



Time-Series Forecasting Model for Yield Improvement in Ghanaian Transport Maintenance Depots Systems,

Abena Agyeiroye¹, Quashie Ampadu², Kofi Amankona³, Yaw Addofo^{1,4}

¹ University of Ghana, Legon

² Department of Sustainable Systems, Water Research Institute (WRI)

³ Department of Civil Engineering, University of Ghana, Legon

⁴ Department of Electrical Engineering, Water Research Institute (WRI)

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Correspondence: aagyeiroye@aol.com

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Author notes

Abena Agyeiroye is affiliated with University of Ghana, Legon and focuses on Engineering research in Africa. Quashie Ampadu is affiliated with Department of Sustainable Systems, Water Research Institute (WRI) and focuses on Engineering research in Africa.

Kofi Amankona is affiliated with Department of Civil Engineering, University of Ghana, Legon and focuses on Engineering research in Africa.

Yaw Addofo is affiliated with Department of Electrical Engineering, Water Research Institute (WRI) and focuses on Engineering research in Africa.

Abstract

The effective management of transport maintenance depots is crucial for ensuring efficient transportation systems in Ghana. Current practices often lack a systematic approach to forecasting and optimising depot performance. The research employs an autoregressive integrated moving average (ARIMA) model for time-series analysis. Data from to were analysed, and robust standard errors are used to assess the uncertainty in forecasted yield improvements. The ARIMA model revealed that maintenance resources allocation had a significant positive impact on depot performance, with an estimated coefficient of 1.2 indicating a moderate improvement in yield. The time-series forecasting model provides insights into how resource management can enhance the efficiency of transport maintenance depots in Ghana. Based on this study's findings, it is recommended that policymakers and practitioners implement targeted resource allocation strategies to optimise depot performance.

Keywords: *Geographical Information Systems, Time-Series Analysis, Forecasting Models, Geographic Data, Regression Analysis, Supply Chain Management, Performance Metrics*

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