

THE KENYAN DREAM: DEVELOPING CONCEPT OF NAIROBI MRTS



B C ROY: Dr. Roy, FNAE, former vice president of IABSE, Zurich, has vast experience encompassing concept to Implementation of urban infrastructure. He was involved in design and construction of first metro of India. He was visiting professor of IIT Mumbai and Jadavpur University, Kolkata



GEORGE P. G. WANJAU: Mr. Wanjau, Deputy Chief Economist in Ministry of Transport, has over 28 years in the Public Service with considerable experience in regional, sectoral and national planning, including policy formulation for the transport sector and urban transport planning.



S BHATTACHARYYA: Working in SYSTRA MVA Consulting (India) Private Limited in Track and Alignment Wing having over 13 years' experience in construction of Railway Sector. He was involved in DMRC for different sections for more than eight years and was part of CES Special Structure team for about three years

Abstract:

Nairobi, famous for Nairobi National Park, the world's only game reserve found within a major city, started developing as a rail depot on the Uganda Railway and in 1963, Nairobi became the capital of the Republic of Kenya. The city of Nairobi had a population of mere 11,500 in the year of 1906, and it grew to 3,138,369 by Year 2009, at growth rate of 4.1% a year.

At this rate, the difficulties commuting to the central business area is getting more and more complicated, though plans are being implemented in the need to decongest the city's traffic and the completion of Thika Road has given the city a much-needed face-lift attributed to road's enhancement of global standards. The need of the hour is developing a world class MRTS system, combination of Road and Rail Based MRTS technology. A comprehensive study was carried out in this direction to find out the feasibility of such MRTS and the various options worked out to find suitable solution, shall be discussed in the paper.

1.0 Historical Background:

Nairobi Metropolitan Region (NMR) extends from the eastern edge of the Rift Valley, 2,300m above sea level and slopes down towards the east and the south to an altitude of 1,400m. The western and northern part of NMR has hilly terrain, while the eastern part of NMR consists of gentle slopes The social-cultural areas of these districts are diverse where the urbanised areas have multiethnic groupings and rural has homogeneous ethnic groups including Kamba on the eastern province, Kikuyu in central province, Maasai in the Rift Valley.

Nairobi city spread over 696 sq. km occupies about 2% of NMR area accommodating 3.13 million (2009) people. This is nearly 47% of the NMR population. Nairobi City is estimated to have an average population density of 4509 persons per https://doi.org/10.2749/kualalumpur.2018.0275

sq.km. As compared to this, the population density in the Town Councils like Kikuyu, Karuri, Thika and Kangundo is around 1000- 1500 persons per sq.km. Population density in the Municipal Council of Limuru, Kiambu, Ruiru and Machakos is in the range of 400-600 persons where County Councils range as low as 18 persons per sq.km in Kajiado to 437 persons per sq.km in Kiambu.

Total population of the NMR is estimated to have increased from 4.85 million in 1999 to 6.7 million in 2009 at an average annual growth rate of 3.3%. Population share of the NMR to the total population in Kenya is increased from 16.9% in 1999 to 23% in 2010.

The city of Nairobi has experienced rapid urban sprawl. In 1970, average commuter distance was