



**MINISTRY OF TRANSPORT, INFRASTRUCTURE,
HOUSING AND URBAN DEVELOPMENT**



STATE DEPARTMENT OF INFRASTRUCTURE

Kenya 1st Mover PPP Road Projects

14TH March, 2017

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Director General,**

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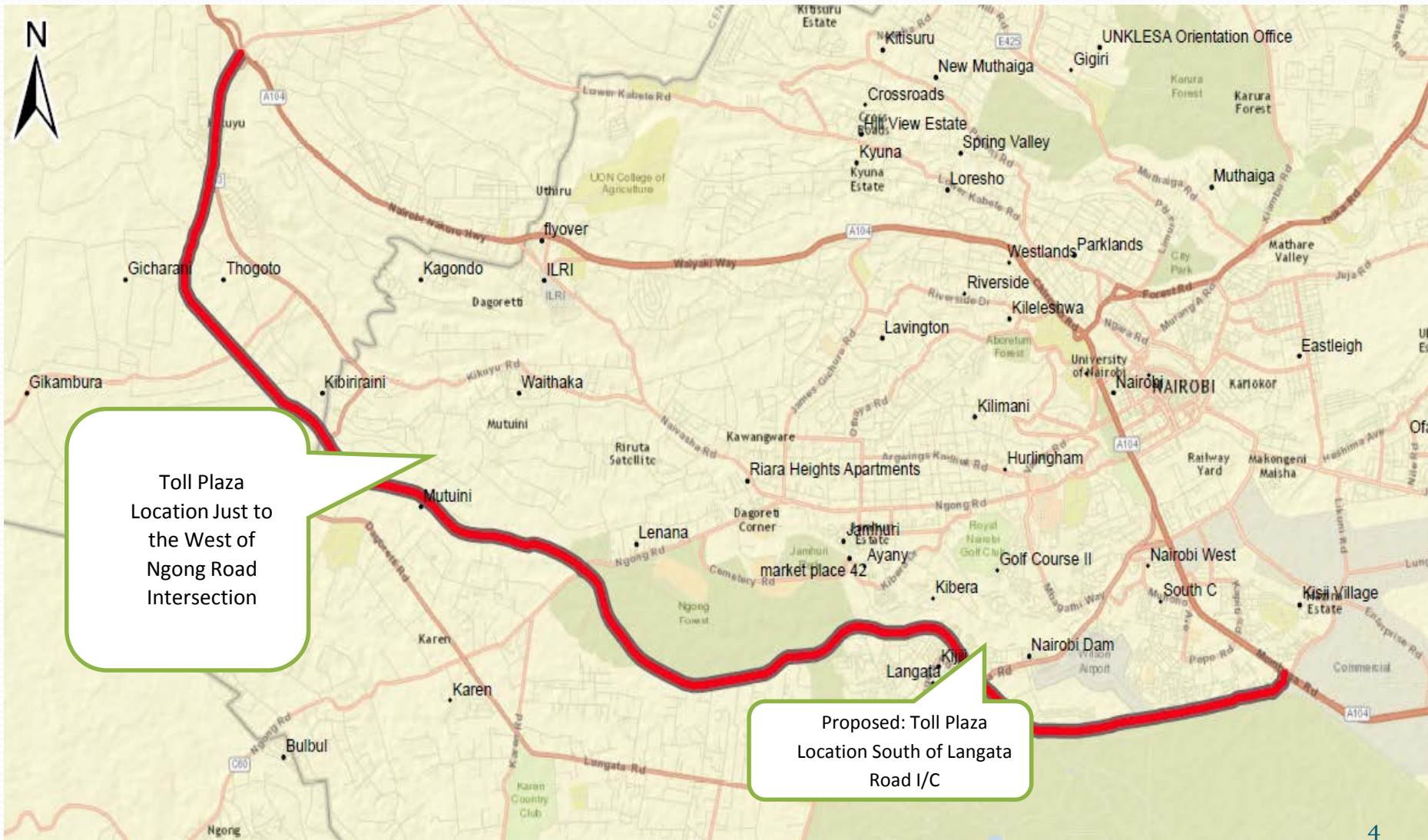
- Nairobi Southern Bypass
- Mombasa – Nairobi
- Nairobi – Thika Highway
- Rironi – Naivasha – Nakuru
- Nyali Bridge

Nairobi Southern O&M PPP Project



- Construction commenced early 2012 and is expected to be completed by May 2016.
- 28.6km of dual carriageway with 12 km of slip roads and 8.5 km Service Roads
- Design speed of 100 km/hr.
- Pavement Design: loading of 40 M CESA

Toll Plaza Location



Toll Plaza Layout



Nairobi Southern Bypass

- Investments include:
 - Toll plaza to the west of Ngong Road;
 - Provision of containment barriers on both sides of the central reserve;
 - Local improvements to the interchange slip roads;
 - Improvements to the Nairobi National Park and Ngong Forest perimeter fencing;
 - Weighbridges CAPEX - 4 WIMs

Widening of Ngong Road

- Full on-line dualling of Ngong Road from the Dagoretti Corner (Junction Mall) to the Ngong Road Interchange over a total distance of 3.28km with service roads on both sides.
- Upgrading of the Dagoretti Corner junction by provision of a viaduct for through traffic city bound on Ngong Road

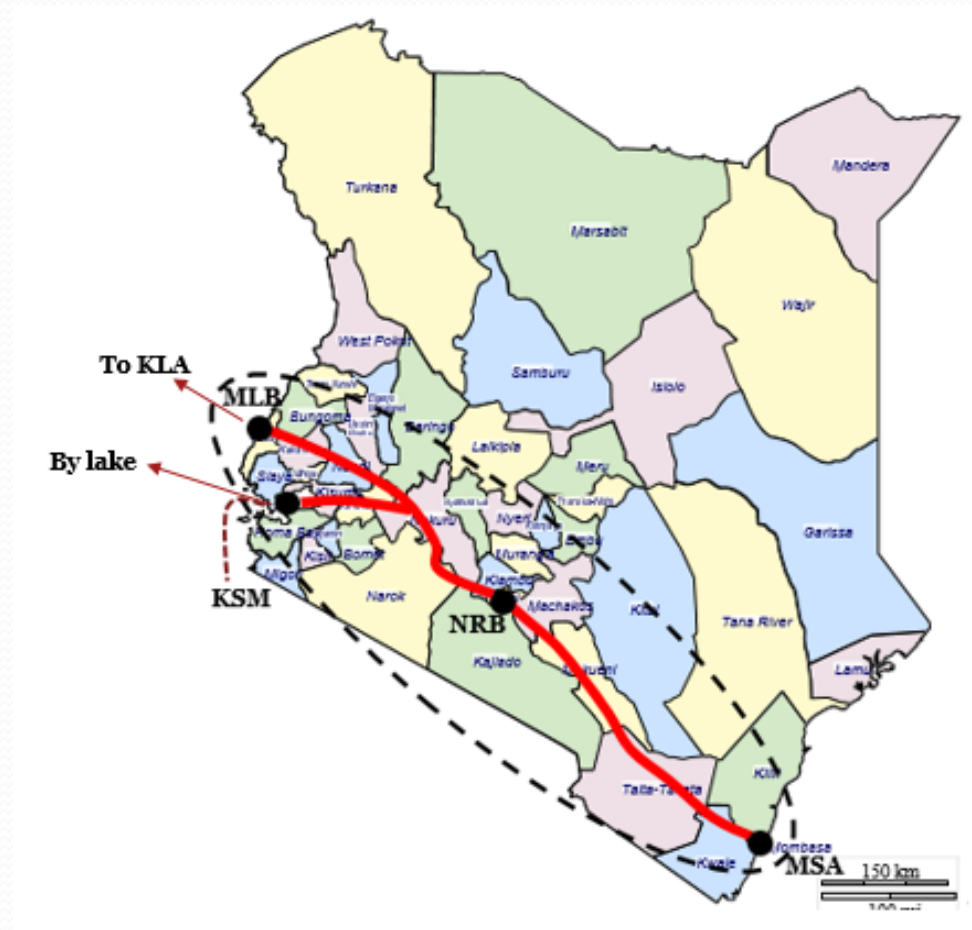


Possible Additional CAPEX

ADDITIONAL CAPEX (M KSH)	
Widening of Ngong Road	3,595.0
Interchange at Gitaru/A8 upgrade works - local Improvements	73.5
Electronic free flow toll gantries for closed system	805.0
Additional Footbridges – 8 No (CAPEX under Review)	1,864.8
Improvements to drainage and other environmental improvements	100.0
Additional fencing Around Ngong Forest	137.3
Total	6,575.6

Mombasa – Nairobi Road (A8)

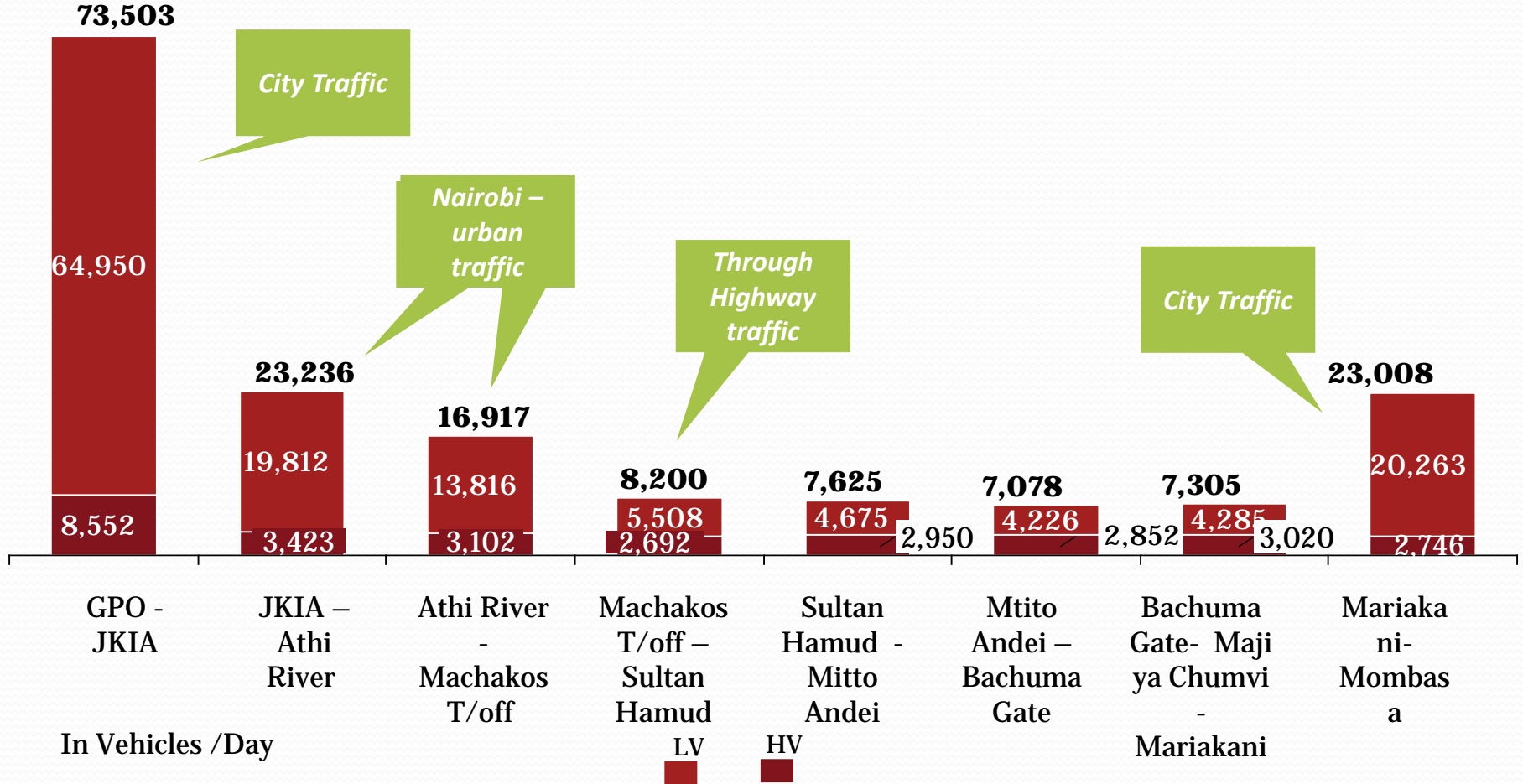
- A8 is the key arterial road in Kenya
- Carries ~95% of all freight movement through Mombasa Port
 - High transportation cost
 - Three times higher cost compared to developed countries
 - Transport cost of 45% of cost of goods vis-à-vis 15% in developed countries*
 - Inadequate Level of Service
 - Long travel times/Lower travel speed
 - Increasing Congestion
 - Negligible road-side facilities/amenities



A8 - Design Features

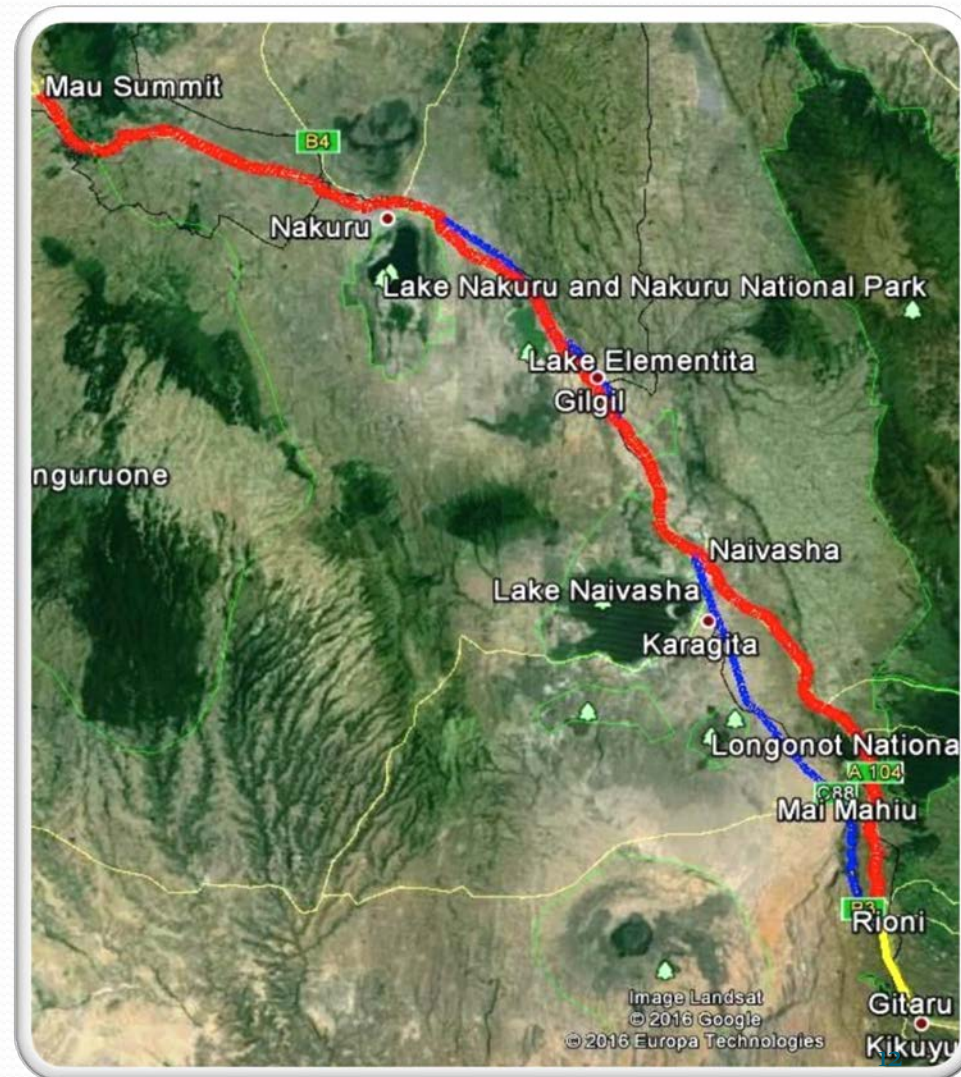
- The whole road is constructed to bituminous standards
 - Constructed to Highway type I standards – mobility function
 - Cross Sections
 - Road width varies between 7.0m and 14.0m excluding shoulders and central median
 - With exception of newly reconstructed sections, most shoulders are 1.5m wide
 - Existing road alignment incorporates approximately 29 bridges and numerous box and concrete pipe culverts
- Grade Separated Intersections
 - Railway Over/Under passes
 - Road Overpasses
 - Design and Operating Speeds
 - Design speed =100 kmph
 - Outside town - ~100 kmph possible, but passing opportunities limited
 - Inside town - ~20 kmph design incorporates speed humps

Current traffic

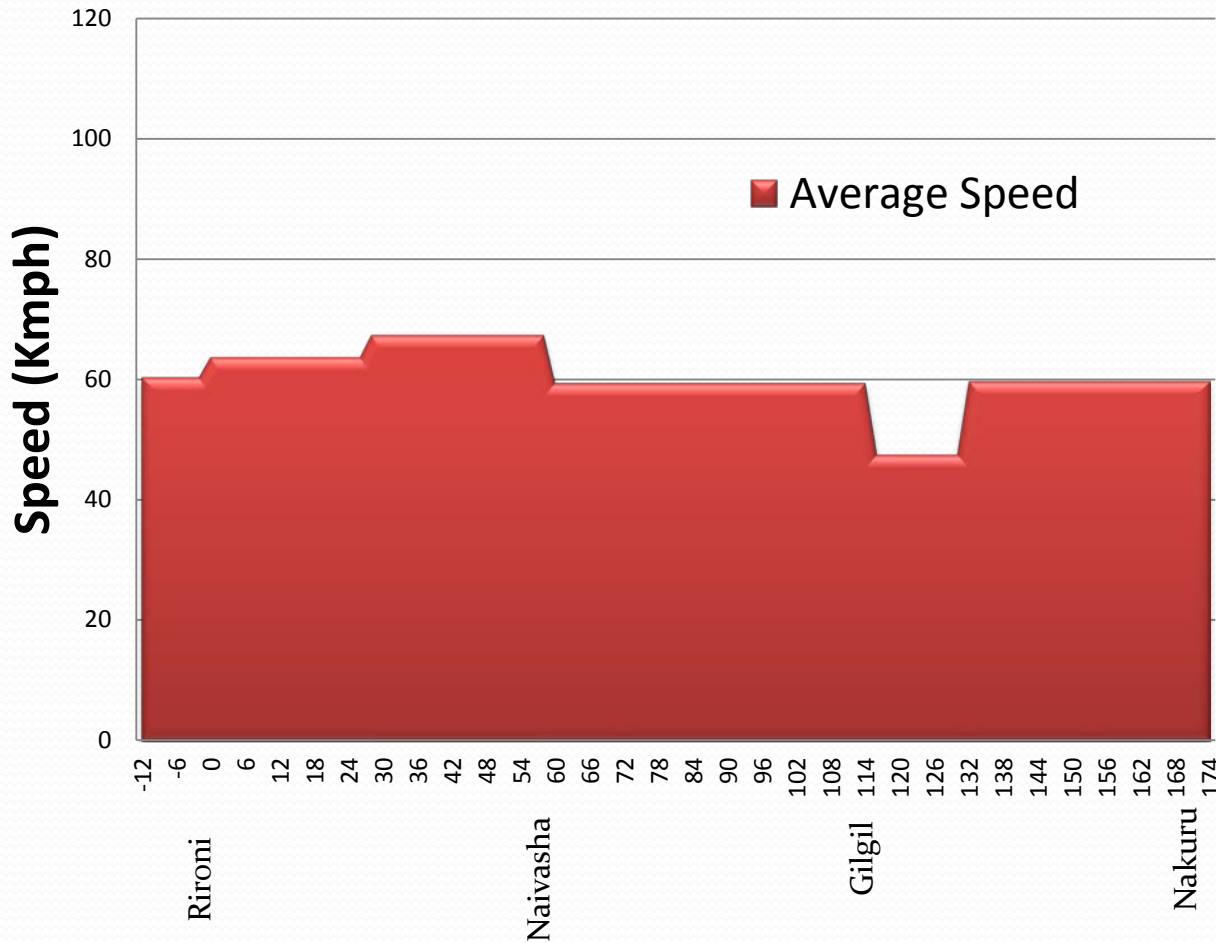


Nairobi – Nakuru (A8)

- 174 km Single Carriageway
- Fair to Good Road Conditions
- Rolling to Hilly terrain
- Urbanized region
- Part of Northern Corridor

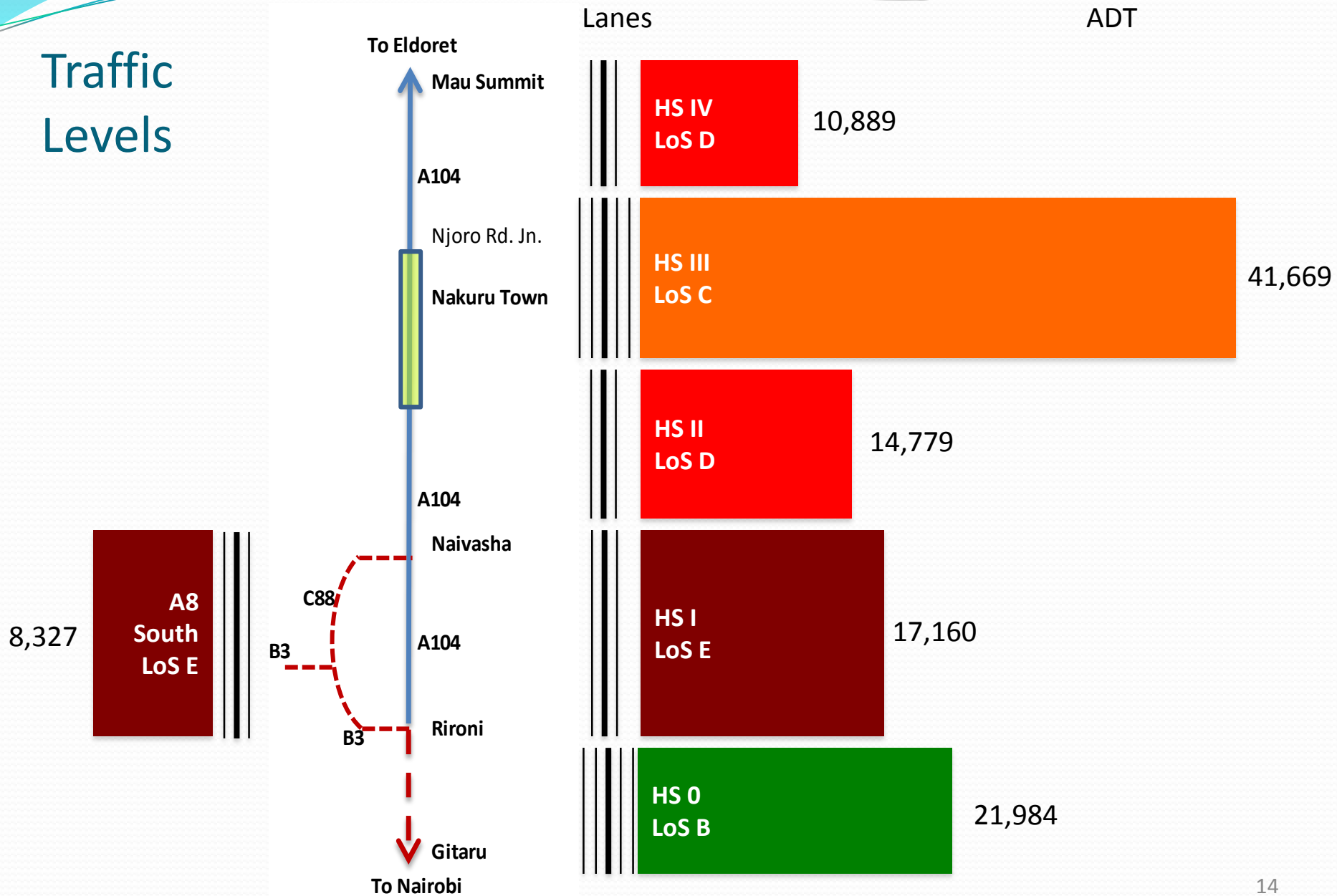


Current Transport Challenges

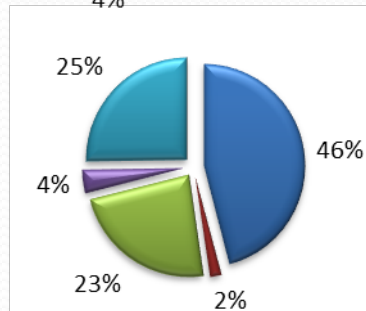
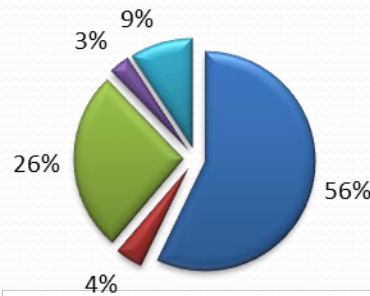
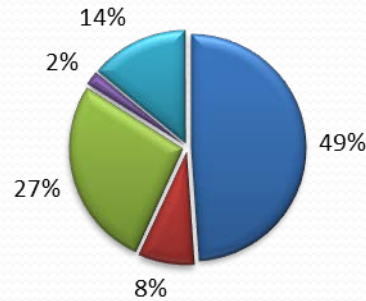
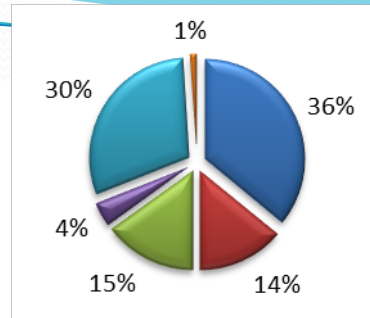
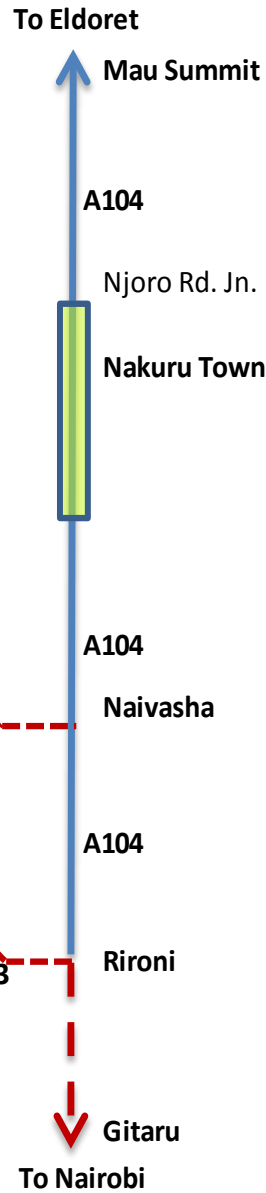


- Low Level of Service: LOS-D/E
- Road Capacity reaching saturation levels. For few sections $V/C > 1$
- Low Speed: ~ 60 km/hr
- Poor Safety: one of the top 22 Most dangerous roads in the world
- Limited resources for upgradation and maintenance

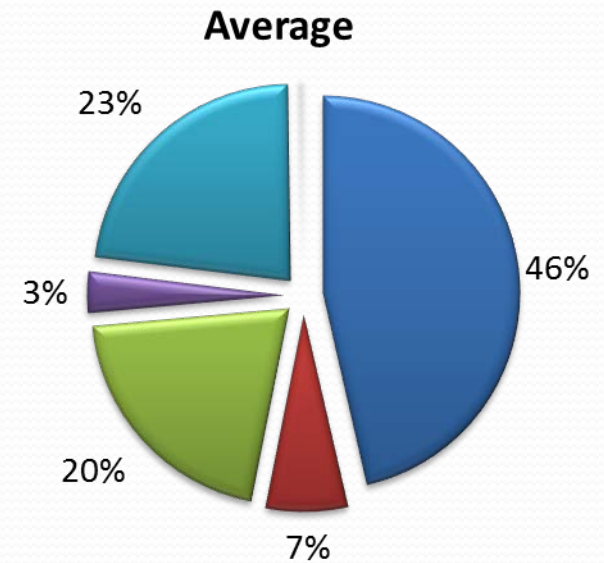
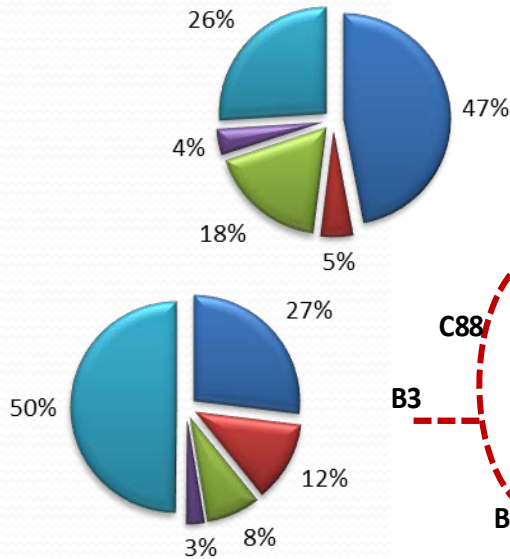
Traffic Levels



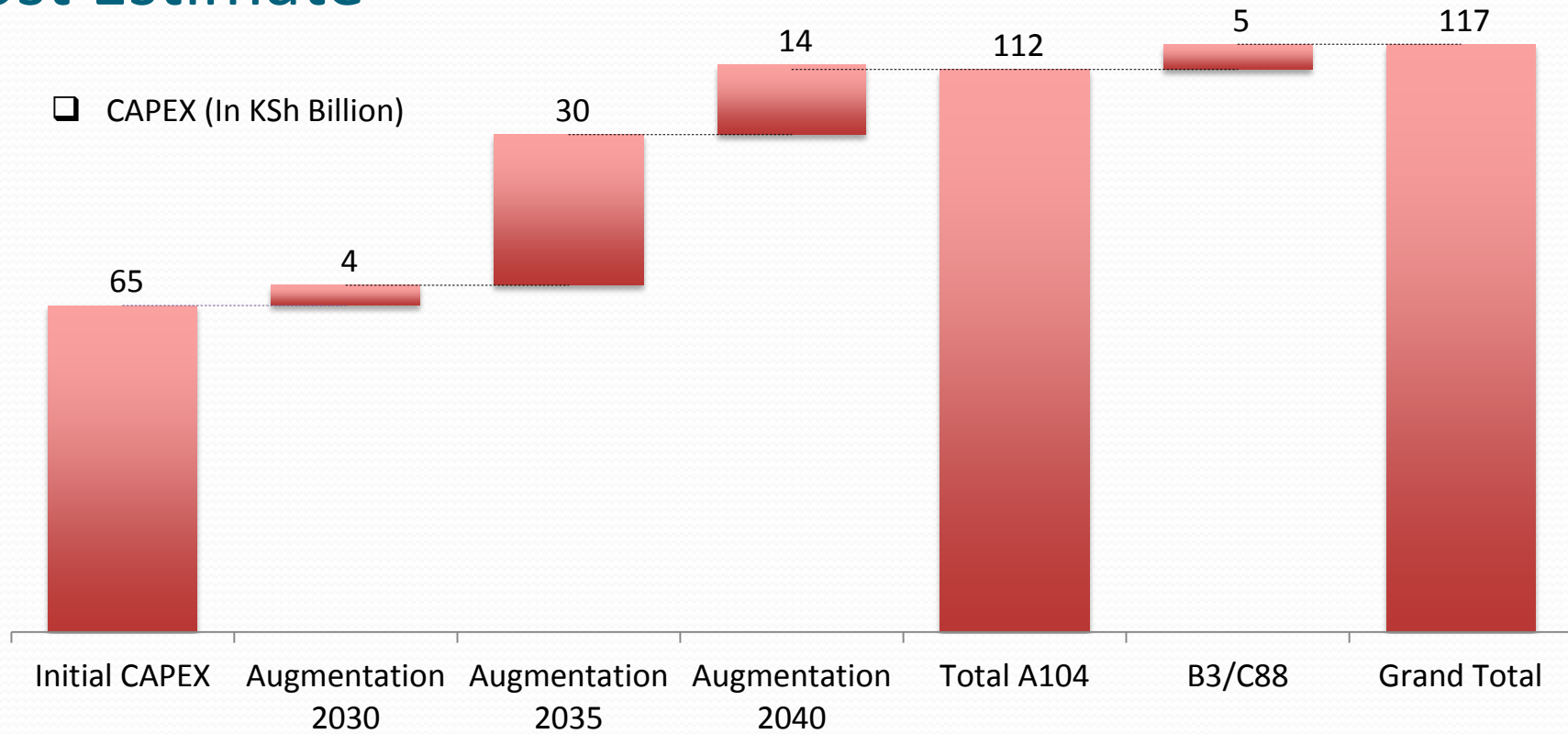
Traffic composition



- Car/Taxi
- 2-W/Boda boda
- Matatu/Mini Bus
- Medium and Large Bus
- Freight Vehicles
- NMT



Cost Estimate

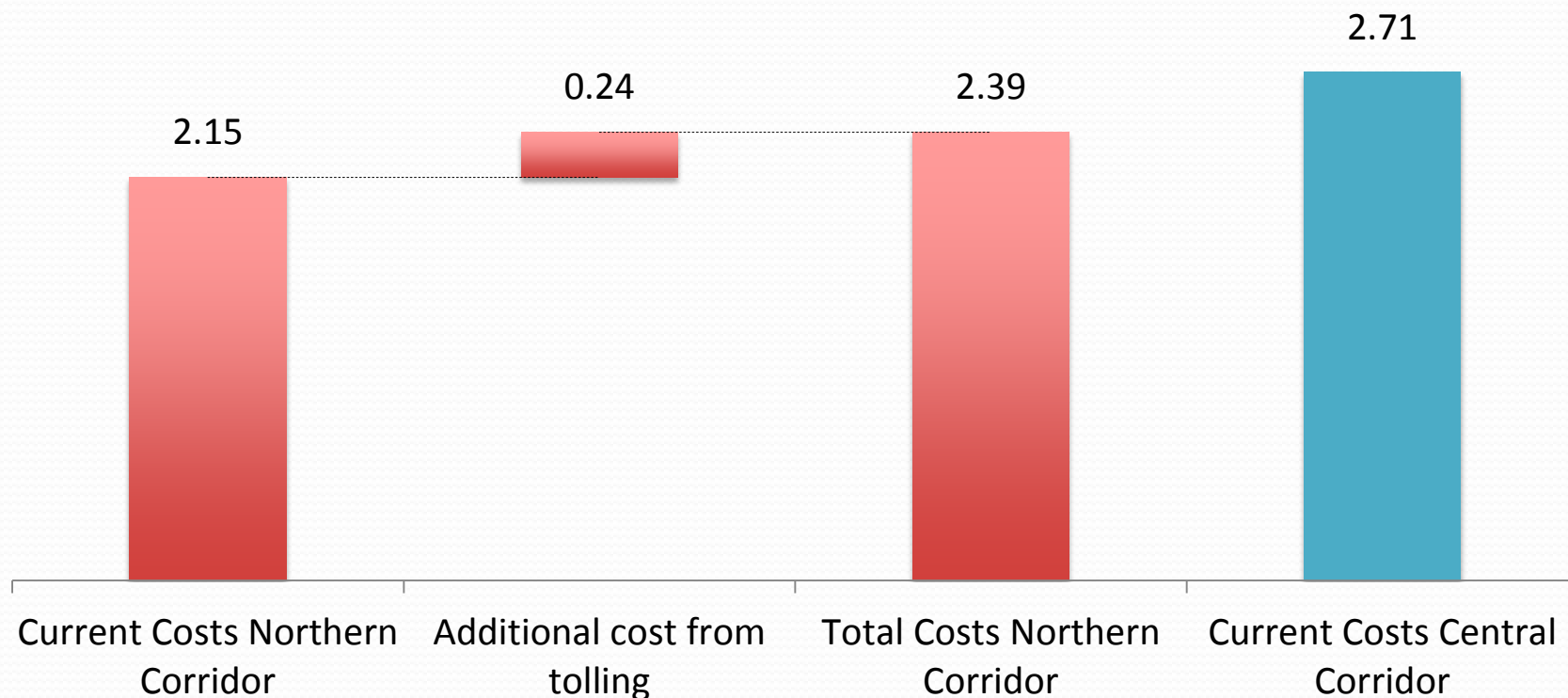


☐ Average Operating Expenditures: 1.8 KSh billion p.a.

Budget KenHA
2015 – 2016
60 KSHb

Upgrading Northern Corridor still competitive

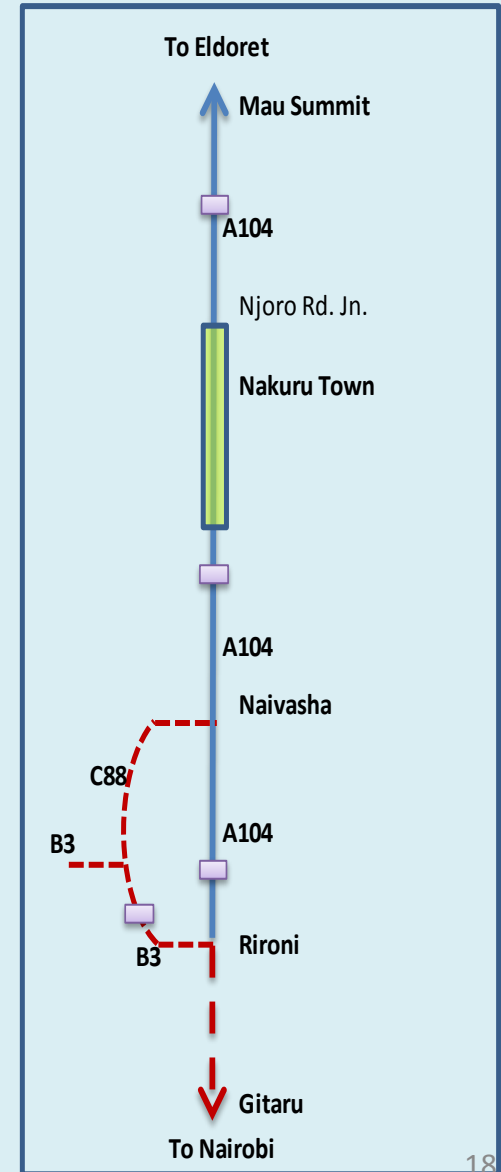
Cost of Freight Transport Mombasa – Kampala vs DSM - Kampala in US\$/km



Not even taking into account the benefits from road improvement which will reduce the current costs of the Northern Corridor

RIRONI- NAIVASHA:

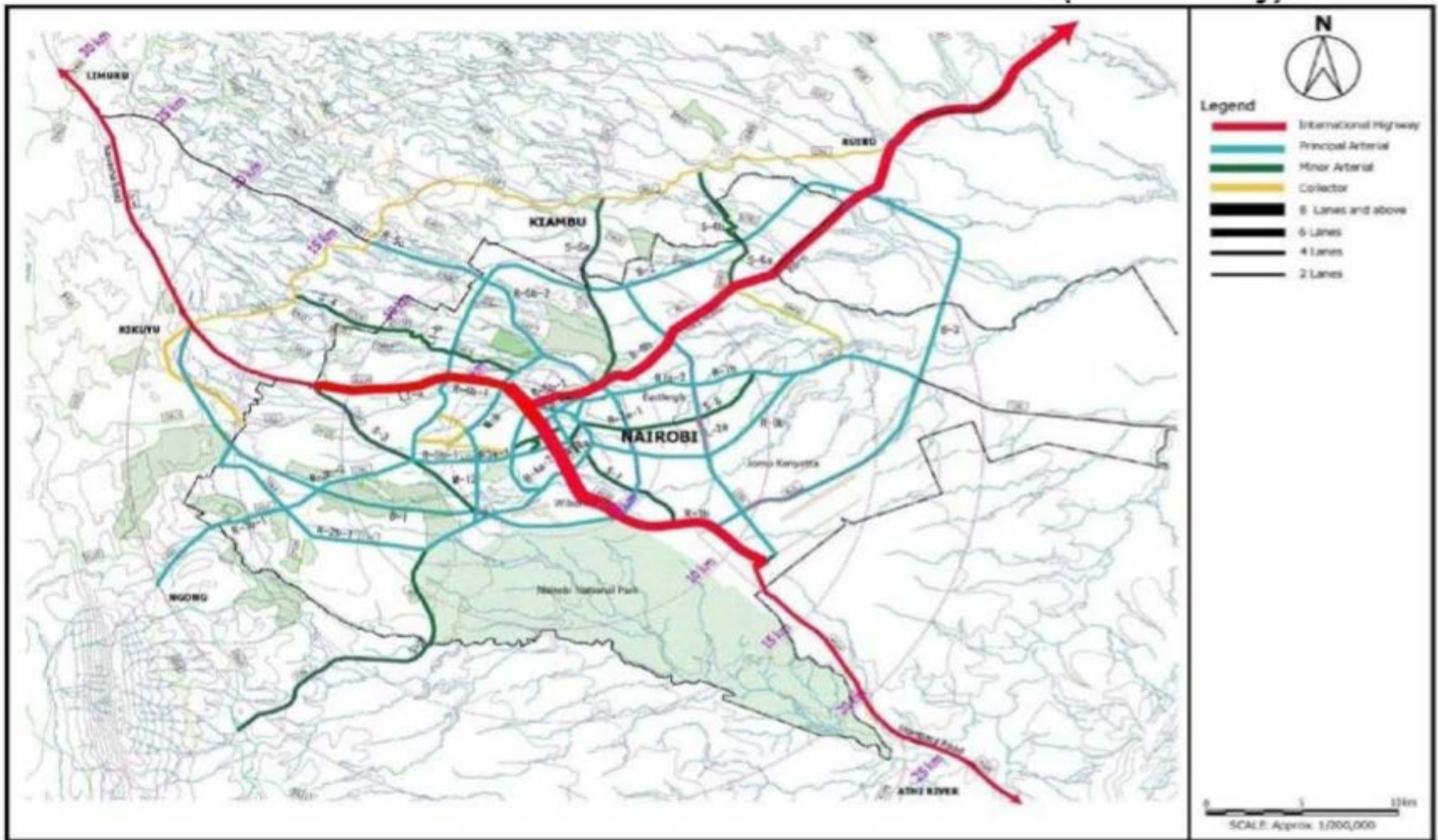
- ✓ Operation and maintenance of Gitaru to Rironi section (12.431 Km)
- ✓ Development, operation and maintenance of existing A8 from Rironi to Mau summit (174.94 Km)
- ✓ Elevated Corridor in Nakuru Town
- ✓ Strengthening, operation and maintenance of A8 South from Rironi to Naivasha (57.18 Km)
- ✓ 3 toll Charging points on existing A104 at Km 39.500(Kinungi), Km 75.200 (Gilgil) and Km 141.500(Sobeo) and 1 toll charging point on A8 South at Km 1.200 (Rironi).



Nairobi – Thika Superhighway

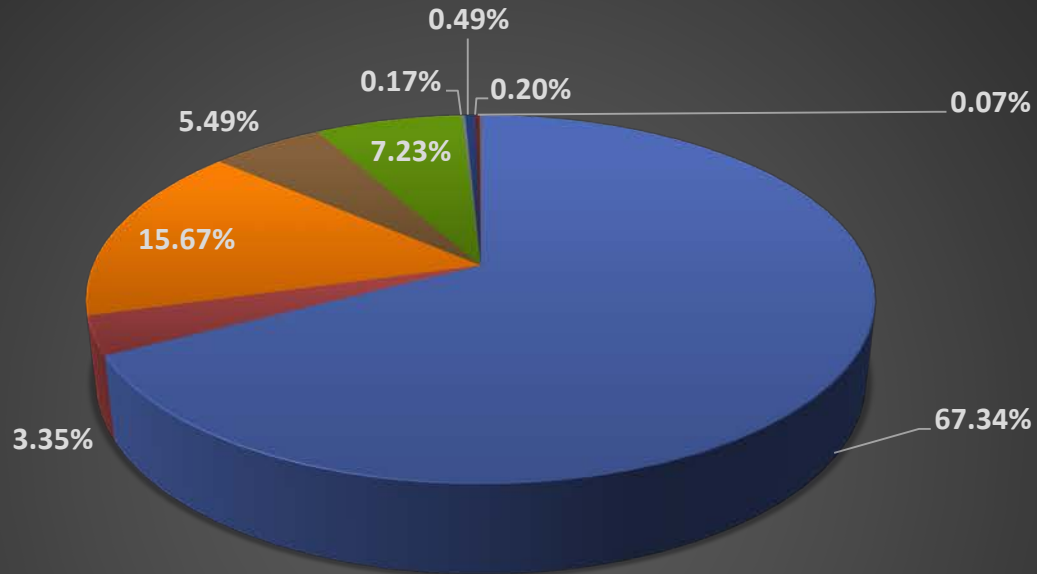
- ❑ Nairobi – Thika Super Highway (50.4 km)
 - ❖ Nairobi County (26.78 km)
 - ❖ Kiambu County (23.62km)
- ❑ Cost of development - KES 33 Billion
- ❑ Super Highway opened for traffic in November 2012
- ❑ O&M being done by PBC contractor @ 1.1 Billion for 2 years
- ❑ Scheduled to end in April 2016;
- ❑ Possible extension initiated for 6 months under the provisions of PBC Contract

Nairobi – Thika Super Highway



Traffic Analysis and Demand Forecast

Traffic Composition



■ Car/Taxi/Auto

■ Matatu/Mini Bus

■ LGV

■ 3 Axle

■ 2-W/Boda boda

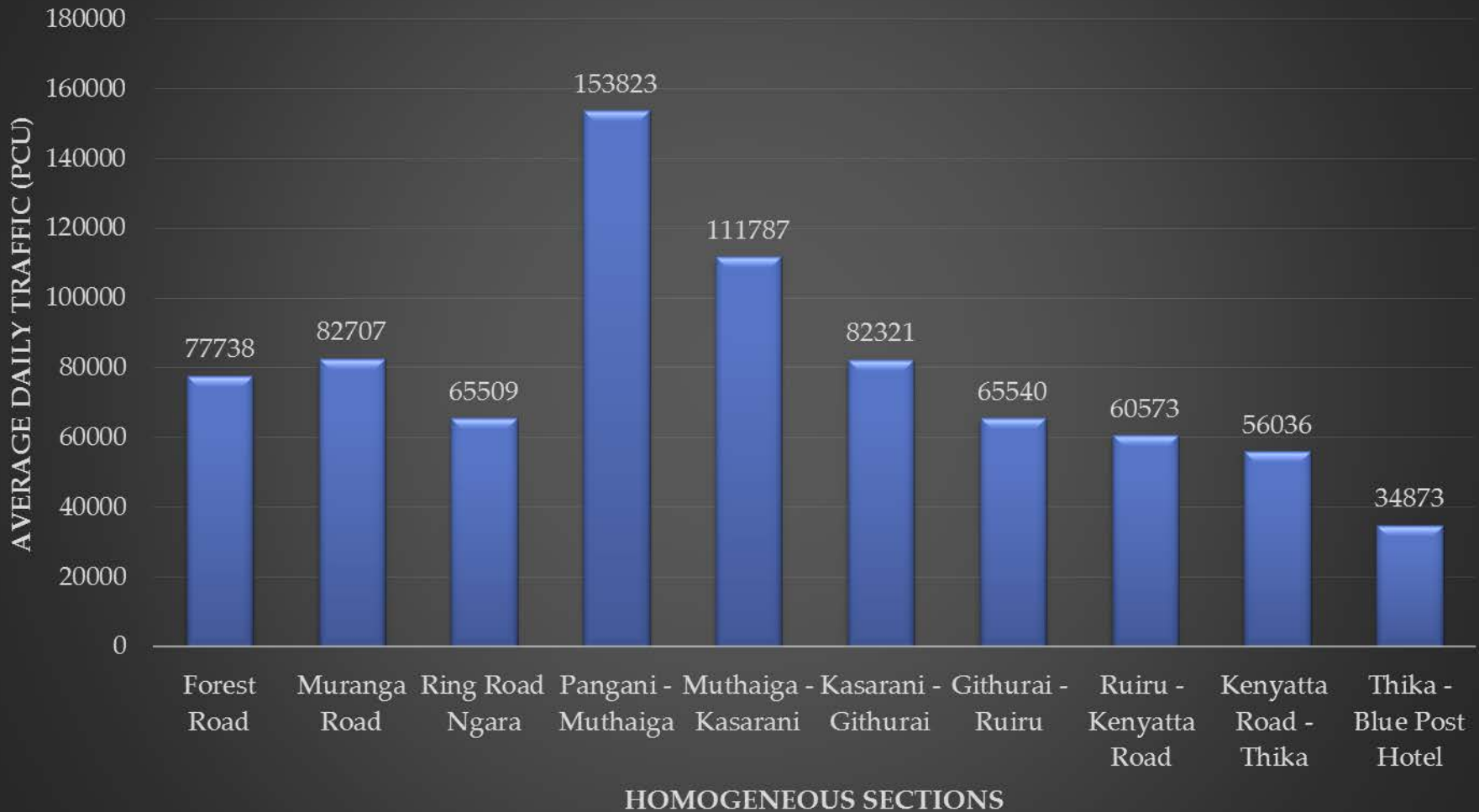
■ Medium and Large Bus

■ 2 Axle

■ MAV

Traffic Analysis and Demand Forecast

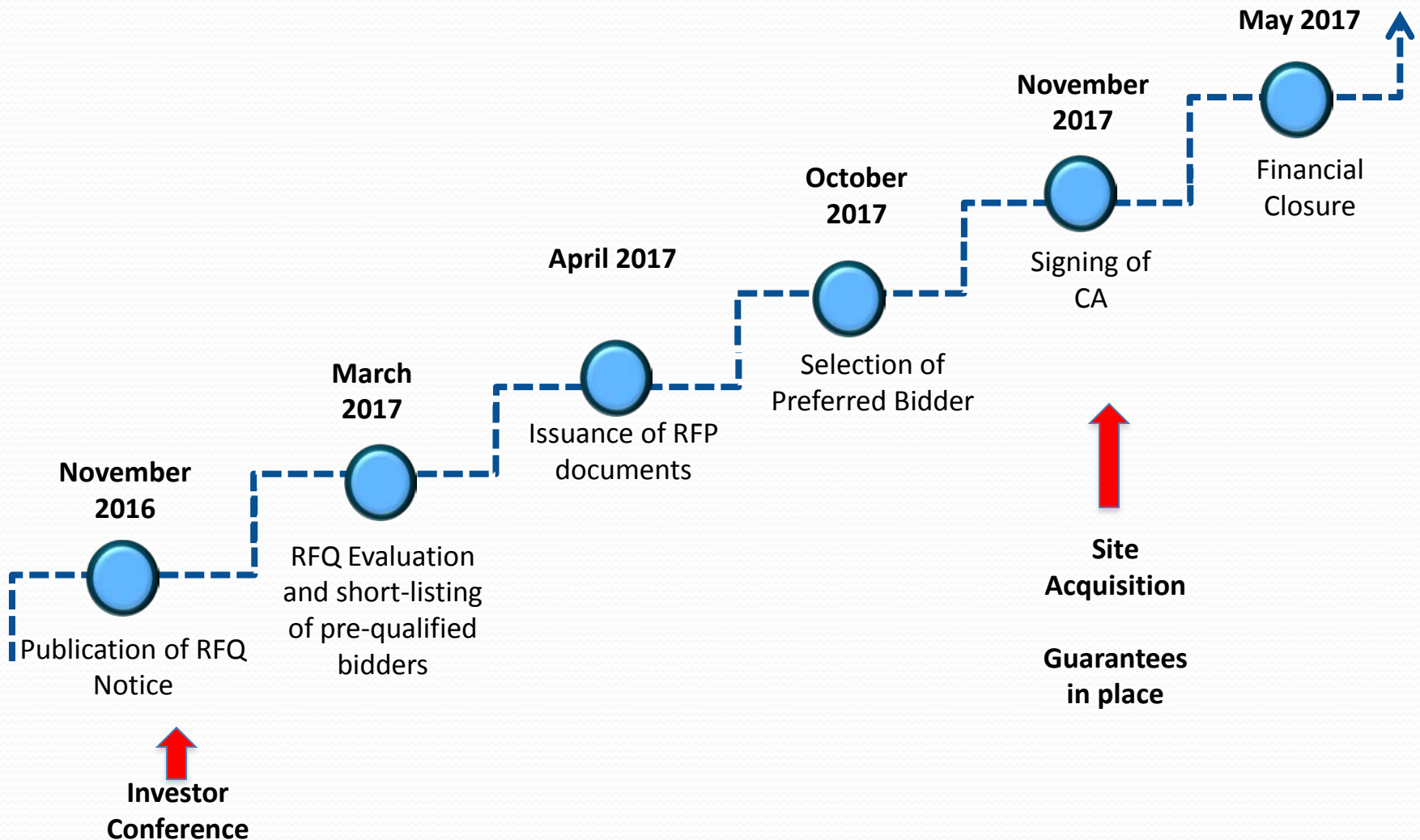
Average Daily Traffic on Project Road Corridor



SUMMARY: IFPPP ROADS – VIABILITY INDICATORS

No	Project	CAPEX (KShs bill)	Project NPV (KShs bill)	Project EIRR %
1	Mombasa - Nairobi	190	332.0	24.1%
2	Nairobi Southern Bypass	7.80	38.2	27.8%
3	Nairobi – Thika Road	4.03	35.0	29.2%
4	Rironi – Naivasha - Nakuru	117	228	20.1%

IMPLEMENTATION TIMELINES



Note: Timelines subject publication of RFQ and approvals, etc.



Thank You