

Enhancing Economic Viability of Road Construction Industry in Sri Lanka by Integrating Lean Construction Concept

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The interconnection of activities required for the design and construction of building and infrastructure involves the interplay between people, technology, situations, and decisions. It requires the astute coordination of labor, materials, and plant to realize the planned progress of work. Minimizing waste and maximizing value with continuous improvement is the concept of lean. Lean construction has proven to satisfy clients by creating customer value. Through its origins in the Toyota Production System, lean is now applied as an innovative way to manage the design and construction of projects with the use of tools which address project constraints, such as complexities and uncertainties, among others. This research is an effort to implement lean construction concept to the Sri Lankan road construction industry. Research approach involved the use of primary data, collected from questionnaire survey and semi-structured interviews with qualitative and quantitative mixed type research. The foremost objective was to optimize the cost, quality and time in road construction with the application of lean construction concept and identify most important lean tool among 5S, Construction process analysis, just in time, Value stream mapping, Kanban and last planner as adapted to road construction industry. Finally, the most important lean construction tool for road construction improvement is identified.

Keywords: Lean construction concept, road construction, Toyota production system