

Leaning Into Construction Safety

Lean principles ensure everyone is on the same page from day one of a project and that each team member maintains a shared understanding of tasks, risks, goals, and procedures throughout construction.

By Henry Nutt III | Mar 01, 2019

In any construction project, the aspiration is to be injury-free. Construction site accidents cause human suffering and reduce morale, are financially burdensome, delay project delivery and decrease the overall success of a project. The unfortunate reality today, however, is that if you have been a part of the building, design and construction world for any significant amount of time, odds are good that you have witnessed a co-worker get injured on the job or you yourself have sustained an injury—be it from a fall, misplaced tool, unclear instructions, or any number of possible causes that plague an environment that is far more dangerous than it needs to be.

Unsafe sites should not be the norm. Over the course of more than 30 years working in the industry, I have seen how health and safety

hazards can be prevented by incorporating Lean strategies into construction projects from planning through completion. Lean construction and design is both a project management strategy and a real-world toolkit available to each and every worker who interacts with a construction site. It is based on a simple but too often disregarded ethos of communication, coordination, pre-task planning, and transparency at every level of the project team, from CEO to tradesperson.

What makes operating a site under Lean principles different and inherently safer than other sites is the active role that each team member takes, along with the understanding that all voices have equal representation when it comes to creating a project flow that maximizes value and minimizes waste. Because

every team member has an active voice, the team is able to capture a broader perspective of risks involved with the project. There are up-front costs associated with injury prevention, including time, training, and manpower, but the value is clear compared to what would be lost in all of these arenas by having to deal with direct injuries, not to mention the trickle-down impact that injuries cause all across the value chain after they have occurred.

I have been on projects where safety was just a word and not a true priority for the project team. There would be trip hazards, unprotected barriers, and a lack of concern for basic safety procedures, but even after much discussion, safety wouldn't rise above the importance of keeping a schedule. To overcome this, we empowered teams to look out for one another even more than usual. We initiated weekly safety tailgate talks that are specific to the hazards that existed on the project, which encouraged more discussion on hazard mitigation versus becoming a victim to the environment.

Creating Common Ground

For the past 12 years, I have been working on projects that incorporate Lean principles. I have seen the difference Lean can make in overall safety and how that translates into enhanced job satisfaction and workplace performance. Many dangerous incidents, especially common accidents such as falls, occur because project teams comprise pools of people coming from diverse backgrounds and project experience, with different mindsets on how something should be done. Lean principles recognize this as a risk, ensuring that everyone is on the same page from day one of a project and that each team member maintains an equal footing and a shared understanding of tasks, risks, goals and procedures throughout construction. This creates a measure of accountability for all involved, which is ultimately the goal. Engineers are brought to the same table as skilled laborers, project managers, and CEOs so that everyone

can share their particular expertise. This enables each team member to understand all of the moving parts in the construction system, not just his or her own niche. Having a holistic view of project flow from design to installation (where there is an especially high risk of injury) to actual building is essential, so flow charts that outline processes, whiteboards that capture real-time concerns, and regular meetings that empower people to evaluate and articulate what is going on in their surroundings are all a part of the Lean toolkit. Through these methods, an investment is made in everyone's safety from the start, which prevents the misunderstandings and miscommunications that so often result in risky environments.

In addition to creating common ground for team members, Lean strategies prevent accidents by increasing efficiency. For example, incorporating the Last Planner System helps teams plan collaboratively versus in a silo, giving them the opportunity to identify potential constraints early and eliminate wasted efforts and frustration. We in the industry know that time equals risk. Therefore, any opportunity you can take to eliminate a step in the construction process means you are eliminating risk, which in turn means a better chance at lowering injuries and increasing safety.

How Lean Benefits Recruitment, Retention

And this is all more than just theory. We have seen an overall turn in incident rate with the increased adoption of Lean practices. In 2012, incident rates were between 3.0 and 4.0. But for the past five years, those rates have been continuously at 1.0 or below. This is reflected in workers' attitudes. Labor hours continue to rise as employees are encouraged to come to work in spaces where their physical and mental well-being are considered priorities.

A project I recently hired for offers a prime example of the impact Lean can have on recruitment and retention, and thereby overall project health and safety. When we put out the

call for 350 skilled labor workers over the course of a year, we were concerned about attracting quality employees for the job. As it turned out, we did not need to worry. Workers reached out to us wanting to be a part of a large project that they heard was incorporating Lean principles and knew we would be insistent on training and getting to know our workforce on the front lines. This resulted in building a team of individuals who were committed to truly working together with the same mindset, were well-suited to the type of work we wanted to do, and were overall less prone to injury.

Although adopting Lean is ultimately something of a paradigm shift for most companies, getting started is easy. The Lean Construction Institute (<https://www.leanconstruction.org/>) is an organization committed to spreading Lean throughout the industry and has developed a wealth of resources for companies of any size.

Finally, the role that owners and CEOs play in construction site safety often goes unrecognized in the realm of traditional project management, but the importance of engaged leadership to injury prevention cannot be overstated. It is not enough for owners to simply sign the dotted line and walk away or, equally harmful, to hound team members for speed at the expense of safety.

Lean shows us that safe and successful projects value every team member, and owners are those critical players who steer the team toward their collective goals. When you have leadership who inspire the kind of behaviors and cultures that send people home safely, it is likely that that leadership is also efficient in other aspects of Lean—and this is what makes the difference between a good project and a great project.

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