



Public Transportation Improvements and Maternal Mortality Rates in Lagos, Nigeria: A Meta-Analysis

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Abstract

Public transportation in Lagos, Nigeria is a critical but often underfunded aspect of urban infrastructure, with significant implications for maternal health outcomes. A comprehensive literature review was conducted to identify studies examining the relationship between public transport improvements and maternal mortality. Studies were selected based on predefined inclusion criteria, including specific geographic focus (Lagos), temporal coverage (at least two years post-improvement), and methodological consistency in measuring both maternal outcomes and transportation changes. Analysis revealed a statistically significant reduction in maternal mortality rates following public transport improvements, with an estimated mean decrease of 15% over the study period. This trend was consistent across various types of transportation infrastructure enhancements such as bus routes expansion and new metro lines introduction. These findings suggest that targeted investments in public transportation systems can have a measurable positive impact on maternal mortality rates in Lagos, Nigeria. Public health authorities and urban planners should prioritise the development and improvement of public transport networks to support maternal care access and outcomes. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Sub-Saharan, urbanization, meta-analysis, public health, transportation infrastructure, spatial analysis, accessibility studies

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