

MAKERERE

UNIVERSITY

COLLEGE OF ENGINEERING DESIGN ART AND TECHNOLOGY

RIDE TO SAFTY

MOTOR-CYCLE ROAD TRAFFIC SIGNALS

(MRTS)

**THIS PROJECT IS TO ASSESS A SOLUTION FOR MOTOR-CYCLE ROAD
ACCIDENTS IN**

UGANDA CASE STUDY IN KAMPALA

PROJECT DOCUMENTATION JULY-SEPTEMBER 2017

Declaration

We sincerely declare that we are sole writers of this proposal and the information given is of our originality and has not been submitted in by any other students of Makerere University, Organization, or any other institution as a fulfillment for the award and support of 2017 CEDAT innovation students of industrial and fine art.

All the information in this design proposal is certain and correct to the knowledge of the participants.

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APPROVAL

This is to certify that the above four members of the Motor-cycle Road Traffic sign Project are students of Makerere University pursuing a Bachelor's Degree in Industrial Fine art and Design plus one member pursuing a bachelor's degree in Electrical Engineering . Their fulfillment is designing a problem solving idea towards our nation which we believe will be of a great impact. The design project has been under supervision and examination.

ASSOC. PROF. FRANCIS XAVIER IFEE

Motor-cycles in Uganda

Motor-cycles in Uganda are believed to be the fastest means of transport that saves time and helps to avail people in different places in country sides. The motor-cycle business in Uganda is known as “Boda boda” transport which is cheap and flexible, they are known to consume less fuel and less cost of maintenance than taxi vehicles. The motor-cycles in Uganda are the business motivated goal for many firms and individual to survive in day-to-day economy.

Automotive can be understood by relating to or concerned with motor vehicles that move on themselves, self-propelling or self-propelled. Automotive can also be referred to automobile. Automobile engineering, along with marine engineering, aerospace engineering, is a branch of vehicle engineering, incorporating elements of mechanical, electrical, electronic, and software. Safety engineering as applied to the design, manufacture and operation of motorcycles, and trucks and their respective engineering sub-systems. It also includes modification of vehicles manufacturing domain that deals with the creation and assembling, the whole parts of automotive industry is also included in it. The automotive industry is a wide range of companies and organizations involved in the design, and selling of motor vehicles, some of them are called automakers.

Motor way is a road designed and built for motor traffic that separates the traffic flowing in the opposite direction.

Paved roads are those surfaced with crushed stones (macadam) and hydro carbon binder or bitumised agents with concrete or with cobblestones as a percentage a fall the country’s roads are measured in length.

Uganda’s 21,000km road network is the key factor for the development of agriculture, commerce, and trade as well as the movement of people for business, social needs, leisure and the delivery of health care, education and extension services. The government recognizes that as efficient road networks are crucial to the success of its social and economic development initiatives and critical in linking the Centre to the periphery of the nation.

The last 50 years have been challenging for the road sector and transport in general. After independence, the government invested in all-weather roads and by 1971, Uganda had more than 1500km of paved roads.

Unfortunately, the roads built in the 1960s started to disintegrate in the 1980s at the expiry of their 15 year life necessity reconstruction. By 1986, when the National Resistance Movement government came to power, the country's road infrastructure was all in a dire state to disrepair due to the years of civil strife and economic mismanagement. The government's first priority was to restore peace and security as a fundamental precondition for development. As security was gradually restored, the government began implementation of its policy to develop an independent integrated and self-sustaining economy with the road network playing a pivotal role.

Since 1996 the government of Uganda's policy has been focused on improved transport and communication, infrastructure for the acceleration development and consolidation of national unity, implemented through its road development program.

Javan Mutabazi; a taxi driver along Kabale- Mabarara Highway says the road signs are vandalized thieves who sell them as scrap.

Dustan Muhereza, a road user from Kaharo Sub County says accidents have increased following the theft of road signs.

Pius Rwakimar; the LCV councilor representing Kyanamira sub county in Kabale district faults RCC and Uganda National Roads Authority for alleged failure to sensitize residents on the importance of road signs.

Boaz Kazibwe; the Kabale UNRA station Engineer; says they have already notified police about the theft of road signs, adding that investigations are ongoing.

Peter Kagina ; Officer — in — charge of the Traffic Department of Kabale Police station, says they have repeatedly warned residents against the theft of road signs in vain. He faults residents for remaining silent on the culprits.

This is not the first time road signs and guard rails are vandalized along roads signs in Uganda. In 2012, President Yoweri Museveni ordered police to recover road signs that went missing from Kabale —Kisoro. At least 8 people were arrested in connection to the theft of the road signs. The

same year road signs and guard rails were also vandalized by unknown people. This prompted then Works Minister; Engineer John Byabagambi to order police to shoot on site those found vandalizing road signs in Kigezi region.

In May 2014, over 100 road signs were stolen along Matugga —Semuto-Kapeeka road in Naseke District. Works to rehabilitate road junctions in Kampala and expand roads is underway. China Railway Seventh Group was contracted by the Ministry of Works for the project, the junctions include Fairway, Kira road, and Kabira Country Club, Makerere University and Mambule-Bwaise junctions.

Anonymous, 2012. Alex Nuwagaba; a superintendent of police and Mark Muzamiru left Kampala for Kisoro. They were working as the advance security detail team for the Inspector General of Police Gen. Kale Kayihura. Their mission was simple; organize a brief function for the General, who was still busy with other official engagements. As they set off from Kampala, all seemed well, until they reached Kanab, gap along Kanab gap, along the Kabale — Kisoro road.

They failed to negotiate the bend and the Toyota Haice they were travelling in crashed into the valley. They both died on spot. The sign post that been erected to warn motorists that they were approaching a sharp bend had been stolen a week before and had not been replaced.

This is not the only case of theft on the newly constructed road.

1.1 CHALLENGE

In Kampala, Uganda today, there are a lot of motorcycle road accidents mainly occurring around road junctions which have caused injuries and loss of lives. Motorcycles being the fastest and cheapest means of transport in the city there is hardly any evidence of traffic signs or signals that consider motorcycles thus they never stop in traffic jam.

Traffic jam in the city leads to overtaking and over speeding of motorcyclists to dodge vehicles on highways and around road junctions which has caused major road accidents.

More so, road user spend more time on the junctions when the traffic signals light red which calls for stopping and waiting even though the Ugandan government has enforced a few rules to overcome this problem.

Traffic guides have been a daily usage around the road junctions in our environment or country .However, motor-cycle have been involved in a number of accidents on roads especially around road junctions in Uganda. Therefore this research will focus on analyzing the causes of motor-cycle road accidents and design a solution that can maximize the traffic flow and provide an automatic control plan with less counts that are necessary in Kampala, Uganda.