



Development of a Road-Condition Assessment System and Application to Road Maintenance Decision-Making

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ABSTRACT: The deterioration of existing road pavement surfaces over the years due to aging and the growing number of heavy vehicles has become an important issue. Roads require appropriate maintenance to keep providing the target service. Many efforts have been made by road engineers to maintain road pavement surfaces; however, there are some problems due to costs, including vehicle running costs. Therefore, there is a need for an efficient and low-cost system to facilitate evaluation of the serviceability of existing road pavement surfaces. This study aims to develop an efficient, rational and useful method or system that can be used to perform a visual assessment of the condition of not only the pavement but also road structures, including slopes and vegetation and equipment such as guardrails, curbs, and guideposts. Such a system should be inexpensive and be IT-based by making use of new information and the latest technologies. In addition, a method based on an analytic hierarchy process is employed in the decision-making process to analyze a complicated decision problem based on video files obtained by the system.

Keywords: Analytic Hierarchy Process (AHP), Assessment System, Decision Making, Ippo-Campo, Road Condition, Road Network, Timor-Leste.

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