

## Performance Based Road Asset Evaluation

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**Abstract :** Addis Ababa City Road Authority is responsible for managing and setting performance evaluation of the city's road network using the International Roughness Index (IRI). This helps the authority to conduct pavement condition assessments of asphalt roads each year to determine the health status or Level of service (LOS) of the roadway network and plan program improvements such as maintenance, resurfacing and rehabilitation. For a lower IRI limit economical and acceptable maintenance strategy may be selected among a number of maintenance alternatives. The Highway Development and Management (HDM-4) tool can do such measures to help decide which option is the best by evaluating the economic and structural conditions. This paper specifically addresses flexible pavement, including two principal arterial streets under the administration of the Addis Ababa City Roads Authority. The roads include the road from Megenagna Interchange to Ayat Square and from Ayat Square to Tafo RA. First, it was assessed the procedures followed by the city's road authority to develop the appropriate road maintenance strategies. Questionnaire surveys and interviews are used to collect information from the city's road maintenance departments. Second, the project analysis was performed for functional and economic comparison of different maintenance alternatives using HDM-4.

**Keywords :** appropriate maintenance strategy, cost stream, road deterioration, maintenance alternative

**Conference Title :** ICACE 2024 : International Conference on Architectural and Civil Engineering

**Conference Location :** New York, United States

**Conference Dates :** June 03-04, 2024