



# Lean Construction Institute

Transforming the Built Environment

## Lean Construction Institute 2016 Annual Report

### Summary

The year 2016 was a transformational year for LCI thanks to the record-breaking 18th annual LCI Congress attendance, the publication of *Target Value Design: Introduction, Framework and Current Benchmark*, and *Target Value Delivery: Practitioner Guidebook to Implementation - Current State 2016*, a revamp of the LCI website and more. The number of LCI corporate members increased 11% over 2015, from 172 to 195. As LCI membership and Congress attendance grew, LCI changed out our previous association management system (AMS), MemberClicks, and replaced it with MemberSuite. A new LCI Community of Practice (CoP), OK City, was established, making the total number of CoPs 28 and adding yet a new location to the roster of CoPs hosting Lean events across the country.

To keep up with LCI's overall growth, LCI hired Andrea Mowers, who was a summer intern with LCI, as a full-time marketing and events coordinator. Andrea's job responsibilities include support for LCI Congress and MemberSuite, social media management and writing for LCI newsletter. Our tagline also evolved to "Transforming the Built Environment" from the previous tagline of "Transforming Design and Construction" as a means of further distancing ourselves from the siloed approach of traditional delivery methods, and to better communicate the unity that a Lean culture should have.

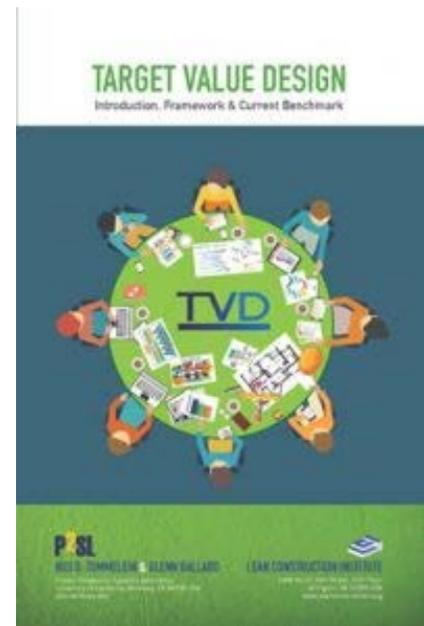
2016 was guided by a Goals, Objectives, Strategy and Tactics (GOST) approach including the LCI vision to transform the design and construction industry supply chain to provide value and enable other industries through Lean and integrated approaches. But, as noted above, a new and more compact vision statement, "Transform the Built Environment through Lean Implementation," took its place on the LCI logo and homepage. Our goal was to "increase stakeholder satisfaction and project delivery value."

### **FOUR OBJECTIVES IMPLEMENTED IN 2016:**

#### **1. Deliver Standard Building Blocks for Lean and Integrated Delivery**

To support this objective, the LCI Education Committee published the second book in LCI's Transforming Design and Construction series, *Target Value Delivery: Practitioner Guidebook to Implementation - Current State 2016*. This book builds on the principles of both *Target Value Design: Introduction, Framework & Current Benchmark* and *Transforming Design and*

*Construction: A Framework for Change* and is meant to serve as a “how to” for practitioners in the field using Lean and Target Value Delivery.

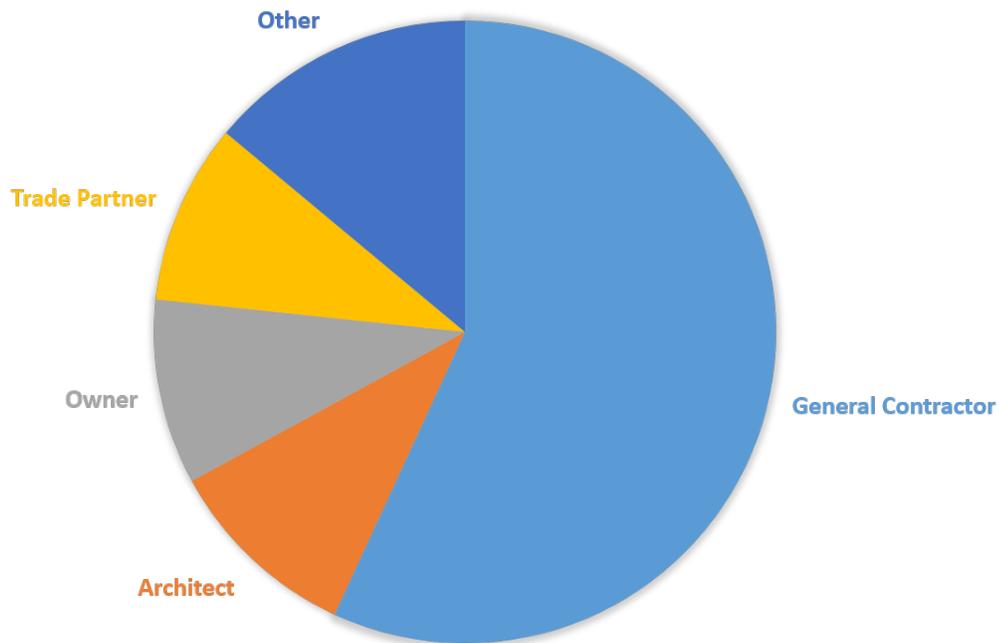


The Education Committee also produced a new LCI-branded course called Effective Big Room for Design and Construction Phases, which increased the total number of LCI branded courses to two. The new Big Room course defines Big Room and explains how it supports Lean as an operating system.

## **2. Create Construction Industry Demand for Lean and Integrated Approaches**

The 2016 LCI Congress held October 3-7 in Chicago attracted a record-breaking 1,325 Lean design and construction practitioners, demonstrating the continued growth in demand for Lean knowledge. LCI set a high goal of 20 percent owner attendance at the 2016 LCI Congress, and while we fell short of the goal, owner attendance rose by 2 percent from 2015, to 9 percent owner attendees overall. General contractors remained the majority at 59 percent, 10 percent were architects/designers, and trade partners also made up about 9 percent of the total attendees. The remaining 13 percent was comprised of “other” including academia, consultants, etc.

## 2016 LCI CONGRESS ATTENDEES



To increase owner attendance at LCI Congress, a new owner scholarship program awarded a complimentary registration for the Congress core program (Wednesday-Thursday) to eight approved owners. Sessions that pertained to owners were differentiated in the Congress program to simplify owners' registration process. Among the owner sessions was the Owner's Panel moderated by Victor Sanvido, and it featured three leading owner/practitioners: Al Manshum, Advocate Health; Jim Sexton, Procter & Gamble; and Ed Fitzgerald, Genentech. For the first time, LCI Congress also offered an owners-only training course to (1) help owners learn how to gauge a team's trust baseline using the Trust Matrix tool, (2) understand how the traditional system drives waste, conflict and poor outcomes, and (3) help owners "start smart and finish well" by creating and using a team health dashboard.

The 18th annual LCI Congress again broke the annual record for the most training courses offered, by providing attendees with 20 course options on Monday and Tuesday and 38 breakout sessions to choose from on Wednesday and Thursday. The "How to do a Gemba Walk" training during the core program was enhanced with customized instructional videos and based on survey results, the training was very well received by attendees. Congress week ended on Friday with Gemba day, where attendees were chauffeured to one of five predetermined construction project sites so that they may "go to the work" and see what is happening in real time with the project.

In addition to the Owner's Panel, the plenary sessions Wednesday and Thursday included the release of two LCI-sponsored research study results and three keynote speakers: Chris Fussell,

chief of networking management at McChrystal Group; Shawn Achor, author of “The Happiness Advantage” and Brad Frank, president at Tulsa Tube Bending.

The start of 2016 LCI Congress marked a further milestone for the LCI Education Committee as the second book in the Transforming Design and Construction series, *Target Value Delivery: Practitioner Guidebook to Implementation - Current State 2016*, made its debut.

Twice a year, LCI teams up with American Institute of Architects (AIA) and the Project Production Systems Laboratory (P2SL) - UC Berkeley to put on the Lean Design Forum, which offers sessions specific to the design community. The first Lean Design Forum took place Jan. 28-29 in Berkeley, Calif. Increasing accuracy in conceptual estimates, challenges in design and construction, and Lean’s influence on design were among the topics covered. LCI led the second Lean Design Forum in Chicago June 1-2, and it included sessions on Target Value Design (TVD), Kanban use in Design, Conditions of Satisfaction (CoS), technology/BIM, scrum and much more to more than 100 industry attendees.

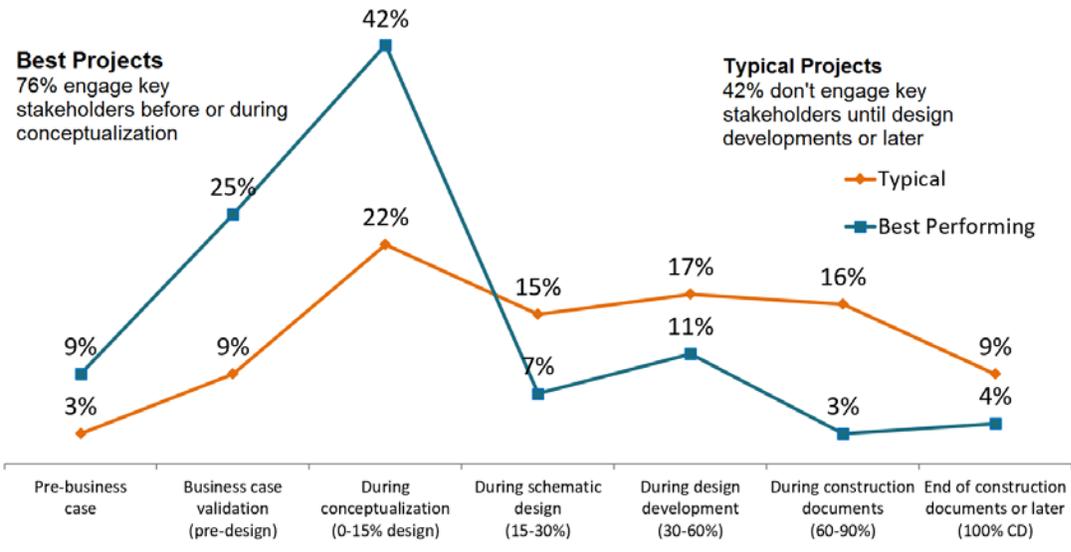
### **3. Achieve Customer and Supply Chain Partner Value while Eliminating Waste throughout Project Life Cycle**

Once the advantages of Lean are thoroughly communicated to owners, the intent is that owners will begin to demand Lean from their project teams. To further educate owners and the industry as a whole, LCI funded two research studies that provided empirical evidence that Lean and Integrated Project Delivery have the potential to yield more value for the owner in less time and at a lower cost than projects completed with traditional delivery methods. By helping build the business case for Lean, these studies more than met our goal of providing an analytically sound set of findings backed up by case studies conducted by a major national educational institution, University of Minnesota, and a nationally-recognized survey and analysis group, Dodge Data and Analytics.

The Owner Satisfaction/Project Performance study by Dodge Data & Analytics was completed by 81 owners and established data for “typical” versus “best” projects. The two objectives were (1) to benchmark owner satisfaction and project performance or value, and (2) to uncover the impact on performance of Lean tools and techniques. The research concluded that projects completed with “high Lean intensity” (i.e., use of multiple Lean tools in tandem) are three times more likely to come in ahead of schedule and two times more likely to come in under budget than projects delivered with the traditional method, as shown in the chart below.



The study also showed that 76 percent of “best” projects engaged key stakeholders before or during conceptualization and 42 percent of “typical” projects did not engage key stakeholders until design development or later indicating that an integrated approach from the start of the project will yield more value in the end.



The research by University of Minnesota, *Motivation and Means: How and Why IPD and Lean Lead to Success*, was a case study including 10 owners and projects, and sought to discover how and why “integrated Lean” succeeds. As researchers analyzed the projects, they identified and debunked five myths that have grown up around IPD and Lean:

- Delivery matters less than choosing the right people - behaviors can't be dictated by a contract;

- IPD contracts are too complicated, and Lean tools are too rigid;
- IPD only works on large, complex healthcare projects - Teams new to IPD and Lean are at a disadvantage;
- Owners aren't getting the best value - or - Owners are getting value but the team is not making profit;
- IPD and IPD-lite are essentially the same; financial incentives and release of liability are no big deal.

Both research conclusions provide concrete metrics for Lean and Integrated Project Delivery that can be used by owners, contractors and architects alike to build a case for Lean within the building industry.

#### **4. Create Construction Industry Capacity for Learning & Sharing Best Practices**

Last summer, LCI rolled out a new website layout designed to minimize time spent searching through our growing body of educational and information resources after conducting a survey of several LCI members. In order to accommodate all learners, LCI continues to offer multiple platforms of learning including webinars, video series, publications, games, simulations, events and LCI-branded courses taught face-to-face by LCI Improved Instructors. Throughout the year, LCI conducted six paid webinars to about 200 people and 18 free webinars to more than 1,500. Because Lean has an extensive and varying vocabulary, LCI released an updated glossary of standardized terms and definitions to keep learners on track and on the same page.

LCI's CoPs provide a regional community for Lean design and construction professionals to learn and share best practices and are member-driven and managed by industry volunteers. The Oklahoma (OK City) CoP formed in 2016, bringing the total to 28, which is the highest number of active CoPs ever. Each CoP operates at a different performance level, and performance levels can fluctuate over time. At the end of 2016, about nine out of 28 CoPs were still in the "formation" phase. LCI national continues to provide support to for all CoPs across the nation, specifically for about 149 CoP events in 2016 that attracted more than 3,600 attendees in total.

While LCI recognizes each CoP region has unique challenges and characteristics, our Practice Committee is there to provide standardized approaches wherever possible for the CoPs. The Practice Committee met face-to-face several times in 2016 to further support and promote CoP health and expansion over time. LCI maintains a web-based collection of documents compiled by the LCI Practice Committee (and LCI CoPs themselves) to serve as additional resources. Below is a heat map of LCI CoPs across the nation.

