



# THE IMPACT OF ROAD IMPROVEMENTS ON ROAD SAFETY AND RELATED CHARACTERISTICS

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# INTRODUCTION



- \* Reflecting back in history there was the famous saying of the old that “all roads led to Rome”. Rome was then considered as the “centre of gravity” of the world power for which there was need for neighbourhoods to have links with “Rome” in order to tap power from the source/centre and thereby enjoy the same for purposes of socio-economic development.



- \* Neighbourhoods enjoy relatively higher socio-economic development if they are closer to the centre of power, for example a capital city. This is particularly true for countries such as those in East Africa where one finds that underdeveloped areas tend to lack efficient road transport systems among other infrastructure



- \* To many inhabitants who have been brought up in those neighbourhoods of the developing world fabric, where the main form of transport was walking, riding on a donkey or a camel, or when well-endowed, riding on a bicycle, the use of vehicle transport takes time to be assimilated and customized to ones cultural transport modes



- \* Quite often, it is not until one experiences the pain that results from an unfortunate road accident that one realizes that when the living is good, the vehicle as a form of transport is enjoyable, but when an accident occurs, sometimes due to carelessness, the result can be traumatic and devastating



- \* Many of those who have witnessed the traumatic scenarios of vehicles being involved in accidents tend to develop and widen the scope of cultural values and the need to take extra care whether one is a pedestrian, a cyclist, a passenger or indeed a driver of a vehicle when using a road. This is generally reflected in the context of cultural values which are considered among the major variables that contribute to road accident causation.



# ROAD IMPROVEMENT ON NAIROBI-THIKA HIGHWAY



- \* The Nairobi-Thika highway has benefited from road improvement funding of the country over the years and the most recent improvement, which was financed by a loan from the African Development Bank, brought with it a high class highway with dual carriageway, multigrade intersections and service roads on either side of the carriageway. There are several pedestrian footbridge crossings and the road was designed for a speed of 100kph

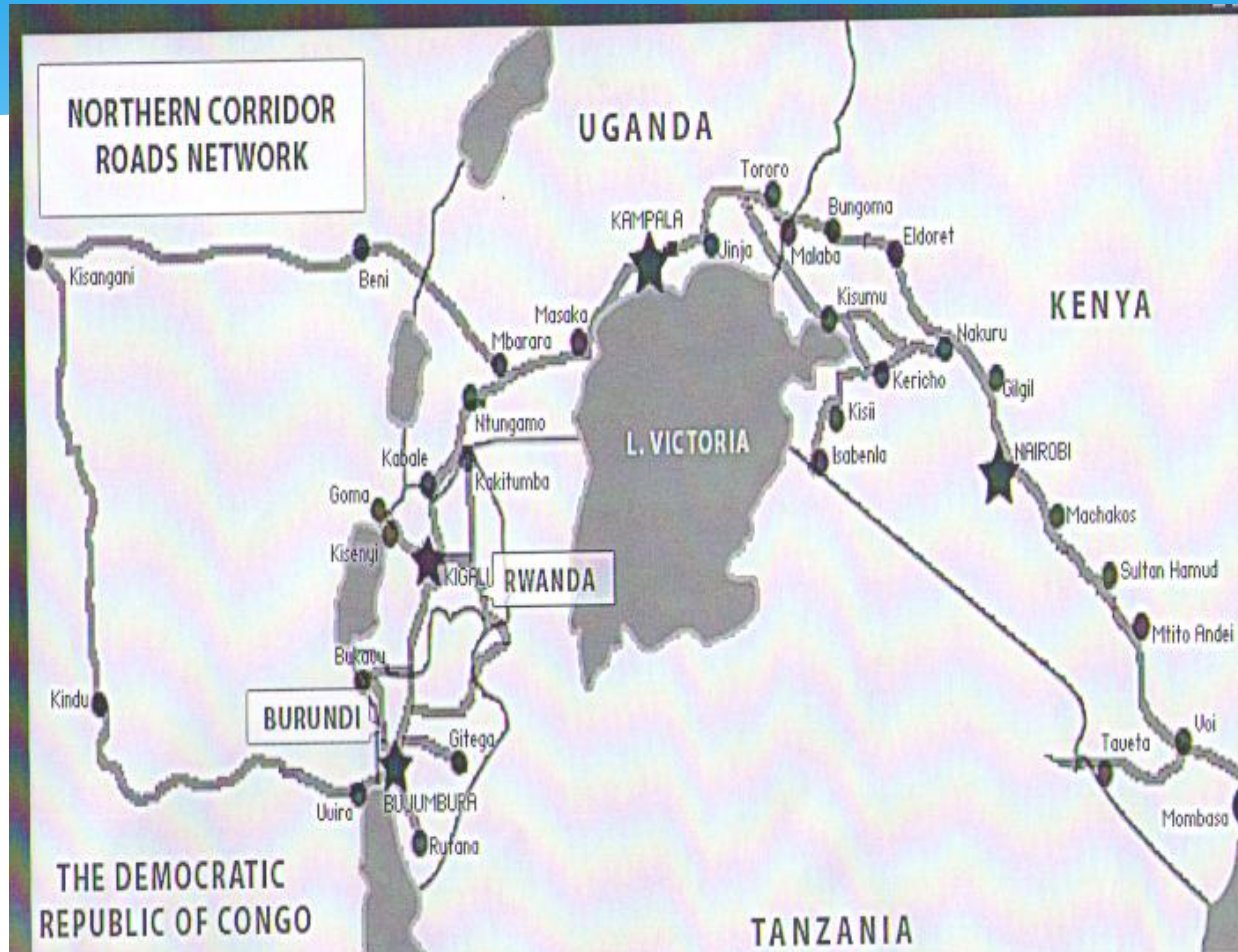


- \* Due to road user behavior we have unfortunately witnessed some road users, such as pedestrians who take risks by crossing the high speed road at undesignated locations with the unavoidable consequence of being hit by vehicles travelling at high speed and a number of casualties have been reported in this respect.





# NORTHERN CORRIDOR



\* Figure 1: The Northern Corridor



# NORTHERN CORRIDOR ROAD SAFETY STUDY



- \* The Northern Corridor shown in figure 1, is the transport corridor which links the Great Lakes Countries of Burundi, Democratic Republic of Congo, Rwanda and Uganda from the port of Mombasa in Kenya and it is over 2000km long. The Northern Corridor also serves Northern Tanzania, Southern Sudan and Ethiopia.



- \* The Northern Corridor has gone through major rehabilitation. The objectives of the rehabilitation, which has been financed by the World Bank and the European Union, were to increase the efficiency of road transport along the Northern Corridor in order to facilitate trade and regional integration and also to promote private sector participation in the management, financing and maintenance of road assets.



## The monitoring and evaluation of the Northern Corridor Road Improvement Project for the Road Safety Component involved:

- \* Collection and analysis of accident data along the Kenyan section of the Northern Corridor
- \* Making recommendations on the appropriate measures required in order to improve road safety
- \* Assessing the effectiveness of the road safety awareness campaigns along the Northern Corridor.

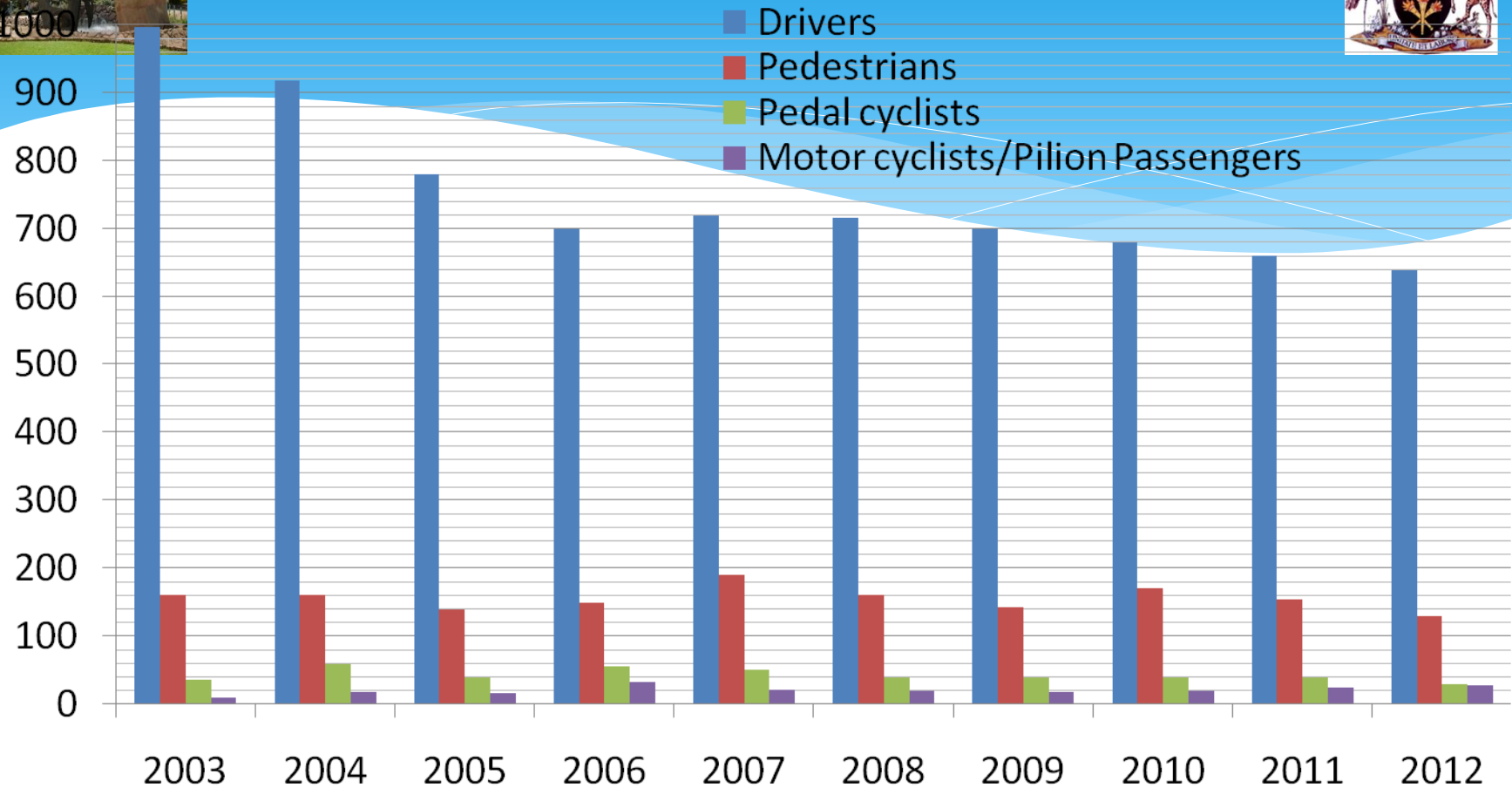
# Table 1: Accident causation along the Northern Corridor



	Item	Percentage (%)
Causes of accidents	Drivers	49.4
	Pedestrians	21.7
	Pedal cyclists	13.6
	Passengers	1.3
	Obstruction	1.3
	Animals	0.3
	Others	12.4
Time of accidents	Day	62.5
	Night	37.5
Type of Accident	Fatal	24
	Serious	41.9
	Slight	34.1



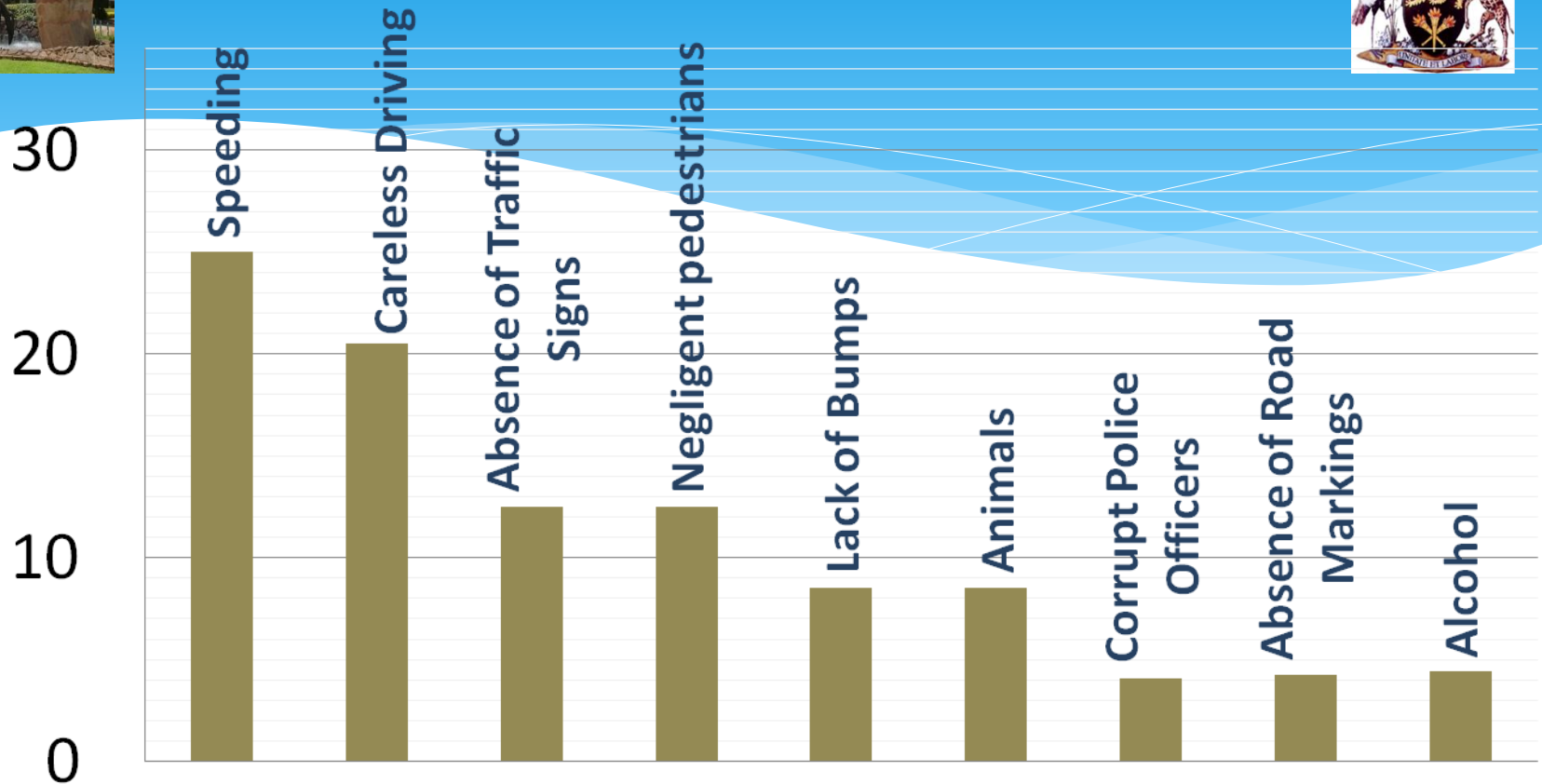
# NORTHERN CORRIDOR ROAD



\* Figure 2 Casualties along the Northern Corridor(A109)



# NORTHERN CORRIDOR ROAD



**Figure 3: Causes of accidents(%) along the Northern Corridor**



Table 2: Road safety data

COUNTRY	YEAR	KENYA	S. AFRICA	ETHIOPIA	NIGERIA
NO OF FATAL CRASHES	2006	2,715	12,577	1,801	4,944
	2007	2,921	11,577	2,029	4,673
	2008	3,158	14,169	2,047	6,661
	2009	4,072	13,768	1,802	5,693
	2010	3,055	13,967	2,211	4,065
	2011	3,302	13,947	2,250	4,372
	2012	3,141	12,211	2,966	6,573
	2013	2,894	13176	3,003	6,544
Death Rate Per 100,000 (WHO, 2014)	2014	28.2	20.2	37.8	21.5
Road density by area, km/1,000km <sup>2</sup>	2006	13	60	4	65
Motor vehicles (per 1,000 people)	2009	23	162	4	31
Country Population '000,000	2013	44.35	52.98	94.1	173.6







Sachangwan – Salgaa (A104 Road) Daily Nation, June 2014





9/14/2015

6



Nairobi: Mombasa Road (A109)



Nairobi: Nairobi Highway (A100) December, 2014



# RECOMMENDATIONS



- \* From the monitoring and evaluation study of the Road Safety Component along the Northern Corridor described above, recommendations were made under the following headings:-



- \* ON ROAD DESIGN CHARACTERISTICS
- \* Road geometric design
- \* Road safety barriers.
- \* Bus-laybys.
- \* Use of recyclable plastic signs



- \* ON DRIVER BEHAVIOR
- \* Driver training.
- \* Compulsory rest for long distance truck drivers in order to address the issue of fatigue.



- \* ON VEHICLE MAINTENANCE
- \* Regular checks and maintenance in order to reduce the possibility of vehicles stopping along the way due to mechanical breakdown.
- \* Strict servicing programmes.



- \* ON PEDESTRIAN WAYS
- \* Pedestrian ways and crossings along the highway should be provided.





## \* ON ROAD SAFETY PARKS

- \* Given the dramatic increase in accidents involving motor cyclists and pedal cyclists it is recommended that both pedal cyclists and motor cyclists should be taken through training programmes on road safety.
- \* There is need to train pedestrians (right from young years) on the basics of road safety
- \* The above observations require that Road Safety Parks be provided where school children and other road users can be taken to learn road safety aspects.



## \* ON ENFORCEMENT OF ROAD SAFETY RULES

- \* The Government must insist on road users complying to the Road Safety Rules and should mount regular checks to ensure that drivers, pedestrians and other road users adhere to the Road Safety Rules and Regulations.
- \* Amenities and advertizing boards should be located where they do not interfere or restrict visibility for drivers.



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- \* ON ROAD SAFETY AUDIT
- \* Comprehensive Road Safety Audit should be considered as a pre-requisite for any road/highway design and construction and further after the road/highway has been opened to traffic.

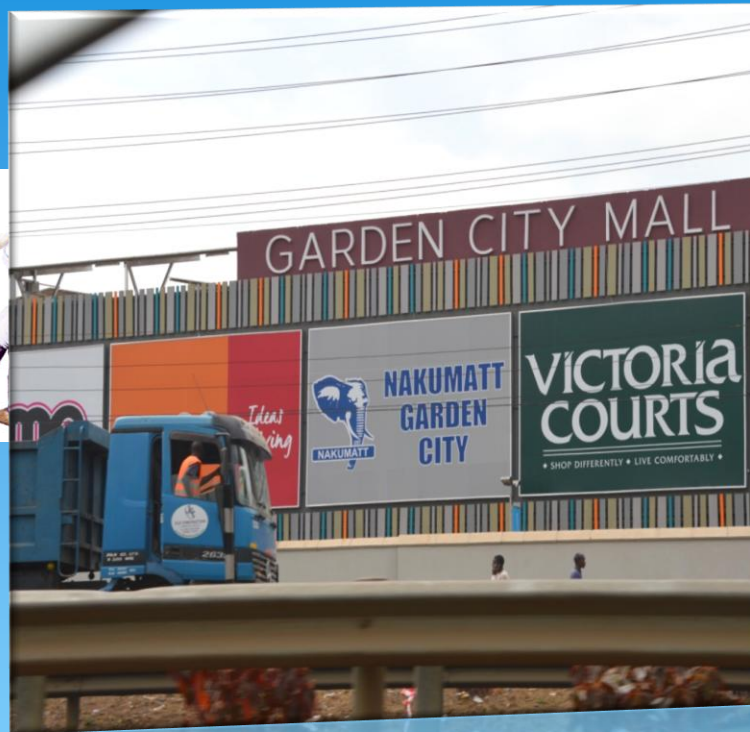


# NAIROBI-THIKA ROAD



\* The road with dual carriageway and service roads-

# NAIROBI-THIKA ROAD



Garden City Mall

# NAIROBI-THIKA ROAD



Pedestrian  
foot-bridge  
crossing at  
Kenyatta  
University

# Nairobi-Thika Road



Sweeper  
taking a  
risk





# Nairobi- Thika road-cows taking risks

# Nairobi-Thika Road



Sign  
showing a  
university-  
off Nairobi-  
Thika Road

# NORTHERN CORRIDOR



Northern  
Corridor  
Fly-over  
at Kikuyu  
township

# Northern corridor



A donkey  
cart  
taking a  
risk  
along the  
Northern  
Corridor

# Northern Corridor



Heavy  
truck  
along the  
Northern  
corridor  
road

# Northern Corridor



Langata  
road  
junction with  
Northern  
Corridor

# Northern Corridor



Northern  
corridor road  
junction with  
the road to  
the JK  
International  
Airport