

# Share the Road

UN Avenue Report:  
Kenya Showcase Project



Nov 2011 – April 2013



## Acknowledgments

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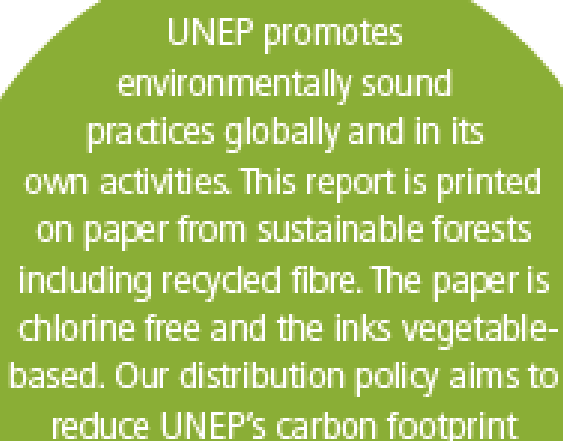
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Printing: Publishing Services Section, UNON, Nairobi, ISO 10041:2004 certification. Design, graphics and layout: UNEP / Regina Orvañanos Murguía



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## Contents

### Acknowledgments

Part 1: Project Background .....	1
1.1 Project Area .....	1
1.2 Project Justification .....	2
1.3 Project Description .....	2
Part 2: Evaluation .....	3
2.1 Objectives .....	3
2.2 Methodology .....	3
<i>Traffic Count</i> .....	4
<i>Road User Survey</i> .....	4
Part 3: Study Outputs .....	5
3.1 Area of Influence .....	5
3.2 Travel Patterns .....	6
<i>Trip Purpose and Travel Direction</i> .....	7
3.3 Multimodality and Public Transport .....	10
<i>Junction Redesign</i> .....	10
<i>Catchment Area and Walking Speeds</i> .....	10
3.4 Road Section and Design Elements .....	11
<i>Distribution of Road Space</i> .....	11
<i>Surface Materials and Maintenance</i> .....	12
<i>Protection Elements</i> .....	12
3.5 Road Safety and Security .....	13
<i>Crossings</i> .....	14
<i>Intersections and Vehicle Entrances</i> .....	14
<i>Lighting</i> .....	15
<i>Obstacles and Other Risks Factors</i> .....	15
3.6 Comfort and User Satisfaction .....	15
3.7 Participation, enforcement and maintenance .....	16
<i>Gender-Sensitive Promotion</i> .....	17
Part 4: Assessing UN Avenue results using ViDA .....	18
4.1 Introduction .....	18
4.1.1 Methodology .....	18
4.1.2 Road Protection Scores .....	18
4.2 ViDA .....	19
4.2.1 Maps .....	
4.2.2 Tables .....	
4.2.3 Charts .....	
4.2.4 Downloads .....	
4.3 Assessment Outputs: UN Avenue Star Rating .....	20
4.3.1 Vehicle occupant 100m Star Rating .....	20
4.3.2 Pedestrian 100m Star Rating .....	21
4.3.3 Bicyclist 100m Star Rating .....	22
Part 5: Conclusions .....	23
<i>Road Safety</i> .....	23

<i>Accessibility</i> .....	23
<i>Environment</i> .....	23
<i>About the Methodology</i> .....	24
5.1 Way Forward .....	24
Annexes .....	25
Indicators proposed by Share the Road Programme.....	25
Recommendations for UN Avenue Road .....	26
Sample Road User Survey.....	32

## **List of Abbreviations and Acronyms**

E.g.	exempli gratia; for example
FIA	Fédération Internationale de l'Automobile (International Automobile Federation)
iRap	International Road Assessment Programme
KURA	Kenya Urban Roads Authority
LED	Light-Emitting Diode
NMT	Non-Motorised Transport
UN	United Nations
UNEP	United Nations Environment Programme
USA	United States of America
UNON	United Nations Office in Nairobi

## Part 1: Project Background

'Share the Road' is a UNEP initiative, developed with the Fédération Internationale de l'Automobile (FIA) Foundation. It brings together the environmental and safety agendas in the context of urban transport with an overall goal of catalyzing policies in government and donor agencies for systematic investments in walking and cycling road infrastructure, linked with public transport systems.

Investing in road infrastructure for walking and cycling leads to substantial benefits in environment, safety and accessibility. It reduces emissions of air pollutants and greenhouse gases, protects vulnerable road users, and increases affordable access to vital services and employment. Kenya became the first pilot country for the 'Share the Road' programme in 2009, when UNEP began working with the government's lead agency on urban roads – the Kenya Urban Roads Authority (KURA) – on a Joint Showcase Road, United Nations Avenue, as a demonstration project to help realise how road infrastructure that includes non-motorised facilities could benefit from policy changes.

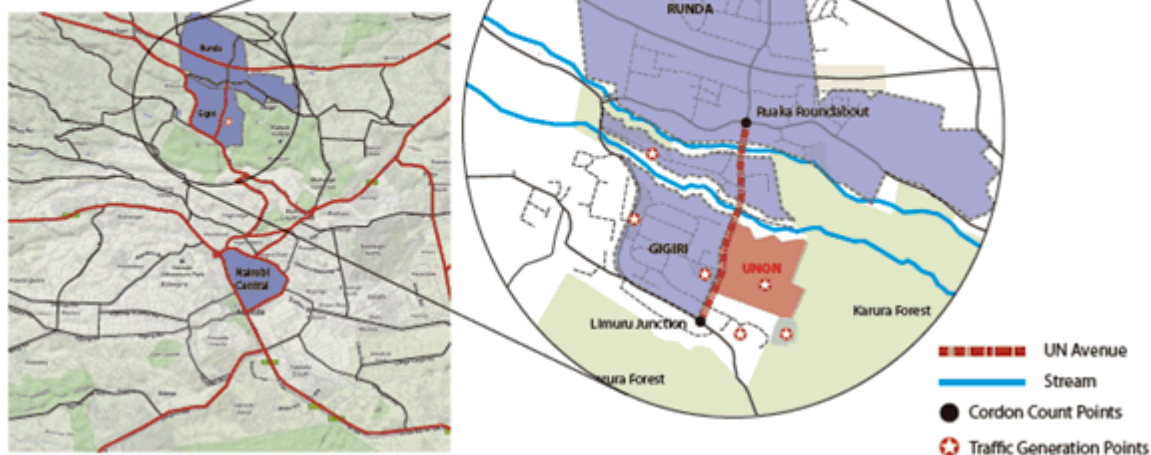
### 1.1 Project Area

UN Avenue is located within Nairobi North Sub-region of Gigiri in Nairobi County. The road starts at the junction with Limuru Road and ends at Runda Roundabout. It is approximately 2.20 km in length. Gigiri is an urban area comprising of low density, high income urban residential spaces, and is also densely populated with foreign embassies and other international institutions including the United Nations Offices in Nairobi (UNON).

Given its utility as residential access and a political neighbourhood, public transport is prohibited from utilizing UN Avenue. There is a public transport stage at the junction of UN Avenue and Limuru Road that most pedestrians use for accessing the area. Employees, visa applicants and other visitors use the road to access the different embassies located within the neighbourhood.

Gigiri is a self-contained neighbourhood with low connectivity to the surrounding areas. Access in and out the neighbourhood is possible through UN Avenue, or through a pedestrian access adjacent to the Village Market commercial centre at the western boundary of Gigiri. Runda, the adjacent neighbourhood presents similar characteristics; although its land use is predominantly residential. Runda inhabitants use UN Avenue as one of the main access road to the neighbourhood. Residents and workers of Runda and Gigiri become the immediate beneficiaries of the project.

Figure 1: Project area and location within Nairobi



Based on estimations, and consistent with the topographic conditions most prevalent in Nairobi, approximately 50% of the terrain on UN Avenue can be classified as levelled with slopes of less than 5%, while the remaining 50% on the northern section after UN commissary, can be considered as a rolling terrain with slopes of greater than 5%. Two streams cross the north part of UN Avenue, and are the main pathway for rainwater. The topographic conditions on the avenue, make cycling a physically demanding form of transport.

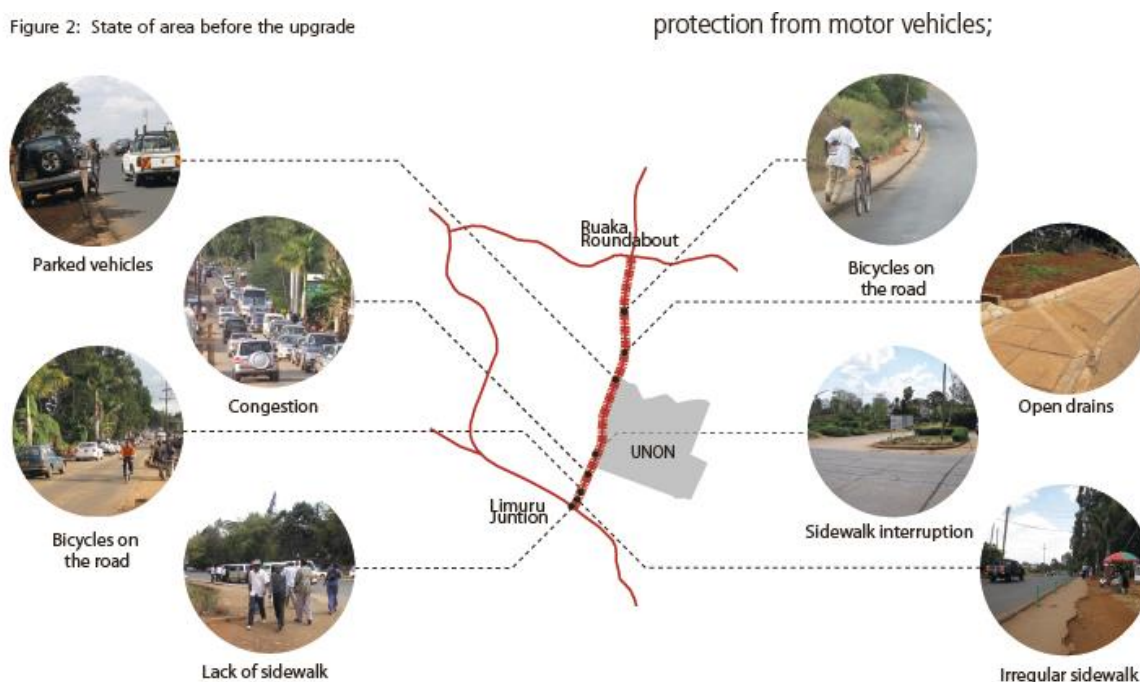
## 1.2 Project Justification

The criteria for selecting UN Avenue as a showcase included the availability of urban space and most importantly the high rate of accidents and road insecurity for pedestrians and cyclists along the avenue. The concern for road safety was a major force behind the project.

Prior to the intervention, several severe accidents involving non-motorised users occurred. The close interaction between motorised and non-motorised traffic, due to sharing a narrow road space without appropriate space for pedestrians and cyclists; coupled with road user's high speeds were recognised as major contributors to the accidents.

An additional justification for selecting UN Avenue as a non-motorised transport showcase road was the level of road congestion at the Limuru Junction during peak hours. This raised concern due to the air pollution caused by the congestion, as well as reduced accessibility to vital services and facilities.

Figure 2: State of area before the upgrade



## 1.3 Project Description

Ideas for improving road conditions were developed by KURA and UNEP, and this led to the installation of new and improved non-motorised transport (NMT) facilities along the road, as well as the incorporation of drainage works.

After reviewing the respective benefits and considerations of different road sections and cycleway typologies (uni-directional cycle tracks on both sides of the road, vs. bi-directional tracks on one side), the final road improvements on UN Avenue included:

- Expansion and where necessary additional construction of three-metre wide pedestrian sidewalks, on both sides of the entire road;
- Construction of a three-metre, two-way cycling track, on the west side of the entire length of the road, with physical barriers for protection from motor vehicles;<sup>1</sup>
- Construction of raised pedestrian crosswalks at key points along the road and at the Limuru Junction, to ensure safe crossing points and traffic calming for motor vehicles;
- Construction of a slip lane for left-turning vehicles onto Limuru Road and relocation of the bus / matatu<sup>2</sup> terminus to the north side of the junction;
- Improvements and lateral stabilization of a drainage canal along the entire road length;
- Correction of the road horizontal and vertical alignment, in particularly at the vertical curve at the stream-crossing. Improvements of the bridge at both streams across the avenue;
- Installation of signage and road markings for pedestrians, cyclists and motorists;<sup>3</sup>

<sup>1</sup> Not all pedestrian crossings were built as raised crossings; some were painted-only crossings, while other proposed crossings were not installed. Other traffic calming mechanisms have been temporarily put in place, specifically a temporary security barrier at night, to reduce vehicle's speeds and for the neighbourhood's security.

<sup>2</sup> Matatu is the local word for a minibus or similar vehicle used as a para-transit mode.

<sup>3</sup> Signage and road markings' works have not yet been finalized at every point.

- Placement of solar-LED Street lights along the section of the road between United Nations and Limuru Road.

## Part 2: Evaluation

### 2.1 Objectives

In order to evaluate the benefits, UNEP appraised the showcase road and the NMT road infrastructure through quantitative and qualitative analyses, including on-site observation and semi-structured interviews of users. The intended audience of this study is road and urban authorities undertaking, or wishing to improve facilities for walking and cycling. For this report the evaluation include the following methods:

- Stratified traffic count, ex-ante and ex-post;
- Qualitative survey;
- Behavioural analysis;
- Engineering analysis; and
- Video footage and documentary, including interviews with NMT users and senior civil servants.

There were multiple objectives of the evaluation:

- (a) To demonstrate evidence of good practices that assist in the adoption of policies which ensure predictable and sustainable investment in NMT infrastructure. For example, the project has provided impetus for KURA, the National Road Safety Council, the Ministry of Transport and other government decision makers to adopt a “soft policy” approach to ensuring NMT infrastructure is provided on all major urban roads upgrades and new ones.
- (b) To assess direct and indirect effects of road improvements in the use of non-motorised modes of transport at neighbourhood and sub-city level; and identify further obstacles and strategies for expanding its use. Including the necessity of provision of NMT networks;
- (c) To adhere to the efforts of improving road safety on Nairobi roads, among them those by the International Road Assessment Programme (iRAP).
- (d) To follow up on Kenya’s progress towards achieving certain objectives of the “Eastern Africa Regional Framework Agreement on Air Pollution (Nairobi Agreement-2008)”, that are specific to NMT, including the channelling of enhanced investments, the creation of enhanced interface between non-motorised and public transport, and to encourage attitude change.

Data and documentation on non-motorised infrastructure in Africa is scarce, and yet fundamental for ensuring that appropriate solutions are found for its advancement. The data and experience drawn from this Kenyan case study will serve to identify and highlight engineering, behavioural and policy issues, critical for the systematic promotion of investments in walking and cycling road infrastructure. Findings from the first Share the Road showcase project can be used to support educational activities among numerous stakeholders.

In order to meet the objectives outlined above, there are a number of key ‘focus areas’ that are addressed, consequently the study outputs section is divided into the following subsections:

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