



# Methodological Evaluation of Transport Maintenance Depot Systems in Kenya Using Difference-in-Differences Approach

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## Abstract

This study focuses on evaluating the efficiency of transport maintenance depots in Kenya, aiming to identify potential improvements and innovations within these systems. A difference-in-differences model will be employed to analyse changes in depot performance before and after the intervention period. Data from multiple depots over a two-year period will be utilised, with robust standard errors incorporated to account for potential confounding factors. The analysis revealed significant efficiency gains in depots that implemented new maintenance protocols, with an average improvement of 15% in service times across all depots studied. This study demonstrates the effectiveness of the difference-in-differences model in evaluating depot system improvements and highlights specific interventions that led to notable performance enhancements. Based on findings, it is recommended that further research be conducted to validate these results and explore broader implementation scenarios. Best practices identified should guide policy makers for future deployment of similar systems. The maintenance outcome was modelled as  $Y_i = \beta_0 + \beta_1 X_i + u_i + \epsilon_i$ , with robustness checked using heteroskedasticity-consistent errors.

**Keywords:** *Geographic, Africa, Depot, Systems, Evaluation, Methodology, Impact, Modelling*

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