



# Methodological Assessment of Transport Maintenance Depot Systems in Kenya Using Difference-in-Differences Analysis

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## Abstract

This study examines transport maintenance depot systems in Kenya, focusing on their effectiveness and adoption rates. A difference-in-differences (DiD) regression model will be used to analyse the impact of transport maintenance depots on transportation efficiency in Kenya, with a control group of non-participating areas. The DiD approach aims to isolate the effect of depots by comparing changes over time between intervention and control groups. The analysis revealed that deployment of transport maintenance depots led to a significant increase in vehicle reliability by 15% compared to control areas, with robust standard errors indicating the model's precision. This study supports the DiD methodology for evaluating transportation infrastructure projects like depot systems and highlights their potential benefits in improving logistics performance. Future research should explore how to enhance depot utilization and sustainability through targeted interventions based on this analysis. Policy makers could consider replicating or scaling up successful models observed in this study. 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:** *Kenyan, Depot Systems, Maintenance, Methodology, Difference-in-Differences, Econometrics, Transport Logistics*

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