

# A Quasi-Experimental Evaluation of Municipal Infrastructure Asset Management System Adoption in South Africa, 2000–2024

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## ABSTRACT

**Background:** The effective management of municipal infrastructure assets is critical for service delivery and sustainable development. Despite policy imperatives, the adoption and performance of formal asset management systems (AMS) by municipalities in South Africa remain poorly understood, with a lack of rigorous empirical evaluation.

**Purpose and objectives:** This study aimed to quantify the causal effect of formal AMS adoption on key infrastructure performance indicators across South African municipalities, and to identify the principal determinants of successful adoption.

**Keywords:** *Municipal infrastructure, Asset management, Quasi-experimental design, Sub-Saharan Africa, Service delivery, Public sector reform*

### Article Highlights

- Quantifies causal impact of AMS adoption using difference-in-differences design
- Identifies financial capacity and institutional stability as key adoption drivers
- Finds political cycles have negligible influence on adoption success
- Recommends conditional funding based on institutional readiness

### Methodological Note

Analysis employs a two-way fixed effects model on longitudinal municipal panel data, with robust standard errors clustered at municipal level.

*Provides first causal evidence on AMS impact in Sub-Saharan African municipalities.*

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