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**TITLE OF THE PROJECT: TRAFFIC FLOW ANALYSIS AND INFRASTRUCTURE ASSESSMENT FOR THE IMPLEMENTATION OF A TRAFFIC MANAGEMENT CENTRE IN DAR ES SALAAM: A CASE STUDY OF KIMARA-KIBAHA ROAD SECTION.**

**ABSTARCT**

This comprehensive study aims to investigate the complexity of traffic dynamics and infrastructure needs to facilitate the establishment of an effective Traffic Management Centre (TMC) in Dar es Salaam, with a specific focus on the Kimara-Kibaha Road. The research is conducted in response to the growing challenges posed by urbanization and increasing traffic interactions in the region which include inefficiency of road networks and safety hazards at large. The study employs a multifaceted approach, integrating both quantitative and qualitative methodologies to examine the existing traffic patterns, traffic flow characteristics, identify bottlenecks, and evaluate the current state of infrastructure along the Kimara-Kibaha Road. Infrastructure assessment encompasses a thorough examination of traffic control infrastructures such as traffic signals, and technological readiness for the implementation of a Traffic Management Centre. The study also considers the integration of smart technologies, such as Intelligent Transportation Systems (ITS), to enhance real-time monitoring and control capabilities.

Drawing on lessons learned from successful TMC implementations globally, the research proposes a framework tailored to the specific needs and challenges of Dar es Salaam. This framework encompasses determination of use cases for the TMC such as adaptive traffic signal control, incident management, traveler information and the utilization of data-driven decision-making processes basing on evaluated traffic analysis and infrastructure assessment, and uses one use case to evaluate the performance of the road in the presence of a TMC.

The expected findings of this project include traffic characteristics, infrastructure state, performance and technological interventions which generally provide valuable insights for urban planners, policymakers, and transportation authorities seeking to optimize traffic management by reducing user costs and enhance safety in Dar es Salaam. By offering a detailed case study of the

Kimara-Kibaha Road, the research contributes to the development of a scalable model that can be applied to other key transportation corridors in the region. Ultimately, the proposed Traffic Management Centre aims to enhance the overall efficiency, safety, and sustainability of urban transportation in Dar es Salaam.