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Malaysian Construction Research Journal
Volume 29, Issue 3, 2019, Pages 77-94

Methodology to investigate the quality of cost data as inputs for lcc analysis of new flexible pavement construction in the Malaysian construction industry (Article)

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Abstract

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In the face of high cost of new road construction and maintenance, a large amount of money was required over the years by the Malaysia Government to spend on building new road and maintaining the quality of existing road pavements throughout the anticipated service lifespan. Many commentators pointed out that it is crucial to the road owners or clients, and related government agencies to give greater emphasize on optimising the total ownership cost on the new road pavement construction from the very early stage of the project life cycle. Life Cycle Cost (LCC) is an economic assessment technique that is applied to calculate the total ownership cost of an asset, which can produce useful cost information to the clients and cost estimators in facilitating them to achieve the best value for money decision making on the investment of new road construction throughout the anticipated design lifespan. LCC compares the overall long-term economic efficiency between the competing road design alternatives over the anticipated lifetime to identify potential cost savings. The process of LCC estimation is divided into three main phases; i.e. data inputs, conversion, and outputs. However, the quality of data used in LCC analysis is significant to ensure the LCC estimation process can produce correct and reliable outputs to the clients and cost estimators. This paper presents the proposed methodology to investigate the quality of data used as inputs for LCC analysis of new flexible pavement construction. There are two types of road pavements, which are flexible and rigid pavements. The methodology proposed for the study is a qualitative research strategy that comprises of literature review and semi-structured interview. This paper is prepared as part of a two-year master programme of research undertaken by the first author to investigate the quality and readiness of the cost data as inputs for LCC analysis of new flexible pavement construction in the Malaysian construction industry. © 2019, Construction Research Institute of Malaysia. All rights reserved.

SciVal Topic Prominence ⓘ

Topic: Life Cycle Costs | Asset Management | Total Cost of Ownership

Prominence percentile: 72.057 ⓘ

Author keywords

Cost Data Inputs Life Cycle Cost Methodology New Flexible Pavement Construction Quality

Funding details

Funding sponsor Funding number Acronym

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Funding text

The authors would like to express highly appreciations to International Islamic University Malaysia (IIUM) for supporting this research and, to Ministry of Education Malaysia for providing funding for the research under RAGS (Research Acculturation Grant Scheme) entitled "Identification of Cost Data Inputs in Life Cycle Cost (LCC) of Alternative Road Pavement Types (ref RAGS/1/2014/TK02 /UIAM//1)".

ISSN: 19853807

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Construction Research Institute of Malaysia

References (82)

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