

Developing smart cities through optimal wireless mobile network

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Author(s)

[Augustus Ehiremen Ibhaze](#) ; [Simeon Olumide Ajose](#) ; [Aderemi Aaron-Anthony Atayero](#) ; [Francis Enejo Idachaba](#)

[View All Authors](#)

Abstract:

Wireless mobile communication has become the interconnecting technological platform through which seamless services of data, voice and other value added services can be deployed within local, national and global platforms. As a means to integrating smart services, the mobile network must be efficient in terms of coverage and quality of service. This paper therefore investigates large scale propagation models used to predict the signal strength with the aim of providing sufficient data required for radio frequency planning and optimization, which will engender flawless mobile network integration and consequent improved quality of service. Data analysis and optimization was carried out using Root Mean Square statistical tool for which the COST231 model was optimized to ensure proper mobile network planning and improved quality of service.

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I. Introduction

As the population of any sovereign state grows geometrically, the need to design and install more robust innovative infrastructure that will suit the living condition of the entire populace becomes a paramount interest. The economic strength and global relevance of such a nation then depends on the technological intensity of the deployed and emerging technologies. To maintain both national and global relevance, an approach to the development of sustainable infrastructure and technology must be based on continual

service improvement of existing infrastructure and design requirements for integrated services with emerging technologies. This will provide seamless transitional growth in technology, supportive of new innovative trends.

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