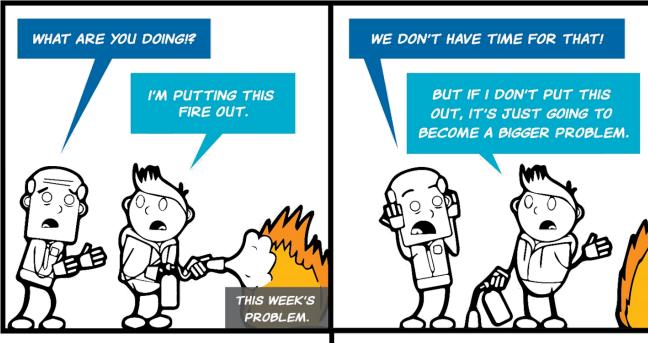
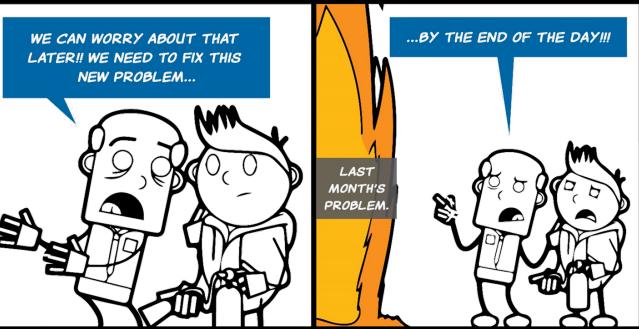


David Umstot, PE, Umstot Project and Facilities Solutions

June 1, 2017

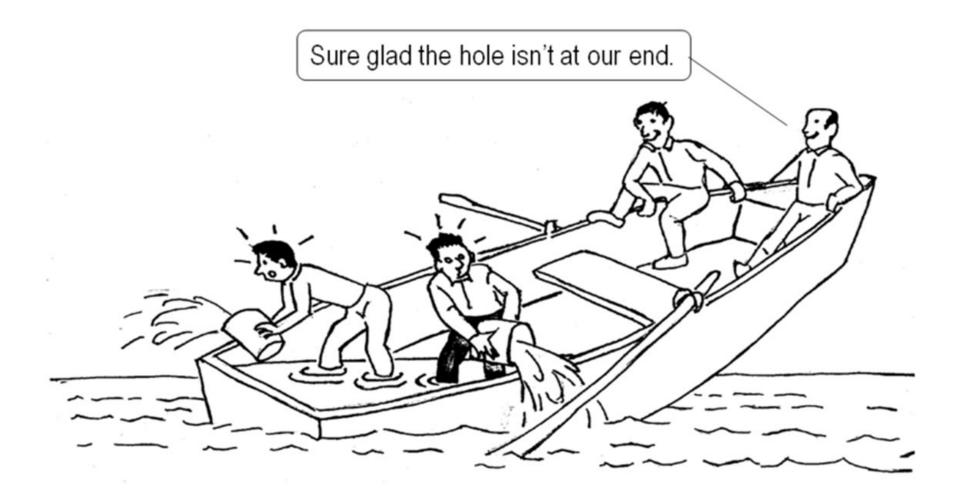
## Does this sound familiar?







# Sink or Swim Together?





### The Business Case for Lean

### PROJECTS with HIGH LEAN INTENSITY

are MORE LIKELY to complete

**AHEAD OF SCHEDULE & UNDER BUDGET** 

**2X** 

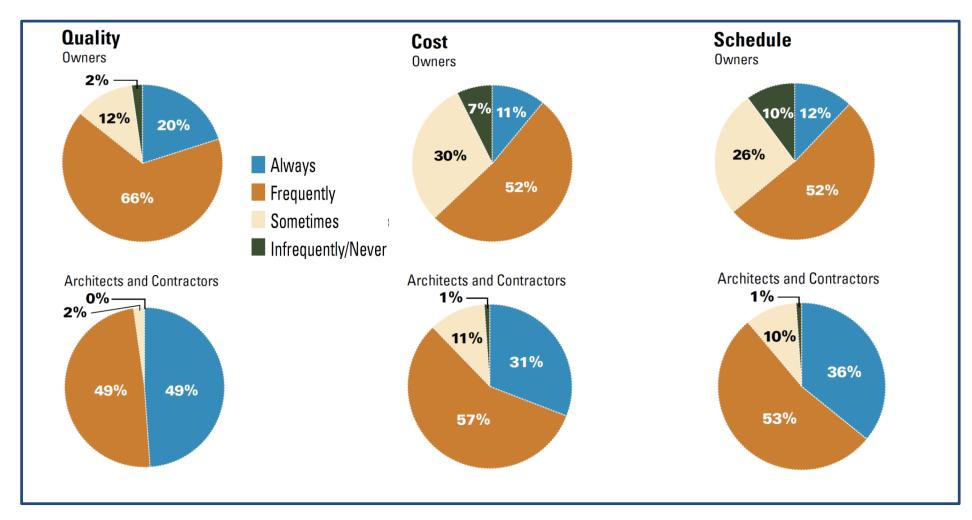




## **Owner Satisfaction**

analyticsstore.construction.com







### **Research Overview**

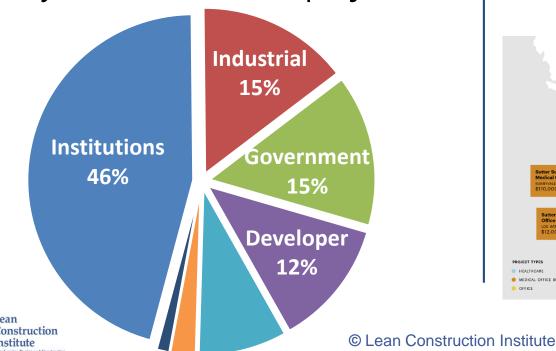
# Owner Satisfaction & Project Performance



### **Objectives:**

- 1. Benchmark owner satisfaction & project performance
- 2. What is the impact of lean?

Survey: 81 Owners/ 162 projects

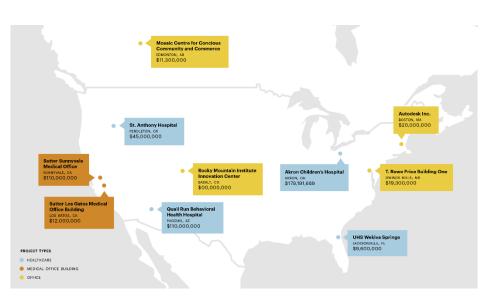


# IPD & Lean University of Minnesota Motivation & Means Driven to Discover\*\*

### <u>Objective:</u>

3. How and why does integrated lean succeed?

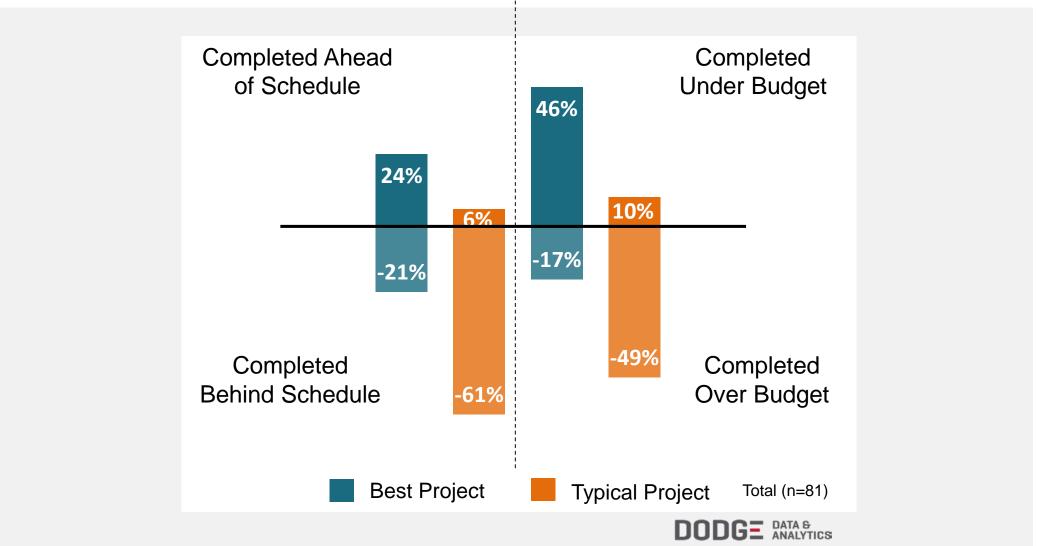
Case Study: 10 Owners/ Projects





## Satisfaction vs. Value

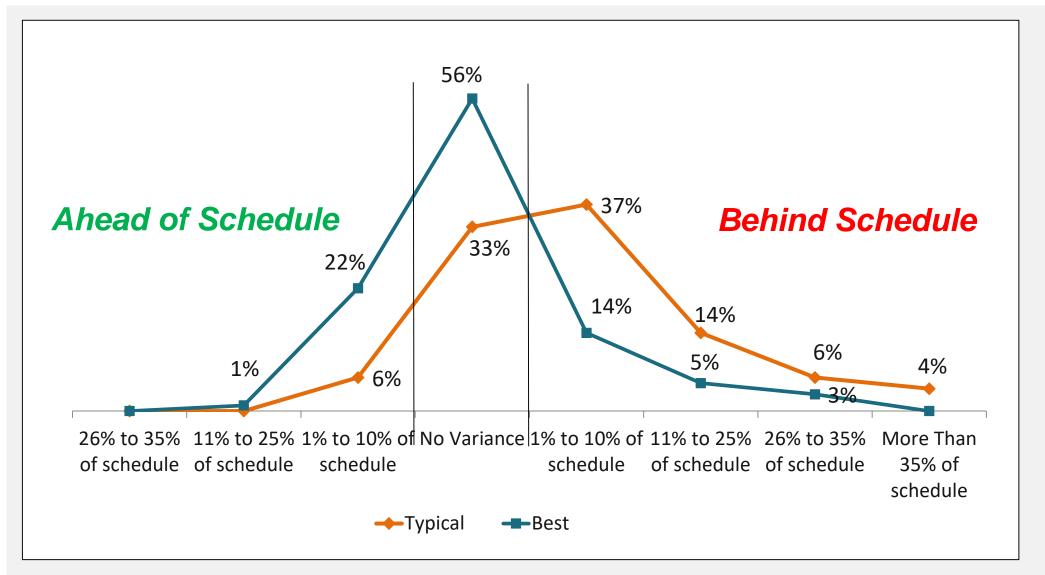
# Performance from Approval of Capital Project (% of Best/ Typical Projects)





## **Schedule Performance**

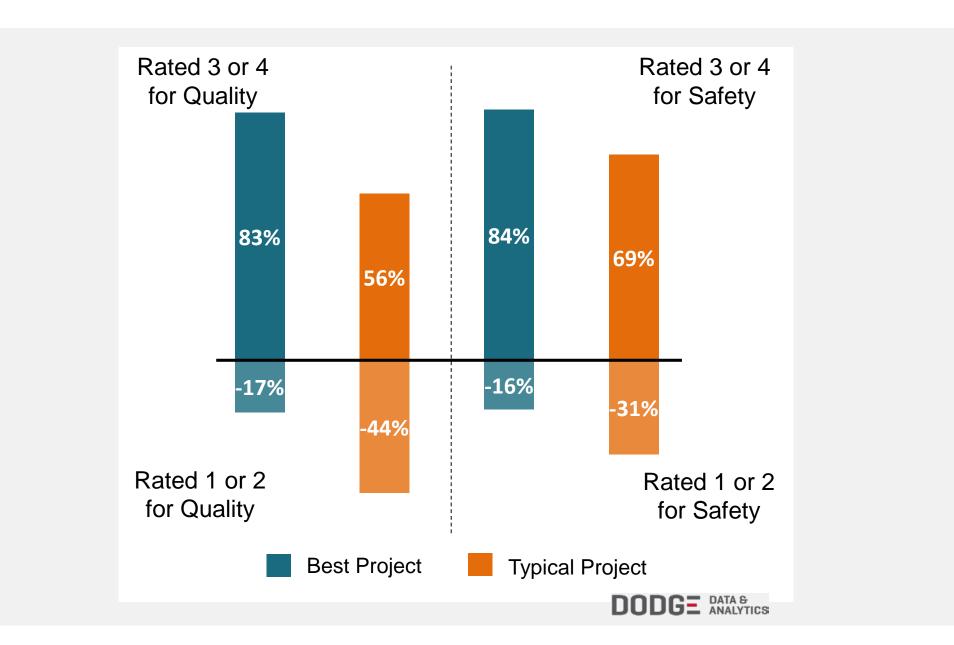
#### Variance of Final Schedule vs. Allocated Capital Schedule







## Satisfaction vs. Value



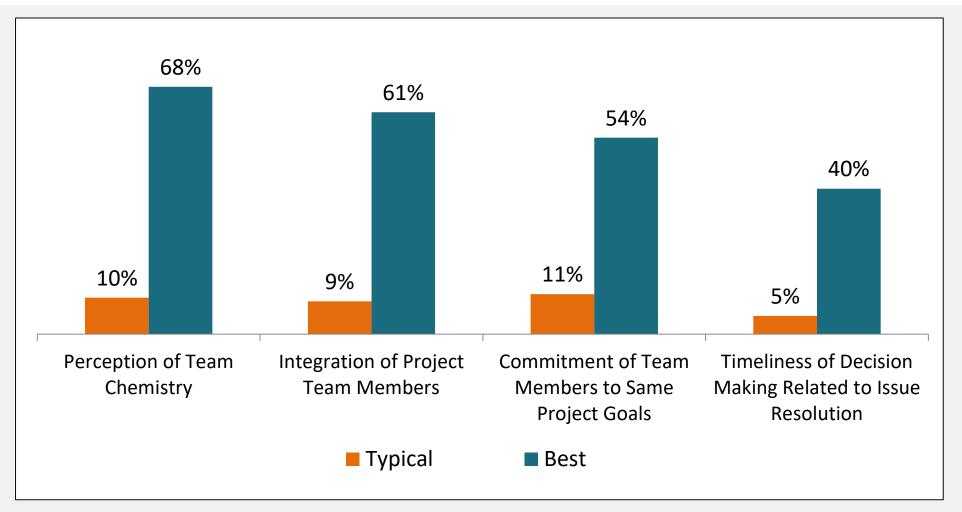


# Importance of Team Cohesion



### % Projects Reporting the Highest (4/4) Rating



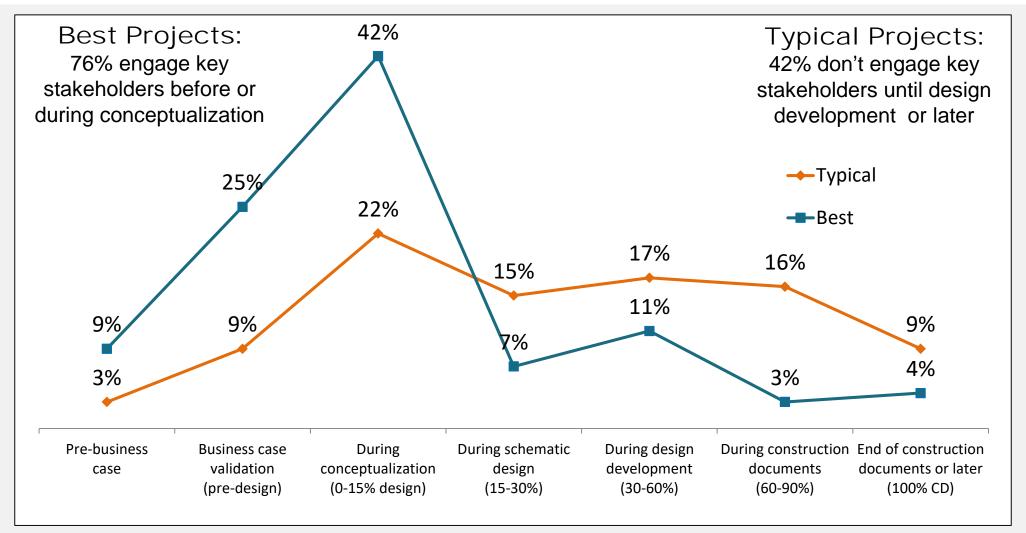






## **Build the Team**

### **Timing of Key Stakeholder Engagement**







# What Teams Can Accomplish



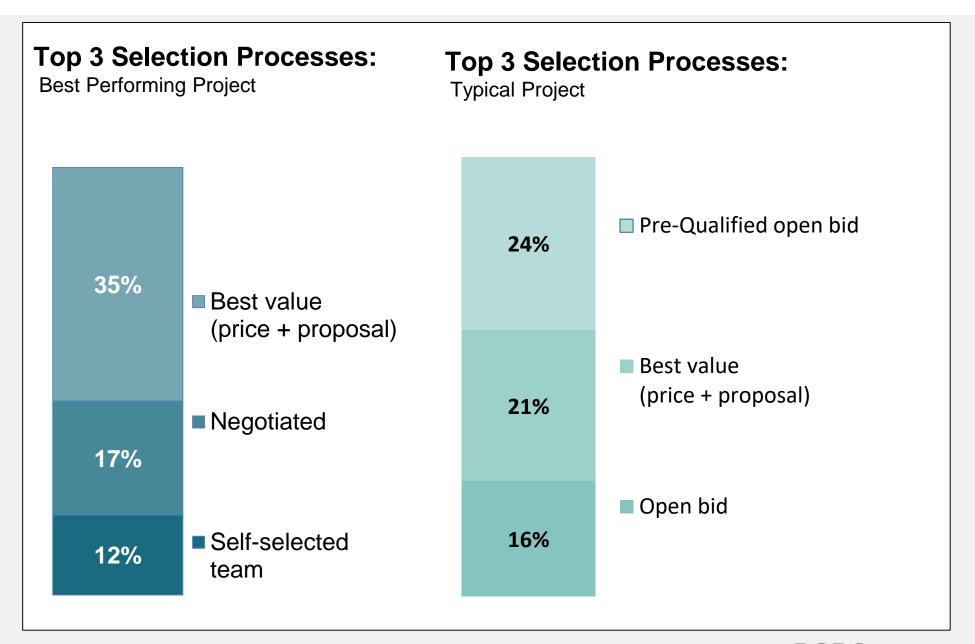


# **Team of Teams**





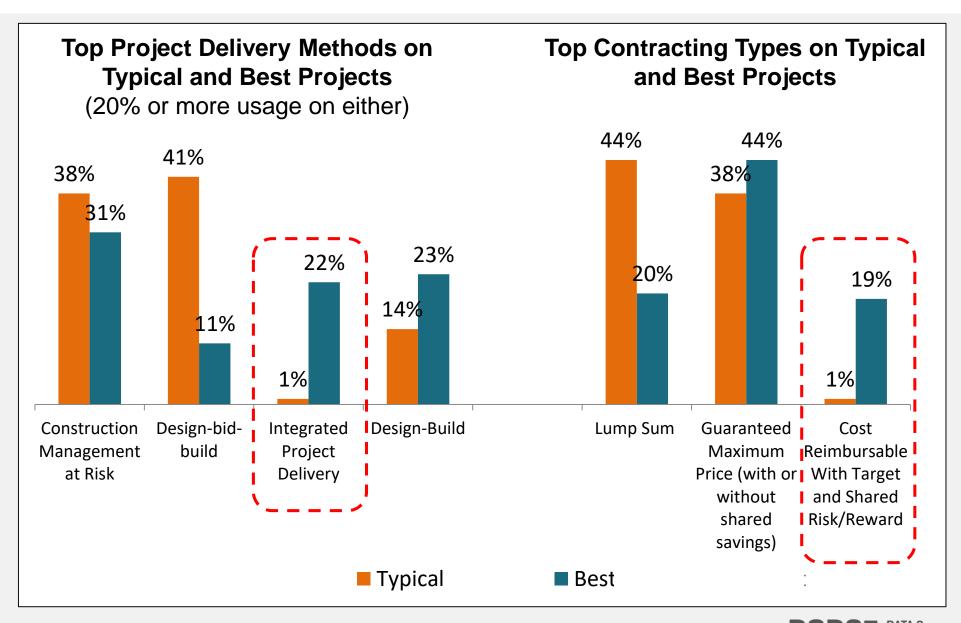
## **Key Stakeholders Selection Process**







## **Support the Team**

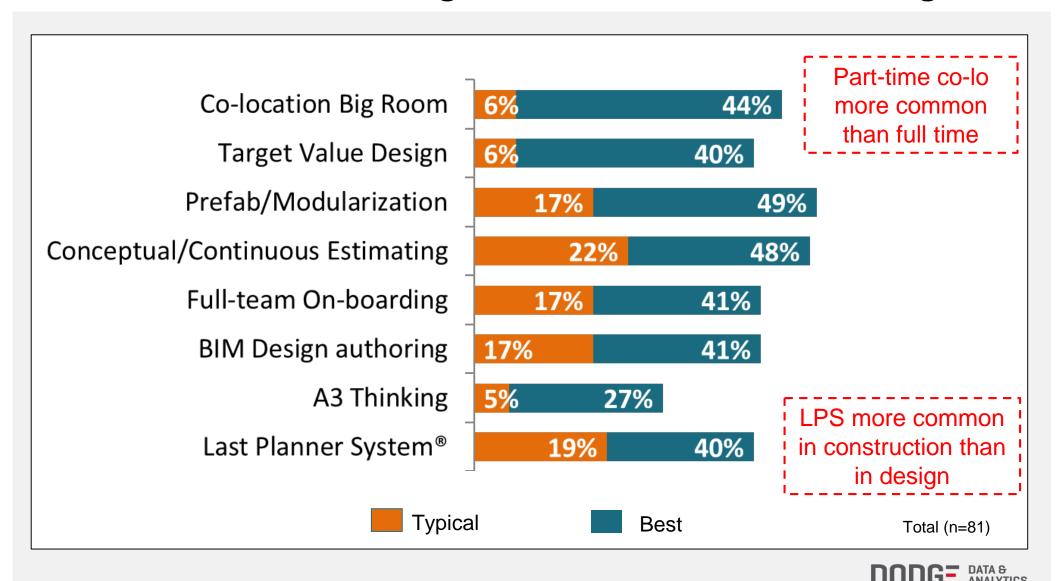






### Learn as a Team

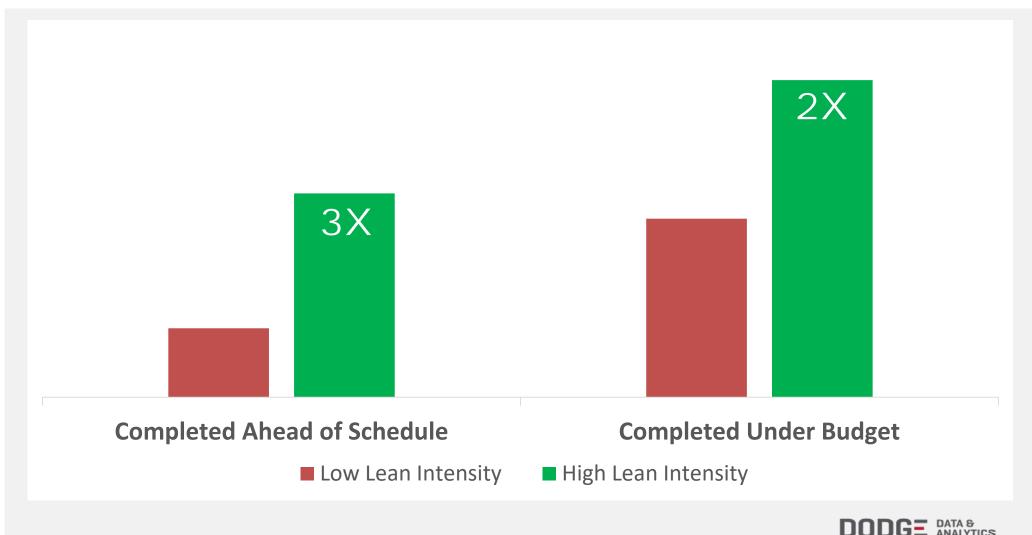
### Methods with Most Degree of Difference Between Usage





## Succeed as a Team

# Correlation of lean intensity to outcomes (% likelihood on best projects)





# Common Project Myths...

- 1. Delivery matters less than choosing the right people behaviors can't be dictated by a contract
- 2. IPD contracts are too complicated, Lean tools are too rigid
- 3. IPD only works on large complex healthcare projects Teams new to IPD and lean are at a disadvantage
- 4. Owners aren't getting best value or Owners are getting value but the team is not making profit
- 5. IPD and IPD-lite are essentially the same; financial incentives and release of liability are no big deal







# 5 IPD & Lean Myths - Cheng





# Lean Usage & Proficiency

	Validation	Co-Location	Lean Tools and Processes						ВІМ	
			Team Formation of Lean		Goals	Workplace and Meeting	Cost and Decision	Project Management		
Akron	•	•	•	•	•	•	•	•	•	
Autodesk		•	0	0	0	•	•	0	•	
Mosaic	•	•	•	•	•	•	•	•	•	
Quail Run		0	•	•	•	•	•	•	•	
Rocky Mountain	•	•	•	•	•	•	•	•	•	
St. Anthony	•	•	•	•	•	•	•	•	0	
Sutter Los Gatos		•	•	•	•	•	•	•	•	
Sutter Sunnyvale	•	0	•	0	•	•	•	•	•	
T. Rowe Price		•	•	•	•	•	•	•	0	
Wekiva Springs	•	•	•	•	•	•	•	•	•	

50%+ of team experienced in IPD/Lean

0% of team experienced in IPD/Lean

- Done well, used often, helpful to the team
- Onne but only somewhat helpful or mixed comments about effectiveness
- O Did it but not seen as particularly effective by most of the team
- Did not have it



# **Tactical Takeaways for Projects**

- 1. Set targets: Define owner's business case & goals at c-suite
- 2. Build the team: Contract (using best value) key stakeholders prior to/during concept design to validate targets & unify the team
- 3. Learn as a team: Provide training and coaching for the team to increase adoption of Lean methods
- 4. Support the team: Contracts should support (not thwart) a good team culture and adoption of Lean methods





# Summary

#### THE BUSINESS CASE FOR LEAN CONSTRUCTION...THERE IS A BETTER WAY!

How do you increase speed to market and/ or improve the return on investment of your capital projects? The Lean Construction Institute sponsored two separate research studies, conducted by Dodge Data & Analytics and the University of Minnesota, to explore how and why projects excel. Empirical evidence now shows that projects with high Lean intensity are three times more likely to complete ahead of schedule and two times more likely to complete under budget.

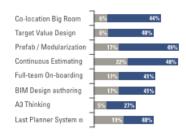


#### HOW DID PROJECTS PERFORM?

Dodge benchmarked 162 projects identified by owners as best or typical vs. schedule and budget performance (what owners cited as most valuable to them). The sample represents projects using various delivery methods and contract types across the United States for owners completing more than five capital projects over three years.

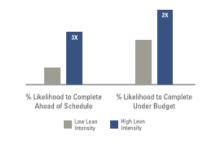


Dodge also inquired about the use of 27 project management methods on each project. The research found the following methods with the biggest gap between use on best and typical projects.



#### WHY DID PROJECTS EXCEL?

Of the best projects Dodge found a **statistically significant correlation** between high Lean intensity projects and likelihood to complete ahead of schedule or under budget. Lean intensity refers to the extent a project used the management methods studied, particularly those that are recognized as the most effective.



#### MYTHS ABOUT LEAN

The University of Minnesota "busted" some industry myths through ten in-depth case studies in partnership with the Integrated Project Delivery Alliance. Regardless of project type, regulations or Lean/IPD experience the research found that teams are leveraging Lean and IPD to foster and cultivate "project first" behaviors to deliver "A team results" with every team!

#### TOP MYTHS BUSTED

- Delivery matters less than choosing the right people behaviors can't be dictated by a contract
- IPD contracts are too complicated, 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 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

#### SO HOW DO I START?

Based on the research follow these four key steps:

- 1. Set Targets: Define owner's business case and goals.
- Build the Team: Use a best value selection process to contract key stakeholders prior to or during concept design to validate targets and unify the team.
- Learn as a Team: Provide training and ongoing coaching for the team to increase adoption of Lean methods.
- Support the Team: Contracts should support (not thwart) a collaborative team culture and adoption of Lean methods.

#### WHAT DOES THIS MEAN FOR ME?

While the research is focused on the project business case; the benefits extend to the individuals and businesses of both owners and service providers for the project including:

- · Reduced costs and improved profitability
- · Increased employee engagement
- · Better work/life balance

#### **HOW DO I LEARN MORE?**

For more information about the research, connect with the Lean community in your area and to advance your own Lean journey, please visit:

#### WWW.LEANCONSTRUCTION.ORG/LEARNING



November 17, 2016



# **Case Study Report**

lick to Enter

#### MOTIVATION AND MEANS: How and Why IPD and Lean Lead to Success

Research Report November, 2016

University of Minnesota in collaboration with University of Washington, University of British Columbia, Scan Consulting Sponsored by Integrated Project Delivery Alliance (IPDA) & Lean Construction Institute (LCI)



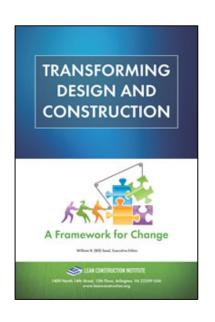






## **Learn More**

### www.leanconstruction.org/learning





- Order publications to assist you and your team on your Lean Journey: <a href="https://www.leanconstruction.org/publications">www.leanconstruction.org/publications</a>
- Connect with your local LCI Community of Practice: <u>www.leanconstruction.org/local-communities/</u>
- Access tools: www.leanconstruction.org/learning/getting-started-with-lean/



# Coming in 2017...

- What is value proposition for lean in design?
- Customer: Principal designers
- Explore why some projects excel based on what designer's value (satisfaction); outcomes (performance) and process (methods)
- Timeline:
  - Survey out July 2017
  - Results @ Congress











