



Methodological Evaluation of Transport Maintenance Depots in Ethiopia Using Difference-in-Differences Approach

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Abstract

This Data Descriptor examines the application of a Difference-in-Differences (DiD) statistical model to evaluate the adoption rates of transport maintenance depots in Ethiopia. A Difference-in-Differences model will be employed to compare pre- and post-deployment adoption rates across different regions in Ethiopia. The model will account for potential confounding variables using robust standard errors. Initial analysis suggests a significant increase in the proportion of vehicles accessing these depots within six months post-deployment, with some regions showing higher uptake than others. The DiD approach provides evidence on the temporal and spatial dynamics of adoption rates for transport maintenance depots across Ethiopia. Future research should consider expanding the DiD model to include more detailed data sources and longitudinal studies to strengthen conclusions. Transport Maintenance Depots, Adoption Rates, Difference-in-Differences Model, Ethiopian Infrastructure 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: Ethiopia, Geographic Information Systems (GIS), Difference-in-Differences (DiD), econometrics, maintenance systems, transport infrastructure, spatial analysis

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