



Republic of Rwanda

**Ministry of Infrastructure**

Policy and Planning Department

## Rwanda Infrastructure Overview

March, 2017

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- 3 Infrastructure Investment Opportunities**



# Infrastructure sector overview

Sub-sectors	Mandate
<b>Energy</b>	To develop and maintain sustainable power generation facilities to supply clean, cost-effective and uninterrupted energy to the country and the region.
<b>Transport</b>	To develop, rehabilitate and maintain an efficient and integrated national transport infrastructure network including roads, bridges, airports, railways.
<b>Water and Sanitation</b>	To Initiate programs aimed at increasing access to clean water and sanitation facilities and related services to the population.
<b>Urbanization and human</b>	To initiate , develop and facilitate urban development programs with a view to providing affordable shelter and promote grouped settlement (Imidugudu)



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# Key policy frameworks in Place

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## **Key policy frameworks adopted to guide the implementation of infrastructure programs and projects include:**

- Energy policy adopted in March 2015.
  - Energy sector strategic plan approved in March 2015.
  - Rural Electrification Strategy
  - National housing policy adopted in March 2015.
  - National Urbanization policy adopted December 2015.
  - National policy and strategy for water supply and sanitation adopted in 2010 (under review).
  - Transport policy adopted in 2008 (under review)
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# Transport Sector



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# Transport Sector

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## Key EDPRS II Target

- ⇒ Riding quality for national paved roads to be maintained at 95%
- ⇒ Riding quality for both paved and unpaved national roads to be at 80%.
- ⇒ The target is to pave around 500Km more in the coming years (up to 2018) to meet **1852km** targets by 2018.

## Current status

- ⇒ The National Paved Road Network is currently at 1492 km.
  - ⇒ Riding quality of both paved and unpaved national roads is at 72.6%
  - ⇒ Roads conditions for the paved national roads is maintained at 95%.
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# Investment Opportunities in Transport Sector

## Expressway to Bugesera Airport



**Estimated Value of project:** USD 100M

### **Project Description:**

- A 40-km transport link between the new airport and the City of Kigali
- Dual carriageway , i.e 4-lanes road with 2 lanes in two directions (4x7m).

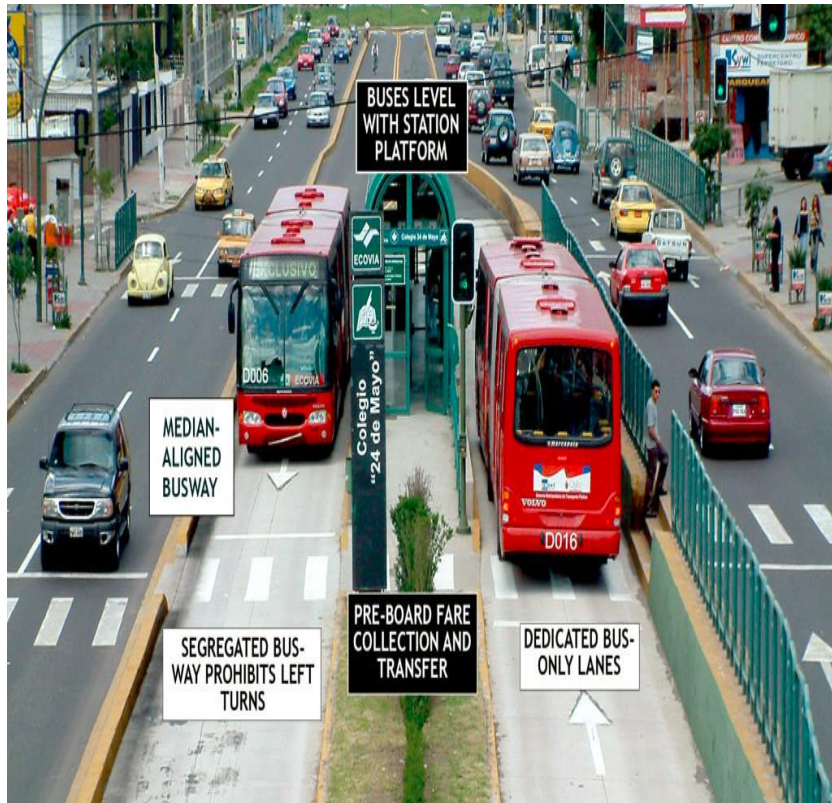
### **Way forward:**

- The Feasibility Study is underway (by SPEA Engineering) and study reports and Tender Documents will be available in early Nov 2017.
- The study will look at alternative routes to the NBIA and will propose a detailed design for the chosen route/alignment.



# Investment Opportunities in Transport Sector

## *BRT project in CoK*



### **Project Description**

*Public transport in Kigali is mainly served by buses with an average capacity of 26 seats operated by private companies.*

*A Bus Rapid Transit system is proposed to cope with Kigali's growing demand for public transport services.*

### **Way Forward**

*A Feasibility Study and Preliminary Design is underway, in the CoK, and study reports will be availed February 2019.*



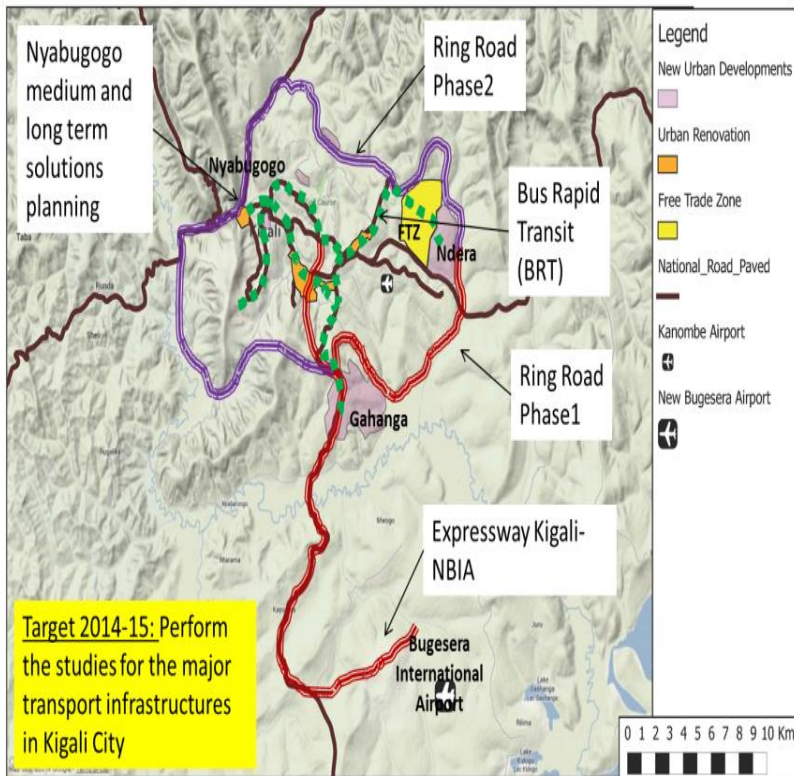


# Investment Opportunities in Transport Sector

## Ring Roads for Kigali City

**Value of project:** USD 240M

TRANSPORT PLANNING KIGALI 2014-15



### Project Description

- 80km of ring roads to increase mobility, provide optional route for commercial transit cargo and reduce traffic congestion in the City of Kigali
- Project provided for in the Master Plan of the City of Kigali
- Proposed model: PPP & toll-road system.

### Way forward

- Detailed design will continue based on the Financing Option presented by Mota-Engil in April 2017

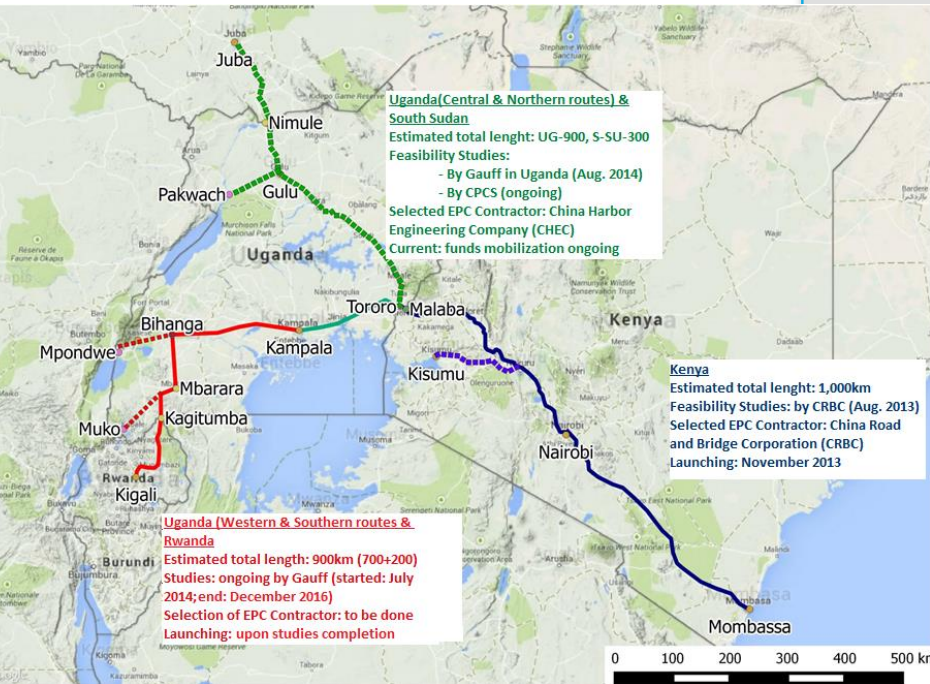


# Investment Opportunities in Transport Sector

Feasibility Study On-going

## Mombasa-Kampala-Kigali Railway

**Value of projects:** USD 1.5bn Rwanda section (13.5bn entire project)



### Project Description:

- *Kampala-Kigali Section (Uganda Western & Southern routes and Rwandan route): On June 5th, 2015, Uganda signed a MoU with CCECC for a Feasibility Study.*
- *Preliminary engineering design studies, ongoing with Gauff Consultant/ILF Consulting Engineers for Kampala-Kigali to be completed by July 2017.*

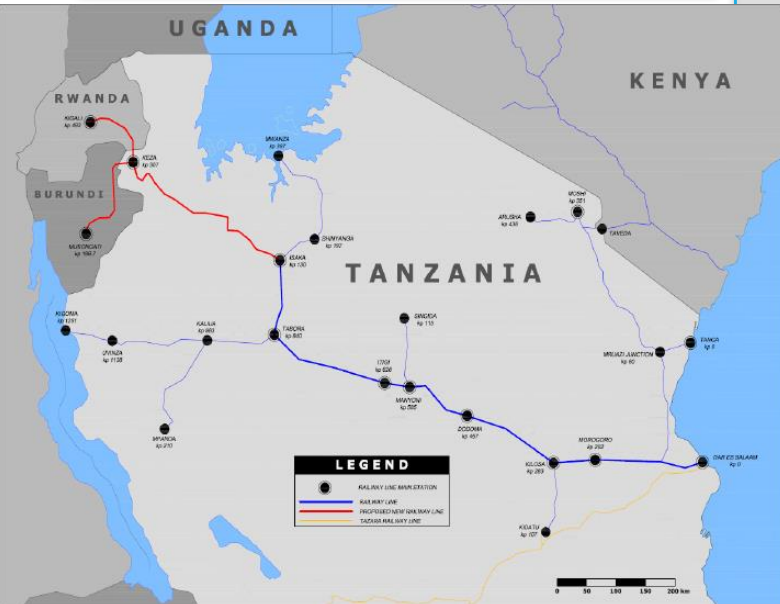
### Way forward:

- *Complete all the feasibility studies.*
- *Secure the financing of routes with completed studies.*



# Investment Opportunities in Transport Sector

**Feasibility Study Available**



## Way forward:

CPCS to prepare the document and launch the Request for Proposals (RfP) under BOT model (Feb. 2017).

## Dar Es Salaam Isaka-Kigali Railway

**Value of projects:** USD 1.07bn Rwanda section (5.2bn entire project)

### Project Description:

Three different Standard Gauge Lines with **1,672km** total length:

**Dar es Salaam-Isaka line** (970km): construction of a new line in parallel of the existing Meter Gauge line.

**Isaka-Kigali/Keza-Musongati line** (702km): new construction in a greenfield (TZ-396, BU-183, RW-123).

Feasibility study suggests Freight traffic forecast for 10 years operations: **17Mi Gross Tonnes.**

### Status:

- Transaction Advisory services by CPCS Transcom/Canadian Pacific Consulting Services) are ongoing.
- CPCS has developed a Basic Design for Dar es Salaam-Isaka section and updated the project cost (as of Dec. 2016).
- Expression of Interests, evaluation and shortlisting of 13 companies for the Financing, Design, Construction, Operation and Maintenance under a PPP Model were completed.



# Water and Sanitation Sector





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# Water & Sanitation Sector

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## **Targets for 2018:**

- Access to clean water: 100%
- Rural water supply infrastructure with 100% functionality
- Sufficient sewerage and disposal systems in rural and urban areas
- Sanitation coverage for 100% schools and hospitals
- Solid Waste Management coverage: 100%
- Rain water harvesting and management: 100%

## **Progress and Statistics:**

- Access to clean water: 84.8 % by 2015.
- Sanitation coverage: 83.4 % by 2015

## **Investment Facilitation:**

- Water Purchase Agreements as standard
  - Engineering, Procurement & Construction (EPC)
  - Common use of Public Private Partnerships (PPP)
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# Water & Sanitation Investments Opportunities

Studies On-going

## Kigali Centralized Sewage System

**Value of projects:** USD 95M

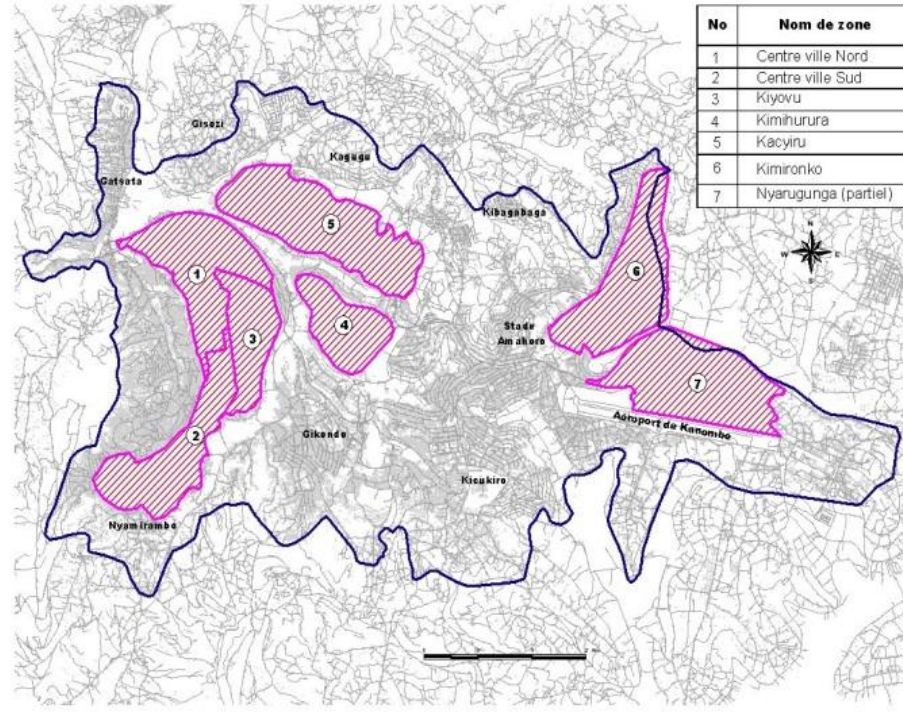
### **Project Description:**

- Phase I will cover Muhima and Nyarugenge and all categories of buildings will be connected to the sewerage system
- Benefiting from tariff Revenues as a result of offered Services from households, industries, businesses, real estates etc.

### **Way forward:**

- Complete land acquisition for the Project area
- Complete the feasibility study including the detailed design and engineering design by December 2016
- Find the Potential investor to Implement Project

No	Nom de zone
1	Centre ville Nord
2	Centre ville Sud
3	Kiyovu
4	Kimihurura
5	Kacyiru
6	Kimironko
7	Nyarugunga (partiel)





# Water & Sanitation Investments Opportunities



## Water Network Expansion & Rehabilitation

*Value of projects:* USD 50M

### Kigali Water Network

***Project description:***

- *Rehabilitation and extension of the Kigali distribution network*
- *Cut the current losses of 35.5%; strong imperative to resolve the issue and simultaneously meet the pace of growing demand*

***Way forward:***

- *PPA model, followed by WPA negotiations.*

### Secondary Cities Water Network

***Project description:***

- *Rehabilitation and extension of the water distribution network in the 6 secondary cities.*

***Way forward:***

- *PPA model, followed by WPA negotiations.*



# Housing and Urban Settlement







# Investments Opportunities in Housing and Human Settlements

**Feasibility Study Required**



## Affordable Housing

**Value of projects:** Est. USD 660M /  $\approx$  28,000 housing units to be constructed

### Description:

- City of Kigali (Kanombe Busanze/ 27 ha)
- Gahanga 100 ha and Mt. Kigali 100ha (land acquisition underway)
- Nyagatare (Eastern Province) / 29 ha

### Current status

- Urban Master plans available
- Land acquired,
- Feasibility and conventional design phases at differing stages
- Prime Minister Instructions clarifying Infrastructure support for affordable housing and high density projects adopted.
- Housing Finance Fund for both developers and home buyers to start operations in July 2017.

### Way forward:

- Detailed designs to be developed.



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# Energy Sector

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## Targets to be met by 2018

- Electricity Access: **70% households**
- Regional Connections: **Uganda, DR Congo, Tanzania, Burundi, Kenya, Ethiopia**
- Schools and health centers electricity access rate: **100%**

## Investment Facilitation

- Power Purchase Agreements (**PPAs**): 25 years as minimum.
- Independent Power Purchase Agreements (**IPPs**) –Standardised PPA.
- Public Private Partnership (**PPPs**) experience: PPP Law and Policy in place.

## Progress and Key statistics

- **Increase in electricity connections:** From 6% in 2008 to 31% in 2017
- **Regional interconnections:** Developing transmission lines for Rwanda to be interconnected with DR Congo–Burundi–Uganda–Tanzania–Kenya–Ethiopia



# Investment Opportunities in energy Sector

Feasibility Study Required



## Methane Power Generation

**Value of projects:** 3-4 Million USD/MW

### **Project Description:**

- *Around 350 MW of methane potential in Lake Kivu; 100 MW still available for investment.*
- *Kivuwatt Phase I produces 26MW from Methane.*
- *Clear management prescriptions on safe operation and maintaining the resource are well established.*

### **Way forward:**

- *Project to comply under PPP Law (Competitive process for BOT).*
- *IPP Model is recommended.*

# Investment Opportunities in energy Sector



**Feasibility Study On-going**



**Feasibility Study Available**



## **Nyabarongo II Multipurpose Project**

**Value of projects:** USD \$500-800M

### **Project description:**

*128 MW multi-purpose project with dam and pumped power, irrigation and other uses*

- *Phase 1: 47.5 MW (Dam based plant)*
- *Phase 2: 80 MW (Pumped Storage based plant)*
- *Strategic importance: energy, water supply, irrigation, flood control*

### **Way forward:**

- *Completion of Feasibility Study and BOQ*
- *Competitive process for BOT*

## **400/220kV Transmission Lines & substations**

**Value of projects:** USD \$230M

### **Project Status**

- *Feasibility studies completed for both domestic and regional transmission lines.*

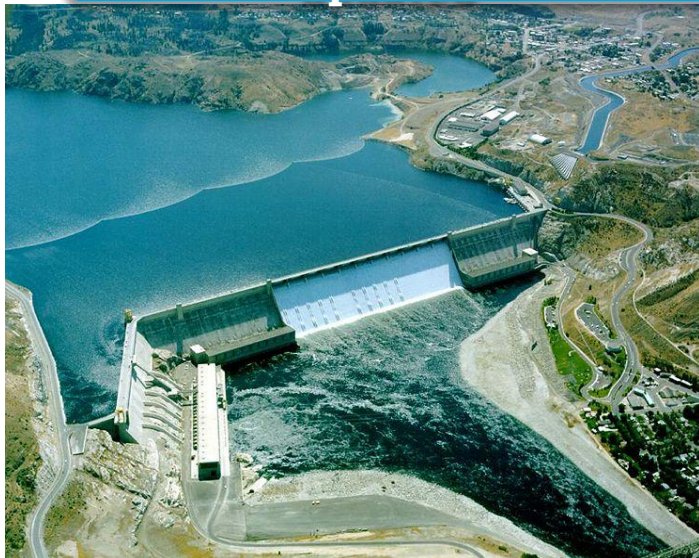
### **Way forward:**

- *Budget to be mobilized.*

# Investment Opportunities in energy Sector



## Feasibility Study to be updated



## Rusizi IV Hydro power

**Value of projects:** USD 652M

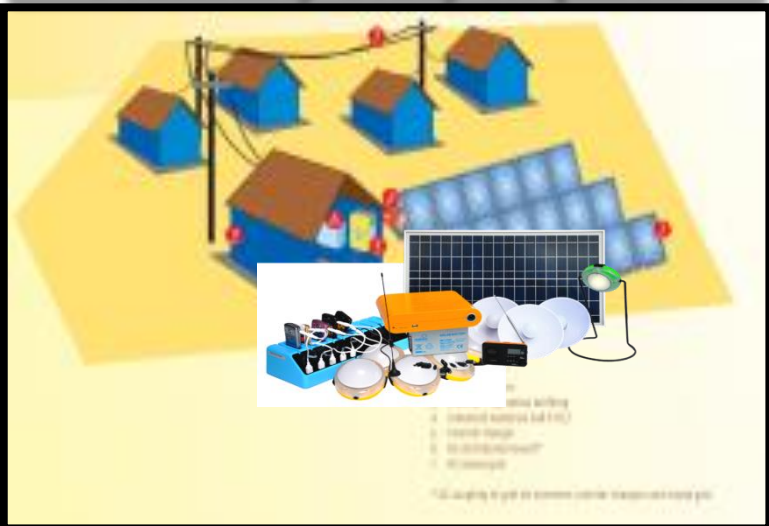
### **Project description:**

- Generation of 285MW Hydro Power Plant .
- Strong political drive due to Rwanda, Burundi, DRC partnership.
- Pre-feasibility study completed.

### **Way forward:**

- Feasibility study to be updated.
- Investment required.

## Feasibility Study Required



## Off-grid: Mini-grids Electrification

### **Project description:**

- PPA with off-taker guarantees demand and results based finance support.
- Rural electrification strategy approved.
- Sites where grid will not reach within 5 years identified.
- 22% Electrification target by 2018 through off-grid solutions.
- Universal access fund under formulation.

### **Way forward:**

- Private investment required
- Feasibility study for grid stability required



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**THANK YOU**

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