

Accelerated Construction Decision-Making Process for Bridges

Description

Meta Fields

Category : Completed Projects

Group : Design-Making Tools

Subject : AHP

Abstract :

The decision making process for selecting appropriate construction plan for rehabilitation / reconstruction of bridges involves evaluating plans for their performance on qualitative and quantitative metrics. The decision maker has to decide the relative importance of various criteria in the decision making process. The qualitative nature of some of the criteria such as mitigation of impact on communities, businesses, environment, ensuring safety of stakeholders makes it difficult to establish a transparent decision making process. It is sometimes difficult for the decision-maker to justify extra expenditure for accelerating construction to achieve these non-quantifiable objectives.

The decision making process developed in this research study is based on Analytical Hierarchy Process. It provides the decision maker with a tool to transparently extract quantitative weights which reflect the relative importance of both qualitative and quantitative criteria in the decision making process. It also enables the decision maker to evaluate various alternative construction strategies for their performance in meeting these qualitative and quantitative criteria.

Key Words :

Accelerated Construction, Bridges, Analytical Hierarchy Process, Decision Making System

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