

Performance indicators for public evaluation of environmental management plan implementation in highway construction projects

Performance indicators

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Abstract

Purpose – Evaluating the implementation of environmental management plans (EMPs) in highway construction projects is essential to avoid climate change. Public evaluations can help ensure that the EMP is implemented correctly and efficiently. To allow public evaluation of EMP implementations, this study aims to investigate performance indicators (PIs) for assessing EMP implementation in highway construction projects. To that end, the study objectives are to compare the critical PIs between environment auditors (EAs) and environment officers (EOs) and among the main project stakeholders (i.e. clients, contractors and consultants), create components for the critical PIs and assess the efficiency of the components.

Design/methodology/approach – The paper identified 39 PIs from interviews with environmental professionals and a systematic literature review. Then a questionnaire survey was developed based on the PIs and sent to EAs and EOs. The data were analyzed via mean score ranking, normalization, agreement analysis, factor analysis and fuzzy synthetic evaluation (FSE).

Findings – The analyses revealed 21 critical PIs for assessing EMP implementation in highway construction projects. Also, the critical PIs can be grouped into four components: ecological, pollution, public safety and ecological. Finally, the overall importance of the critical PIs from the FSE is between important and very important.



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