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Mar 7, 2022

Assessing Automation Readiness of Recurring Pavement Failure in Developing Countries: Case Studies of Nigeria and Jordan

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Publication: Construction Research Congress 2022

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ABSTRACT

A myriad of problems has characterized social infrastructure issues in developing countries, highway pavement failure is identified as one with recurring problem hampering connection and trading relationships among neighboring countries. Although, such issues are gradually being annihilated in developed countries with evidence of some pavement construction reaching life cycle expectancy before surface or structural failures. Developing countries continue to struggle with such myriad of problems with new construction posited to experiencing same. Therefore,

this present study foreshadows existing research and results from developed countries, to investigate automation assessment readiness (AAR) for highway construction processes in developing countries. A quantitative method using questionnaire was utilized to achieve this objective. Based on the identified indicators of automation readiness, a survey of construction practitioners (in Nigeria and Jordan) was conducted to appraise the current situation and confirm readiness level that will spur automation adoption for developing countries. The study result ranks economic benefits as the most critical indicator and a readiness score of 80.9% to AAR that will help curb recurring pavement issues in developing countries. Finally, the study proposes a path for developing countries highlighting a fundamentally AAR adoption process for highway construction.

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