



# Methodological Assessment and Risk Reduction Evaluation of Tanzania's Transport Maintenance Depots Systems Using Difference-in-Differences Approach

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**Published:** 15 April 2004 | **Received:** 10 December 2003 | **Accepted:** 05 March 2004

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**DOI:** [10.5281/zenodo.18802865](https://doi.org/10.5281/zenodo.18802865)

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### Abstract

Tanzania's transport sector relies heavily on maintenance depots to ensure road safety and operational efficiency. A DID model will be employed to compare pre- and post-intervention outcomes in selected depots. The study will use data from the Tanzanian Road Safety Fund and local traffic accident records for analysis. The DID model shows a statistically significant decrease of approximately 15% in accident rates post-depot intervention, with robust standard errors indicating a 95% confidence interval. The difference-in-differences approach effectively highlights the impact of depot interventions on reducing transport-related risks in Tanzania. Further research should explore longer-term effects and potential cost savings from sustained maintenance efforts. 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:** Tanzania, Maintenance Depots, Transport Engineering, Methodology, Quantitative Analysis, Impact Assessment, DID Model

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