricultural market centers connected along Kibugabuga - Gasoro		Number	0.00	13.00	Annual	The data will be collected by the M&E Consultant to conduct baseline survey and monitoring and evaluation of the project. His/her reports will be approved by RTDA	RTDA/MININFRA/MINAGRI
Description: Roadside agricultural markets to benefit from an all season Kibugabuga-Gasoro road along the project corridor.							
Name: Border agencies participating in implementing IBM at Rusizi I		Number	0.00	4.00	Annual	The data will be collected by the M&E Consultant to conduct baseline survey and monitoring and evaluation	RTDA/RRA

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
						of the project. Consultant reports will be approved by RTDA/RRA.	
Description: These are the multiple border agencies located at Rusizi I and include Immigration, RRA, Agriculture, and Standards. The use of Integrated Border Management (IBM) will contribute to better service delivery at the border and better collaboration between agencies after its implementation under parallel financing to be confirmed and currently not part of this project. This intermediate indicator strengthens the implementation of the ongoing regional trade facilitation initiatives in Rwanda which are fully supported by the LVTP.							
Name: Code of Conduct for contractor's personnel and Action Plan designed		Yes/No	N	N	Annually	Monitoring Consultant's Progress reports to be approved by RTDA.	RTDA/MINFRA/RNP
Description: Introduced and implemented through the Contractor's bid documents and Works Contract Agreement as a requirement under Environment, Social. Health, and Safety guidelines of the World Bank. The Monitoring Consultant ToRs will also contain requirements for quality assurance and to ensure compliance during implementation.							
Name: Females employed in LCAs on RMF road maintenance contracts		Number	0.00	100.00	Annual	On a monthly basis, districts produce reports for RMF on the use of routine maintenance funds. Data will be collected from those reports as they include details such as the number of LCAs and workers involved (by sex), and	RTDA/RMF

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
						length maintained.	
Description: According to the legislation on creating LCAs in Rwanda, about 30% of LCA employees should preferably be female gender; and at least 1-employee in management of LCA should be female, if possible. The indicator will monitor application of this LCA legislation on the road maintenance contracts to be funded under RMF.							

Target Values

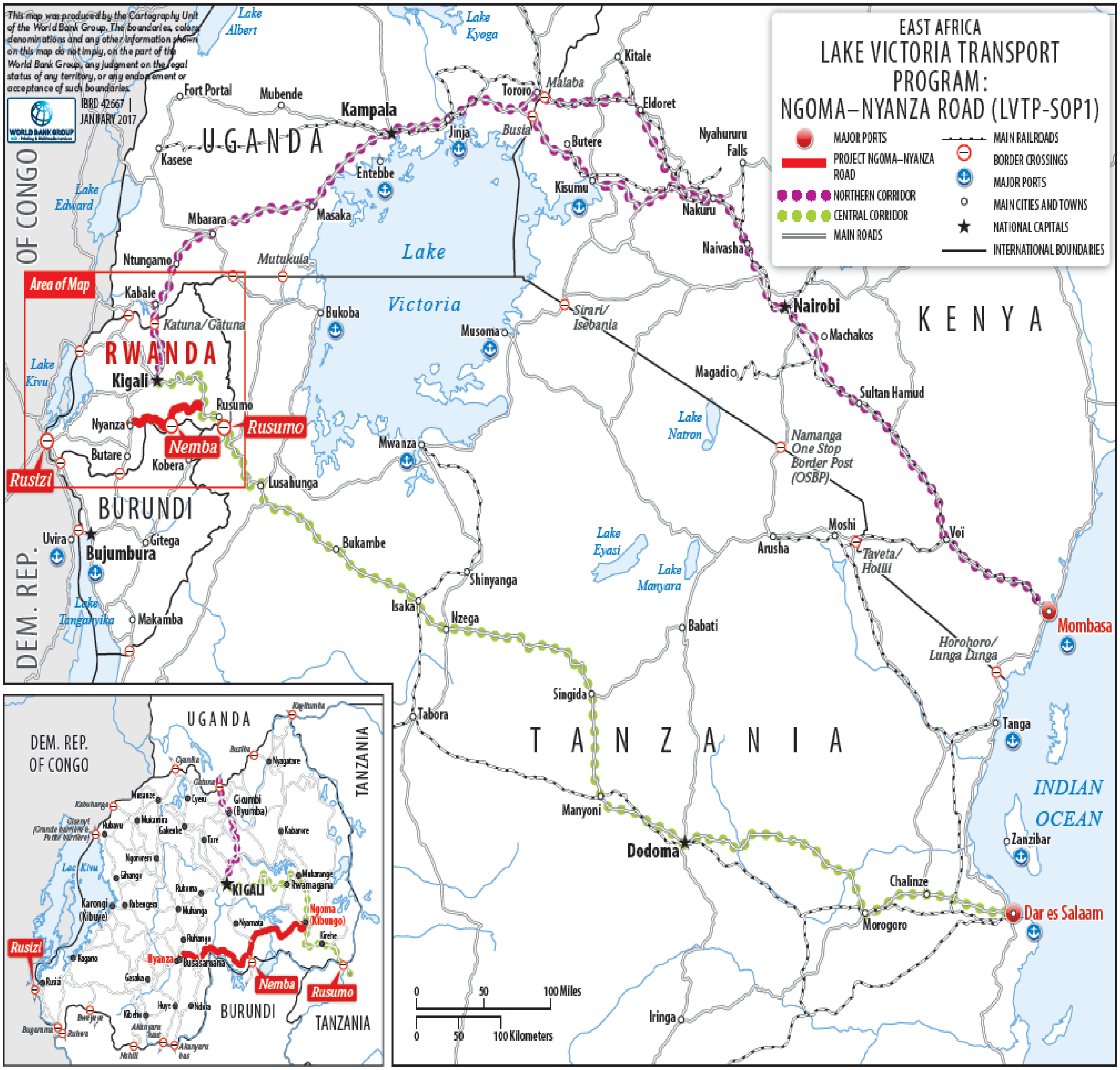
Project Development Objective Indicators

Indicator Name	Baseline	End Target
Reduction in travel time from Kibugabuga to Gasoro	2.75	1.75
Reduction in transport cost for users	0.00	10.00
Roads in good and fair condition as a share of total classified roads	45.00	48.00
Size of the total classified network	1250.00	1316.00
Direct project beneficiaries	0.00	500000.00
Share of rural population with access to an all-season road	0.00	4.00
Number of rural people with access to an all-season road	0.00	100000.00
National paved roads network sections maintained using Roads Maintenance Fund (RMF)	0.00	185.00
Number of permanent jobs created using Local Community Associations (LCAs)	0.00	500.00
Survey reports on citizen engagement available	N	Y
Road safety measures introduced from Kibugabuga to Gasoro	N	Y
Guardrails for pedestrian & vehicle safety	0.00	9.00
Footpaths for pedestrian & vehicle safety	0.00	11.00

Indicator Name	Baseline	End Target
Progress on post-crash response	N	Y

Intermediate Results Indicators

Indicator Name	Baseline	End Target
Roads rehabilitated, Non-rural	0.00	66.00
Road safety and post-crash response sensitization conducted for schools, health centers, and markets from Kibugabuga to Gasoro	0.00	20.00
Agricultural market centers connected along Kibugabuga - Gasoro	0.00	13.00
Border agencies participating in implementing IBM at Rusizi I	0.00	4.00
Code of Conduct for contractor’s personnel and Action Plan designed	N	N
Females employed in LCAs on RMF road maintenance contracts	0.00	100.00


EAST AFRICA
LAKE VICTORIA TRANSPORT PROGRAM:
NGOMA–NYANZA ROAD (LVTP-SOP1)
MAJOR PORTS
PROJECT NGOMA–NYANZA ROAD
NORTHERN CORRIDOR
CENTRAL CORRIDOR
MAIN ROADS
MAIN RAILROADS
BORDER CROSSINGS
MAJOR PORTS
MAIN CITIES AND TOWNS
NATIONAL CAPITALS
INTERNATIONAL BOUNDARIES
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JANUARY 2017
UGANDA
KENYA
TANZANIA
RWANDA
BURUNDI
DEM. REP. OF CONGO
Lake Victoria
INDIAN OCEAN
Area of Map
Kampala
Nairobi
Kigali
Bujumbura
Dodoma
Mombasa
Dar es Salaam
Rusumo
Nemba
Rusizi
Nyanza
Butare
Kobera
Lusahunga
Bukambe
Isaka
Nzega
Singida
Manyoni
Chalinze
Morogoro
Tabora
Shinyanga
Mwanza
Bukoba
Musoma
Kisumu
Eldoret
Kitale
Tororo
Malaba
Busia
Jinja
Entebbe
Masaka
Mbarara
Ntungamo
Kabale
Katuna/Gatuna
Mutukula
Nakuru
Naivasha
Machakos
Sultan Hamud
Voi
Namanga One Stop Border Post (OSBP)
Taveta/Holili
Horohoro/Lunga Lunga
Tanga
Zanzibar
Moshi
Arusha
Babati
Iringa
Uvira
Gitega
Makamba
Sirari/Isebania
0 50 100 Miles
0 50 100 Kilometers