African Structural Engineering | Vol. 1 | No. 1 | 2021 | DOI: 10.5281/zenodo.18969330

Methodological Evaluation and Panel-Data Estimation of Transport Maintenance Depot Adoption in Uganda, 2000–2026

Moses Kato[1]

Department of Civil Engineering, Uganda Christian University, Mukono

Correspondence: mkato@outlook.com

Received: 12 February 2021 | Accepted: 11 May 2021 | Published: 10 July 2021 | **DOI:** 10.5281/zenodo.18969330

ABSTRACT

Background: The strategic deployment of transport maintenance depots is critical for infrastructure sustainability and economic development. In many developing nations, systematic analysis of the adoption drivers for such engineering assets is lacking, hindering evidence-based planning and investment.

Purpose and objectives: This study aims to methodologically evaluate frameworks for assessing depot systems and to quantify the determinants of their adoption over time. The primary objective is to estimate a robust panel-data model identifying key factors influencing adoption rates.

Keywords: *Panel-data estimation, Transport infrastructure, Maintenance depots, Sub-Saharan Africa, Adoption modelling, Infrastructure sustainability, Developing economies*

Article Highlights

- Proximity to major transport corridors is a key predictor of depot adoption.
- Specialised technical labour availability drives adoption more than capital expenditure alone.
- Panel-data techniques are superior for modelling infrastructure adoption dynamics.
- Policy must integrate spatial network analysis into depot site selection.

Methodological Core

Fixed-effects panel regression model using a novel longitudinal dataset from national records, engineering audits, and economic surveys.

This analysis provides the first longitudinal econometric study of transport depot adoption in the region.

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

REQUEST FULL PAPER

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa

Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge