

## **Reducing Congestion through Evaluating Commuter Transit Options:**

### **Case of Eldoret City**

Christopher D.N Githinji, Moi University

christophergndungu@mu.ac.ke

Peter W. Wagacha, Nairobi University

pwaiganjo.wagacha@gmail.com

Eldoret is the largest town and the capital City of Uasin Gishu County. It lies 356 Kilometres west of Nairobi, the capital city of Kenya. The Trans – Africa Highway – Uganda road (classified as A104) which links Kenya to the Great Lakes region passes through the city's Central Business District (C.B.D). The city's public transit system comprises numerous 14-seater matatu's. There is also an increase in the number of personal vehicles owned by residents. These factors combined with rising population and rapid economic growth have increased congestion levels in the CBD especially during peak hours causing traffic jams and extended travel time.

The purpose of this study was to establish congestion levels by collecting traffic flow counts and travel time data between two observation points for morning peak, off peak and evening peak periods. Finally, this study develops a traffic simulator, using the SUMO traffic simulator that is used to test two alternative scenarios to reduce and manage congestion on a specific section along Uganda Road namely; experimenting on adoption of high capacity vehicles(33-seater minibuses and 52-seater busses) for public transit.

All alternative scenarios produce reduced traffic flow and travel time for the section of Uganda Road under study. These results show the applicability of simulation as a less costly way of experimenting with various alternative traffic management policies before implementation on the real traffic system. It also shows the importance of Open Source Software in deriving affordable solutions for complex problems.

Keywords: traffic simulation, calibration, travel time, scenario

### **Virtual Tour Tool for Enhancing Destination Marketing**

Ernest Nyagari Moturi

Virtual tours are a great way of implementing destination marketing. Correctly used, they can increase revenue to a wide number of sectors including tourism, hospitality industry, learning, manufacturing, and security, among others. This potential has however remained unexploited. Our country Kenya continues to lose revenue due to sticking with old ways of marketing. This study therefore aims to research on the use of virtual tours to influence a tourist's decision-making on a destination. The researcher had three objectives, which were to develop a virtual tour interface tool, to deploy it and to measure the effect of using virtual tours on a tourist's decision-making when choosing a destination. The research developed a virtual tour interface tool for the purpose of enhancing the current interface provided by Krpano by adding on the interface interactive menus, hotspots such as different scenes, video, image and text; powerful plugins such as maps, an auto-tour feature, social media icons, audio, logo, booking buttons, among others. Further in the research, 360 panoramic photos were taken at Weston Hotel and the virtual tour was developed and put online.