

Is Lean Production Supporting Safety in Building Design and Construction?

Connection between Lean Design/Construction and Construction Worker Safety

John Gambatese and Catarina Pestana. CPWR Report, October 2014.

Overview

A growing number of building industry firms are adapting “lean production” principles, developed in the manufacturing sector, to engineering and construction – a trend accelerated by increased interest in Design-Build procurement methods and Integrated Project Delivery (IPD) generally. How are lean production innovations affecting construction site safety? Researchers performed case studies of seven building projects and surveyed Lean Construction Institute (LCI) members to assess the extent to which lean practices impact construction safety risk and support commonly-implemented safety practices.

Key Findings

- A variety of lean design and construction practices are being implemented on building construction projects; the extent varies from company to company, and from project to project within a company.
- Improving production through the application of lean principles naturally leads to enhanced worker safety; lean production emphasizes employee involvement and orderly material handling and storage.
- The construction phase is recognized as the best opportunity to positively impact safety through the implementation of lean practices.
- Worker involvement in safety is viewed as the safety practice that benefits the most from the implementation of lean practices, particularly on lean production priorities such as the 5 S's (sort, set in order, sweep, standardize material storage, sustain) and standardized work practices.

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See full report:

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