Lean Construction Institute
Transforming the Built Environment

PREMIER PARTNER

SmartMarket Insight

DODGE CONSTRUCTION NETWORK

# Building High-Performance Projects and Teams

## How Lean Design and Construction Boosts Collaboration and Profitability

# Introduction





## ABOUT THIS SMARTMARKET INSIGHT

Since 2013, Dodge Construction Network has partnered with the Lean Construction Institute (LCI) on six surveys of stakeholders in the construction industry, including owners, designers and contractors. This *SmartMarket Insight* captures the top findings across this body of research that reveal how Lean design and construction practices have the potential to improve the fundamental metrics of project success (such as cost and schedule adherence), create positive team dynamics on projects and improve an organization's overall performance.

The findings are split into three categories:

- **Performance Challenges in the Construction Industry:** Examines the frequency of schedule and budget issues on projects, the infrequency of good team dynamics on typical projects and the perception that current design and construction processes are efficient despite these challenges.
- **Use and Impact of Lean Practices:** Reveals the top Lean practices in use by owners, designers and contractors, and the project performance benefits and positive team dynamics associated with more intensive Lean engagement.
- **Implementation of Lean in the Industry:** Shows the awareness of Lean currently in the design and construction industry, the underestimation of their use of Lean practices and the expectation of positive outcomes for projects and organizations from deploying Lean.

Dodge wishes to thank the Lean Construction Institute for their partnership on over a decade of research designed to help improve the design and construction industry.

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# Message From the Lean Construction Institute

The Lean Construction Institute (LCI) is committed to transforming the design and construction industry by fostering a culture of collaboration, innovation and continuous improvement. Guided by its mission to enhance project delivery through Lean principles and its vision of a design and construction industry that reliably delivers value, LCI invests in research that supports industry-wide change.

A key part of this effort is its collaboration with Dodge Construction Network (Dodge) to provide data-driven evidence of Lean's impact on design and construction performance. These studies help quantify the benefits of Lean methodologies, equipping industry professionals with insights that drive more predictable, efficient and cost-effective project outcomes.

New Dodge research indicates significant growth in Lean awareness. From 2022 to 2024, overall familiarity with Lean principles among owners, designers and contractors increased by 10%. This rise in awareness is paired with a growing recognition of Lean's effectiveness, with more industry professionals reporting that Lean improves their individual work, enhances teamwork and strengthens organizational performance.

One study found that projects with high Lean intensity are three times more likely to be completed ahead of schedule and twice as likely to finish under budget compared with projects with low Lean intensity. These findings demonstrate that Lean construction is not just a philosophy but a proven method for improving project delivery.

LCI's commitment to research extends beyond highlighting Lean's benefits—it also benchmarks current industry practices to identify areas for improvement. Studies have consistently shown that the best-performing projects implement more Lean methods, engage key stakeholders early and utilize collaborative contracts and delivery methods. These strategies contribute to better schedule adherence, reduced waste and enhanced overall project performance.

By supporting research in partnership with Dodge, LCI provides the design and construction industry with empirical evidence that Lean principles lead to better outcomes. These insights validate Lean's effectiveness and serve as a catalyst for adoption, helping the AEC sector to continue to evolve toward greater efficiency, collaboration and value generation.

**Dan Heinemeier**
*Executive Director*
*Lean Construction Institute*

## ABOUT THE LEAN CONSTRUCTION INSTITUTE

LCI is a nonprofit, membership-based organization created in 1997. Its purpose is to transform the design and build environment through reforming production management in design, engineering and construction for capital facilities. LCI has developed the Lean Project Delivery System™ (LPDS) that applies lean principles pioneered in manufacturing to construction. LPDS tools facilitate planning and control, maximize value, and minimize waste throughout the design and construction process. LCI seeks to bring together change makers, visionaries, thought leaders and influencers across every element of the AEC industry. We passionately want to fix what's broken and transform the design and construction industry for the benefit of all project stakeholders. LCI's national headquarters is in Arlington, VA. Learn more at https://leanconstruction.org/.

# Key Findings



## THE DESIGN AND CONSTRUCTION INDUSTRY HAS THE POTENTIAL TO IMPROVE OUTCOMES FOR THEIR PROJECTS, TEAMS AND COMPANIES THROUGH WIDER USE OF LEAN PRACTICES.

**1. THE DESIGN AND CONSTRUCTION INDUSTRY STRUGGLES TO MEET PROJECT SCHEDULES AND BUDGETS, BUT MANY DO NOT THINK IMPROVING PROCESS EFFICIENCY IS NECESSARY.**

- 61% of owners find that schedule delays occur on their typical projects, and 35% of designers and 37% of contractors concur.
- Similarly, 49% of owners find that typical projects are over budget, and 42% of designers and 33% of contractors agree.
- At least 1 in 5 owners, designers and contractors find schedule delays and cost overruns even on their best projects.
- Despite these persistent and recurring challenges, fewer than half of owners, designers and contractors acknowledge the inefficiency of the design and construction industry, a fact that has changed little in the last decade.

**2. GOOD TEAM DYNAMICS ARE DIRECTLY CORRELATED WITH PROJECT SUCCESS.**

- Between half and two thirds of owners, designers and contractors report that their best projects have project teams with excellent team chemistry, commitment to the same goals and the ability to work cohesively together to optimize a project as a whole.
- This is in sharp contrast with their typical experiences, where fewer than 20% report such positive team dynamics.

**3. THE USE OF LEAN DESIGN AND CONSTRUCTION PRACTICES IS CORRELATED WITH BETTER PROJECT PERFORMANCE AND GOOD TEAM DYNAMICS.**

- Across a series of surveys that looked at the use of between 26 and 57 Lean practices, designers and contractors using many Lean practices reported significantly better performance on project budgets and schedules than those using few or none.
- Designers and contractors using many Lean practices also consistently and widely report positive team dynamics on their best projects, more than the average and far more than those with little to no use of Lean.

**4. DESIGN AND CONSTRUCTION WILL BENEFIT FROM GREATER AWARENESS AND IMPLEMENTATION OF LEAN PRACTICES.**

- Awareness of Lean has increased in the last two years, and, based on a representative sample of the industry, 61% of owners, designers and contractors have used at least one Lean practice in the last three years.
- However, only 6% of those from that representative industry sample in 2024 believe that they are engaged in using Lean practices.
- Only 17% of all owners, contractors and architects in 2024 use more than two thirds of the Lean practices in that survey, suggesting that many can improve their project performance by utilizing more Lean approaches.

**5. THOSE NOT USING LEAN UNDERESTIMATE THE IMPACT ON COLLABORATION, KEY PROJECT PERFORMANCE INDICATORS, SAFETY AND THE BOTTOM LINE.**

- The vast majority (75% or more) of those committed to using Lean practices expect more collaboration, reliable schedule and cost estimates, higher quality, improved bottom line and increased safety on their projects.
- On average, 55% of those who do not use Lean do not realize that its use results in these improved outcomes.

# Schedule and Budget Performance of Best and Typical Projects

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## COST AND BUDGET OVERRUNS ARE COMMON EXPERIENCES

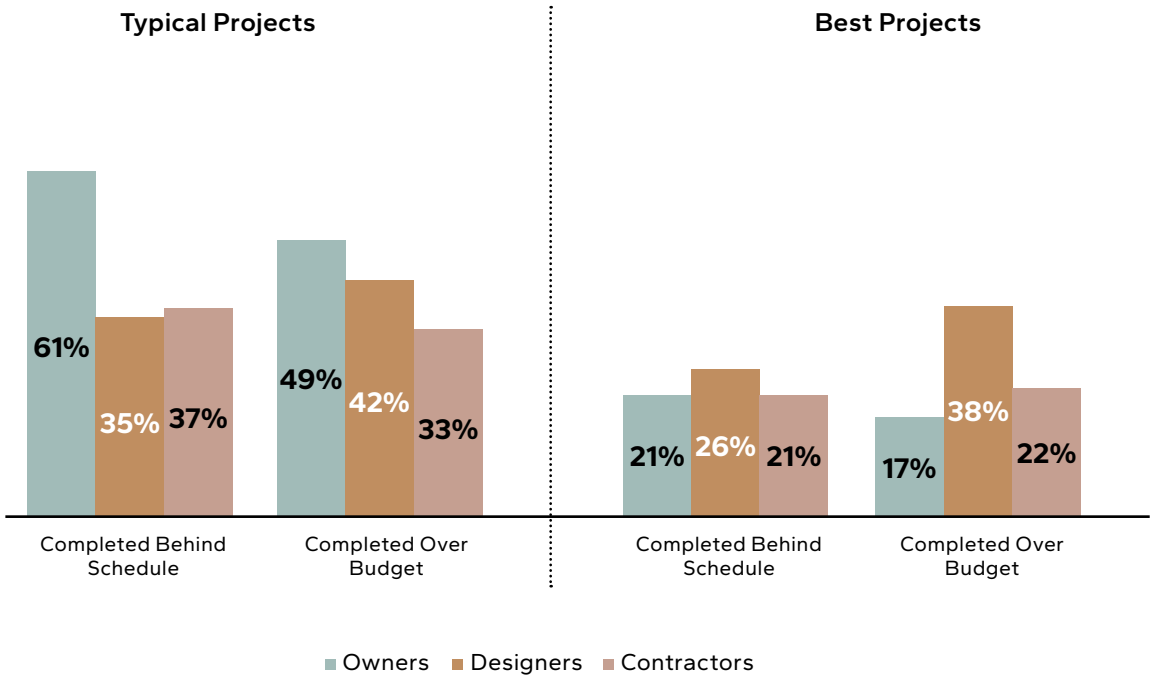
In 2015, 2017 and 2021, Dodge Construction Network and the Lean Construction Institute surveyed owners, designers and contractors (respectively) about project performance on two key performance metrics: schedule and budget.

Each participant was asked about the best project they worked on in the last three years and a specific, typical project from that time frame (not their worst project, but a project that they believe is typical of their work in general). The charts at right show how many report that they did not meet the schedule or budget for their best or typical projects.

- Concerningly,the majority of owners (61%) report that their typical project was completed behind schedule, and nearly half (49%) report that it was over budget.
- Designers also commonly experience projects that go over budget, reported by 42%, and over one third find their projects are completed behind schedule.
- Contractors gauge success from when they begin the project, not from the initial expectations set for the projects by the owners, and even with that, around one third find that projects are typically behind schedule and over budget.
- Perhaps most tellingly, over 20% of owners, architects and contractors experience schedule overruns even on their best projects. 38% of architects and 22% of contractors also report that their best projects are over budget.

### Schedule and Budget Performance on Typical and Best Projects

Dodge Construction Network, 2025



# Team Dynamics on Best and Typical Projects



## BETTER TEAM DYNAMICS LEAD TO BETTER PROJECTS

The charts below show the frequency with which owners, designers and contractors report three measures of positive team dynamics on their best and typical projects. This includes the share who report that their projects have excellent team chemistry, have all project team members committed to the same goals, and find that key stakeholders work cohesively to optimize the whole project goals.

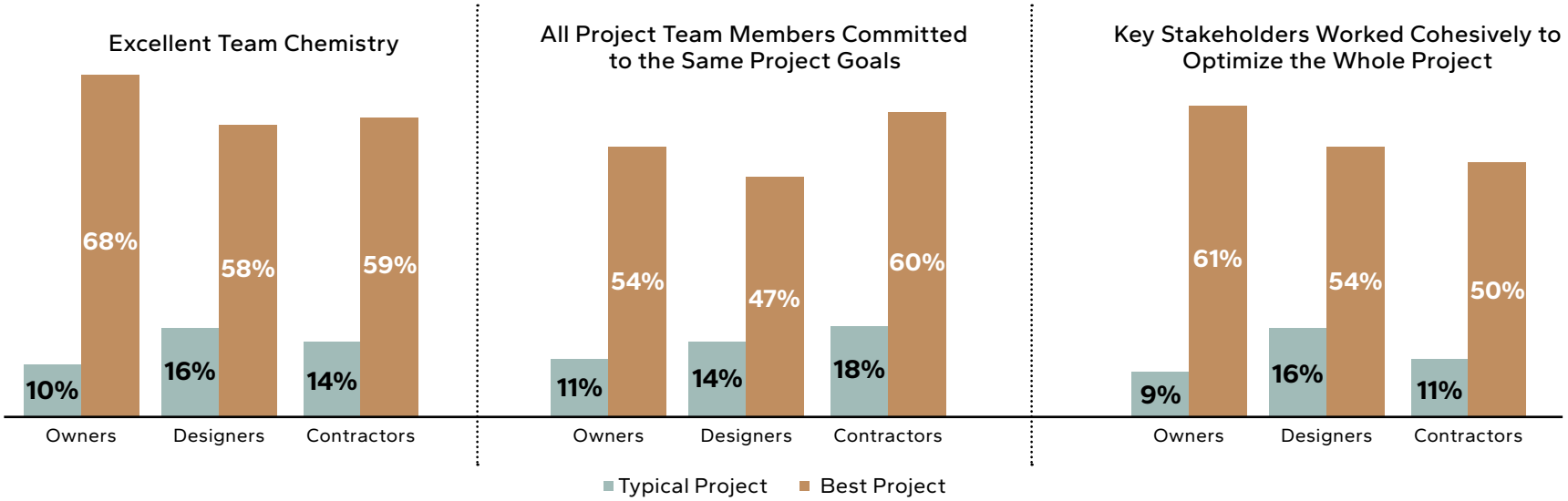
**GOOD TEAM DYNAMICS ARE FAR MORE COMMON ON BEST PROJECTS THAN ON TYPICAL ONES**
Consistently a far larger share of owners, designers and contractors report all three positive team dynamics on their best projects. This suggests that strong team dynamics are a critical part of what makes projects perform better.

**GOOD TEAM DYNAMICS ARE NOT A COMMON EXPERIENCE IN THE CONSTRUCTION INDUSTRY**
Unfortunately, only a small share of owners, designers or contractors report these positive team dynamics on their typical projects. In addition, about one third to one half also don't report these dynamics even on their best projects.

These findings suggest that improving team dynamics is likely a critical way to help address the project performance issues shown on page 4. Other Dodge research suggests that most in the design and construction industry recognize the value of good collaboration across teams, but commonly struggle to achieve it on their projects.

### Team Dynamics on Typical and Best Projects

Dodge Construction Network, 2025



# Team Dynamics on Best and Typical Projects CONTINUED



## GETTING TRADE CONTRACTORS ENGAGED BEFORE DESIGN DEVELOPMENT CAN HELP ACHIEVE BETTER PROJECTS

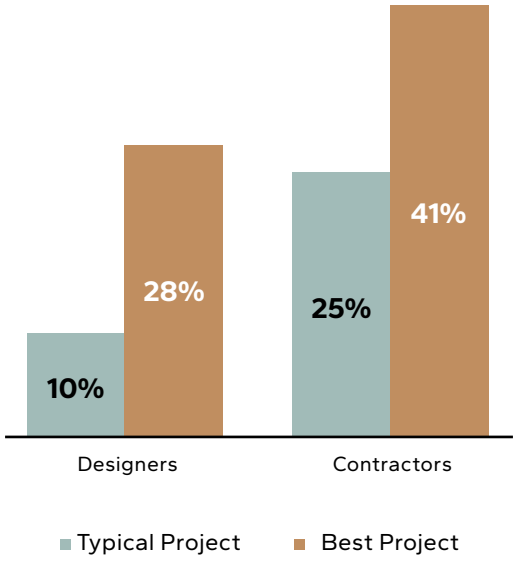
The designer and contractor surveys included a question on when the key specialty trade contractors are engaged on a project. (This question was not included in the owner survey.) The chart at right shows how frequently this occurs on typical and best projects.

- Early engagement occurs far more frequently on best than on typical projects, suggesting that this may be a good way to achieve better outcomes.
- Contractors report it more frequently than designers, but general contractors are also not often engaged in the early phases of a project. Thus, the share of designers who report that this occurs is likely a more accurate representation of its true frequency in the industry.

Even though owners were not asked about this, they play a crucial role in determining whether or not contractors get engaged in the early design process, either through the delivery method they favor or by the requirements that they put in place for the design team. Owners are in a unique position to improve the performance on their projects by recognizing the importance of good team dynamics and by encouraging that construction expertise is utilized early in the design process.

### Key Trade Contractors Engaged Before Design Development

Dodge Construction Network, 2025



# Perception of the Efficiency of the Design and Construction Industry



## ONLY 39% OF OWNERS, DESIGNERS AND CONTRACTORS REGARD THE DESIGN AND CONSTRUCTION INDUSTRY AS INEFFICIENT

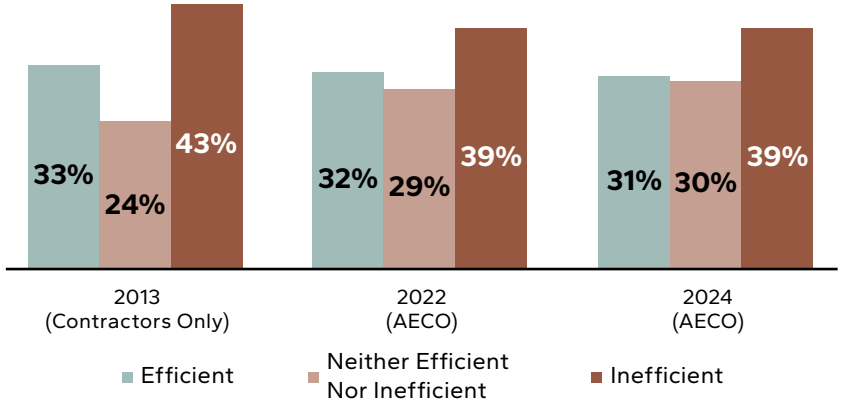
The frequency of delivering US construction projects that are not on time or on budget revealed on page 4 suggests that the construction industry is not efficient enough to meet these targets on a regular basis. However, a large share of respondents do not recognize that lack of efficiency, as the chart at upper right reveals.

The findings in that chart are drawn from three surveys conducted by Dodge. The 2013 results were published in the *Lean Construction SmartMarket Report* and only included contractors. The other two studies,conducted by Dodge and the Lean Construction Institute in 2022 and 2024, included designers, contractors and owners.

Notably, the responses have not changed much between 2013 and 2024. This may be surprising, given the number of technology developments and other changes in the industry. However, it is consistent with the fact that each of the surveys conducted in 2015, 2017 and 2022 shown on page 4 find that project performance continues to suffer.

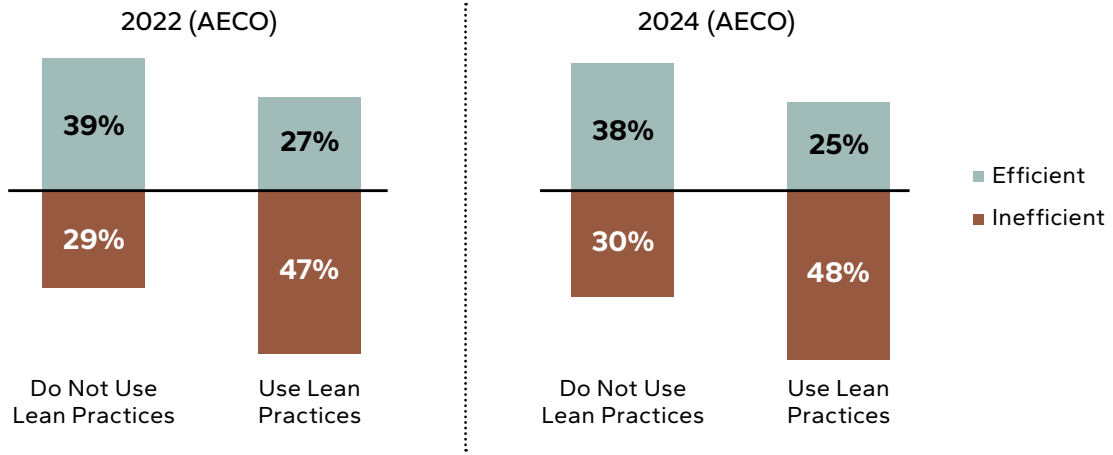
### Perception of the Efficiency of Design and Construction Processes in the US Design and Construction Industry

Dodge Construction Network, 2025




### Perception of the Efficiency of Design and Construction Processes in the US Design and Construction Industry **(By Use of at Least Some Lean Practices)**

Dodge Construction Network, 2025



# Perception of the Efficiency of the Design and Construction Industry CONTINUED

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**IMPACT OF USING LEAN ON THE PERCEPTION OF EFFICIENCY**

The charts at lower right on page 7 and below show two different ways of examining these responses through the lens of involvement with Lean:

- The lower chart on page 7 compares the responses of those who have used at least one of the Lean practices included in the surveys (see pages 9–11 for more information on the practices included in the studies).
- The chart below shows those who self-report that they use Lean in the survey, regardless of whether they use the practices included in the study.

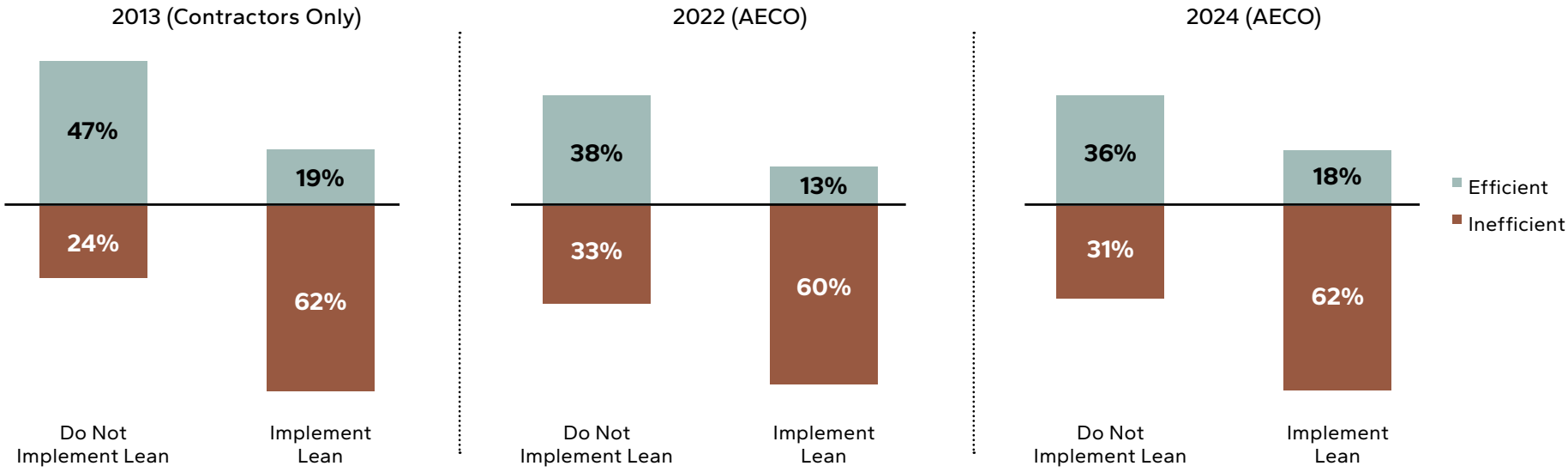
In all of these charts, those who either use Lean practices or self-identify as Lean practitioners are far more likely to see the industry as inefficient than those who do not use Lean. However, far more of those who self-identify as Lean practitioners recognize the inefficiency of the industry than those who report using specific Lean practices. These findings suggest that:

- Many design and construction professionals do not regard "efficiency" as directly related to achieving good project outcomes, but they do associate it with using Lean.
- Greater awareness of the connection between inefficiency and performance challenges would promote the use of Lean in the industry.

## Estimation of the Efficiency of Design and Construction Processes in the US Design and Construction Industry

**(By Self-Reporting on Whether They Implement Lean)**

Dodge Construction Network, 2025



# Use of Lean Practices



## MOST RESPONDENTS HAVE USED AT LEAST ONE LEAN PRACTICE IN THE LAST THREE YEARS

Examination of the use of Lean practices has been part of the research conducted by Dodge since the owner study in 2015. The number of practices included has varied: The most recent study in 2024 included 26 different practices. The top six most frequently used by the respondent, their team or their organization are shown in the chart at lower right, and an additional 11 commonly used ones are shown in the chart on the following page.

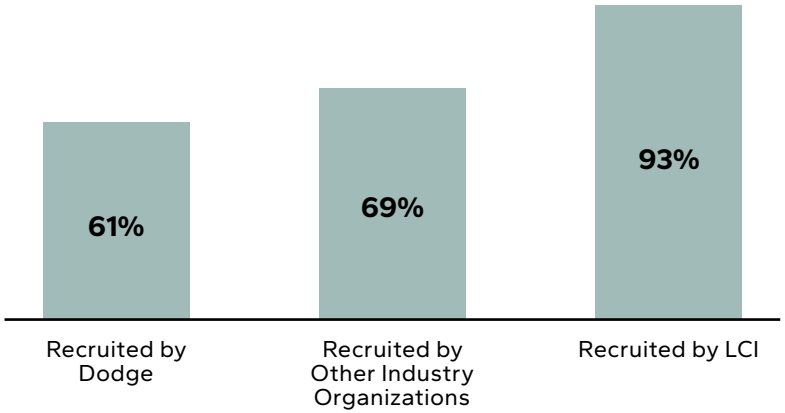
The bar chart at upper right shows the share of owners, designers and contractors in the last survey who used at least one practice in the last three years.

- Nearly all of the respondents from LCI (93%) use at least one Lean practice, which is not surprising.
- More notably, 61% of those recruited by Dodge from its Contractor and Architect Panels, and from its larger database, also report using at least one practice in the last three years.

The sample from Dodge is representative of the US design and construction industry, so this suggests that some of these practices see widespread use.

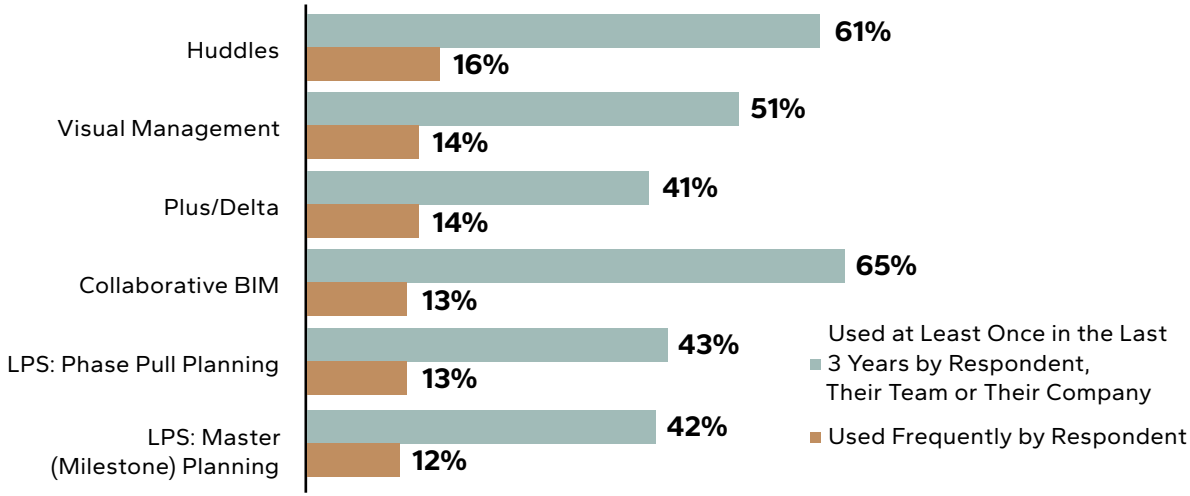
### Used at Least One of 26 Lean Practices in the Last Three Years

Dodge Construction Network, 2025




### Most Frequently Utilized Lean Practices (Based on Frequent Use by Respondent)

Dodge Construction Network, 2025



# Use of Lean Practices CONTINUED

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### USE OF PRACTICES BY THE RESPONDENTS RECRUITED BY DODGE

- The largest share use collaborative BIM (54%) and huddles (48%).
- Nine other practices are also used by more than 30%, suggesting that many contractors have a working familiarity with several Lean practices, including target value design/delivery, co-location/big room, visual management, design in small batches, designing for multi-trade prefabrication, process mapping, high-performance team development, project conditions of satisfaction and progressive partner selection.
- To place these findings in context, only 6% of Dodge respondents believe that they have used Lean practices (see page 15).

Clearly, many people use Lean practices without regarding them as specifically Lean.

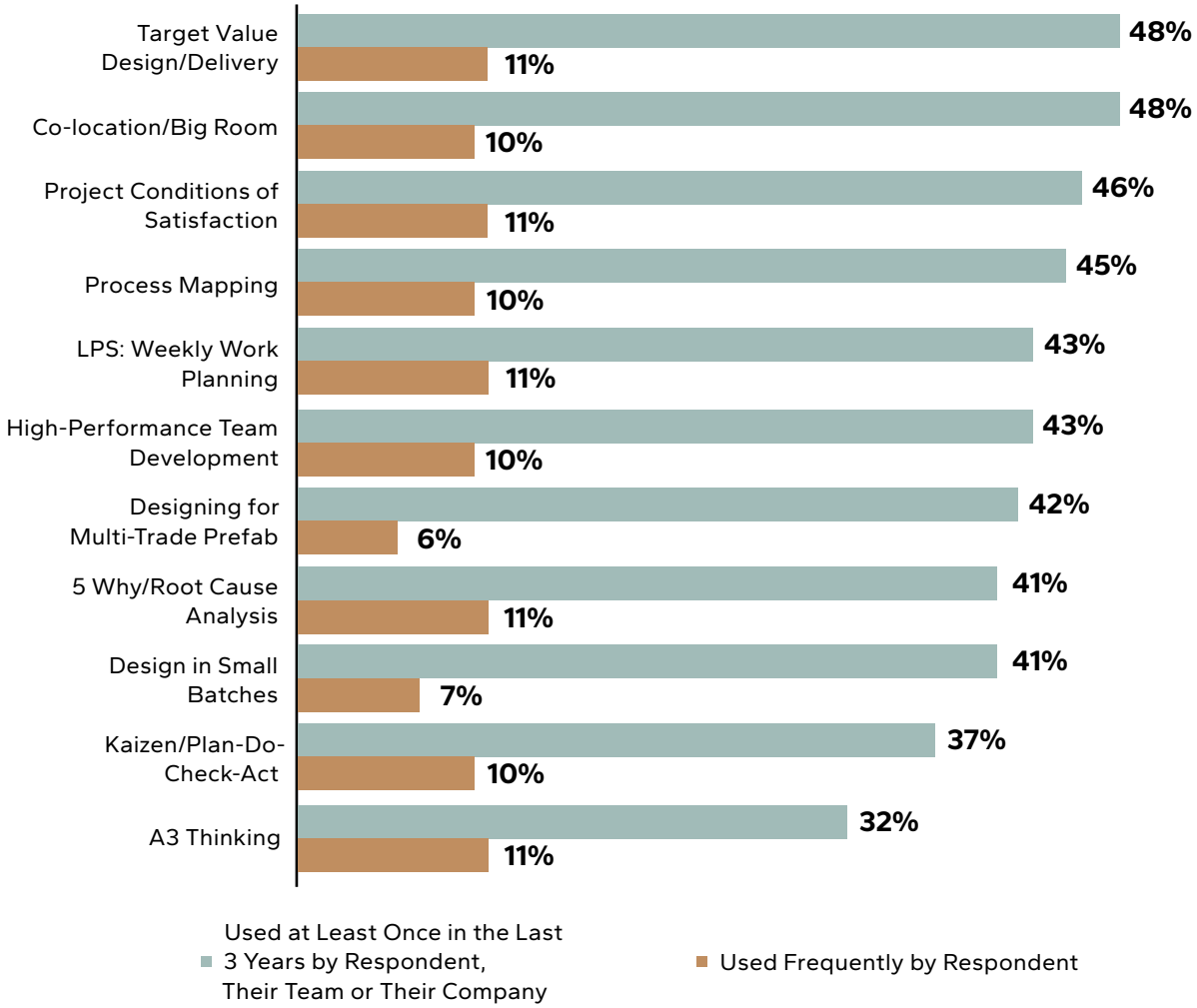
### USE OF LEAN PRACTICES BY OTHER RESPONDENTS

- Huddles and collaborative BIM are the top two most frequently used by LCI (89% for both) and industry association (58% and 57%, respectively) recruits.
- 70% or more of respondents recruited by LCI use 16 of the 26 practices, including the four practices included in the Last Planner System®, and more than half of them use all but two practices (set-based design and agile/scrum, both used by 46%).

## Additional Widely Utilized Lean Practices

**(Used by Over 30% of Respondents, Their Teams and/or Their Companies)**

Dodge Construction Network, 2025



# Use of Lean Practices CONTINUED



- Over 40% of the recruits from industry association use six practices, including target value design/delivery, project conditions of satisfaction, co-location/big room, process mapping, high-performance team development and visual mapping.

**DIFFERENCES BY TYPE OF COMPANY**
The differences in the most frequently used practices by type of company are shown in the table below.

**FREQUENCY OF USE OF LEAN PRACTICES**
Respondents were asked which of the practices they themselves use most frequently, and those findings are also shown on the charts on pages 9 and 10. The gap between use and frequent use is large, demonstrating that Lean is not yet a common practice for most of the respondents. In fact, 69% of the Dodge recruits, 58% of the association recruits and 31% of the LCI recruits do not use any practices frequently.

These findings suggest that for projects, companies and the industry to fully benefit from the use of Lean, use of Lean practices needs to become part of the standard processes for conducting design and construction.

## Most Frequent Practices Used by the Respondent (By Type of Company)

| Owners | | Architects | | General Contractors | | Trade Contractors | | Engineers | |
|---|---|---|---|---|---|---|---|---|---|
| Project Conditions of Satisfaction | 23% | Huddles | 19% | Plus/Delta | 21% | Huddles | 21% | Huddles | 17% |
| Visual Management | 19% | Collaborative BIM | 17% | Visual Management | 19% | 5 Why/Root Cause Analysis | 11% | Plus/Delta | 13% |
| Last Planner System-Master (Milestone) Planning | 19% | Process Mapping | 10% | Last Planner System-Master (Milestone) Planning | 19% | Visual Management | 10% | Collaborative BIM | 13% |
| Last Planner System-Phase Pull Planning | 19% | Project Conditions of Satisfaction | 8% | Last Planner System-Phase Pull Planning | 18% | A3 Thinking | 10% | High-Performance Team Development (Onboarding and Assimilation) | 13% |
| Plus/Delta | 19% | Visual Management | 8% | Last Planner System-Weekly Work Planning | 16% | Plus/Delta | 8% | A3 Thinking | 11% |
| TargetValue Design/ Delivery | 18% | TargetValue Design/ Delivery | 8% | Collaborative BIM | 14% | Last Planner System-Phase Pull Planning | 8% | Target Value Design/ Delivery | 11% |
| A3 Thinking | 18% | Co-location/Big Room | 8% | Kaizen/Plan-Do-Check-Act | 14% | Process Mapping | 8% | | |
| | | | | 5 Why/Root Cause Analysis | 14% | | | | |

# Impact of Using Lean



## USING MORE LEAN PRACTICES CORRELATES WITH BETTER PROJECT PERFORMANCE

In 2017, designers were asked about their use of 57 Lean practices. Based on the number of practices they used, they were grouped into three categories for Lean Intensity: Low (0–13), Medium (14–24), High (25–57).

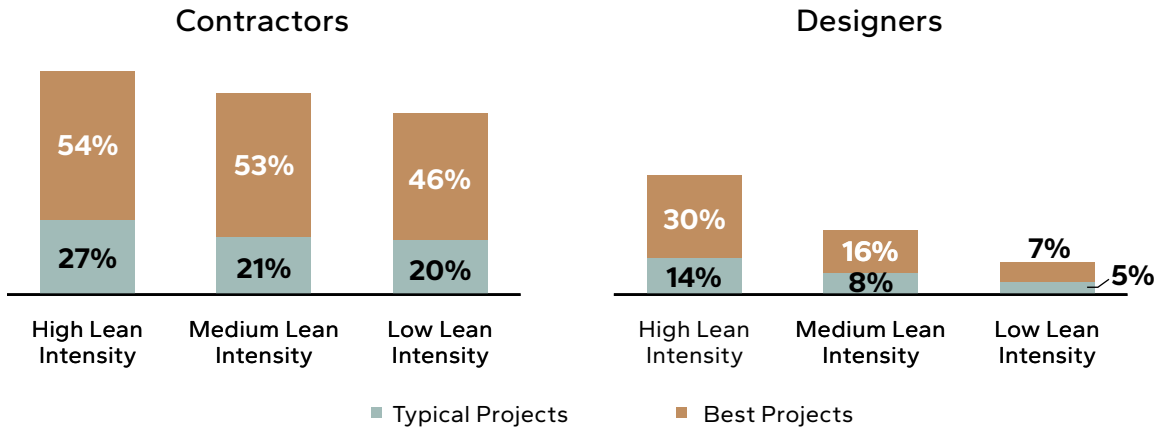
In 2021, contractors were asked about their use 56 Lean practices. Their assignment into the three Lean Intensity categories was as follows: Low (0–10), Medium (11–27), High (28–56).

The charts at right show the correlations between utilizing many Lean practices and project performance on budget and schedule, and they suggest that engaging in Lean practices helps to improve outcomes.

- The projects of contractors with High Lean Intensity more frequently finish on or ahead of schedule, especially their best projects.
- Their projects also finish more frequently below budget, although the difference is less dramatic. Their improved budget and schedule performance is consistent on both their best and typical projects.
- Over four times as many High Lean Intensity designers have their best projects completed under budget than those with Low Lean Intensity.
- High Lean Intensity designers also report meeting or improving on project schedule significantly more frequently than those with Low Lean Intensity.

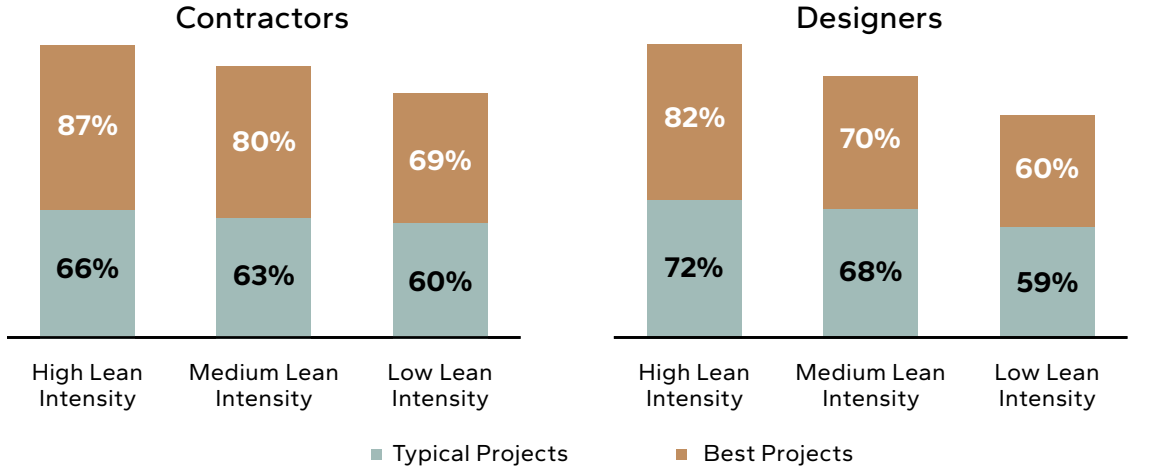
### Final Construction Cost Lower Than Initial Budget

Dodge Construction Network, 2025




### Project Finished on or Ahead of Schedule

Dodge Construction Network, 2025



# Impact of Using Lean CONTINUED



- Even Medium Lean Intensity is correlated with better schedule performance for both contractors and designers, which suggests that even those still relatively early in their Lean journey often experience improved project performance.

**OWNERS**
In 2015, owners were also asked about 27 practices, and their intensity calculation included weighting certain practices higher. They reported the highest level of differences in projects completed under budget and ahead of schedule between those with High and Low Lean Intensity.

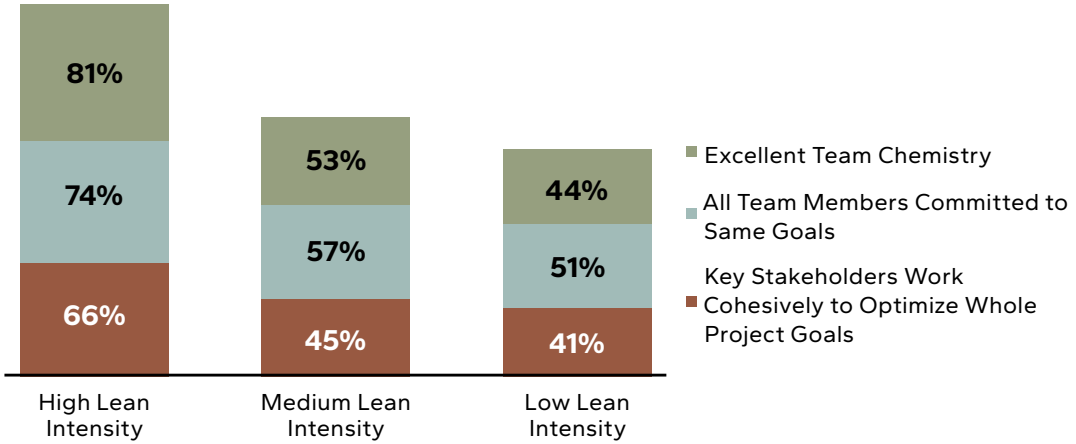
## POSITIVE TEAM DYNAMICS ARE ALSO FAR MORE COMMON AMONG THOSE WITH HIGH LEAN INTENSITY

Respect for people is a core tenet of Lean, and many of the practices should lead to more positive team dynamics. The charts at right reveal that is, in fact, the case: The three measures of great team dynamics are far more commonly reported by contractors and architects with High Lean Intensity than by the rest.

Other studies conducted by Dodge Construction Network reveal that good collaboration and coordination improves project performance, so it is likely that the positive outcomes seen on the previous page are a direct result of the positive team dynamics fostered by engagement in Lean practices.

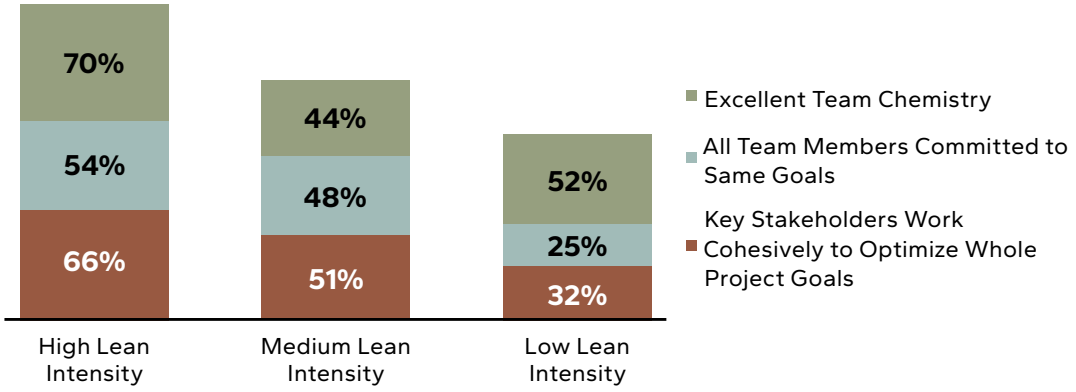
### Positive Team Dynamics on Their Best Projects According to Contractors

Dodge Construction Network, 2025




### Positive Team Dynamics on Their Best Projects According to Designers

Dodge Construction Network, 2025



# Lean Awareness in the General Industry

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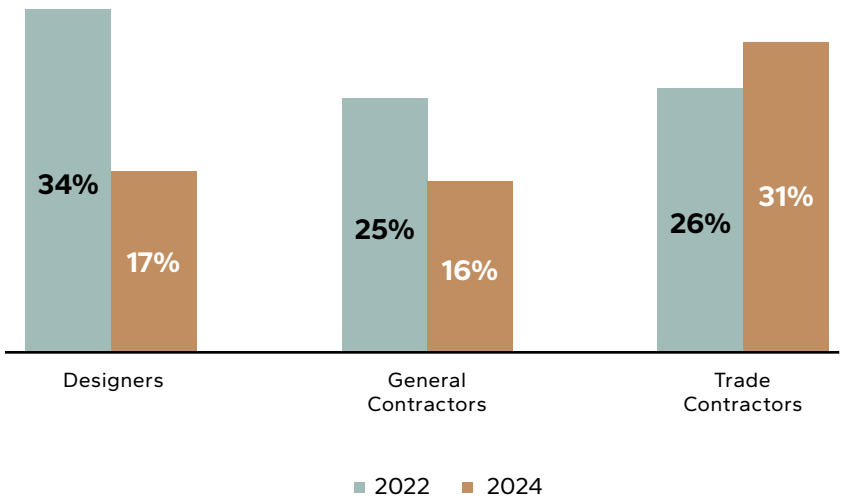
## AWARENESS OF LEAN IS INCREASING AMONG DESIGNERS AND CONTRACTORS

The studies on Lean that Dodge conducted for the Lean Construction Institute (LCI) in 2022 and 2024 included respondents recruited by Dodge, by industry associations and by LCI. Each survey included a question about how familiar the respondents are with Lean in design and construction. The best way to understand any changes in the overall industry is to use the responses recruited by Dodge, which come from a sample representative of the industry as a whole, not influenced by any affiliation.

- Overall familiarity in 2022 for all of the Dodge respondents (owners, designers and contractors) was 68%, and it increased in 2024 to 79%.
- As the chart at right shows, those increases came largely from designers and general contractors. Fewer trade contractors reported being familiar with Lean in 2024 than the share in 2022. (Owners are not included because too few participated from the Dodge sample in 2022.)
- In 2024, 87% of the industry association respondents were familiar with Lean. While there were too few responses in 2022 from industry associations to draw any conclusions about changes between 2022 and 2024, the findings demonstrate that those engaged in an organization are more likely to be familiar with Lean design and construction than the general industry as a whole.

**Respondents Recruited by Dodge Who Are Not Familiar With Lean (2022 and 2024)**

Dodge Construction Network, 2025



# Lean Use in the General Industry



## MANY DO NOT REALIZE THAT THEY ARE UTILIZING LEAN

Respondents were asked two questions about their use of Lean in the 2022 and 2024 surveys, and the chart at right shows the response to both questions in 2024.

- The light aqua bars show how many said they use Lean practices in general.
- The gold bars show how many said that they, their teams and/or their organization use any of the 26 Lean practices included in the survey that year. (See page 9 for more information on the specific practices included in the study.)

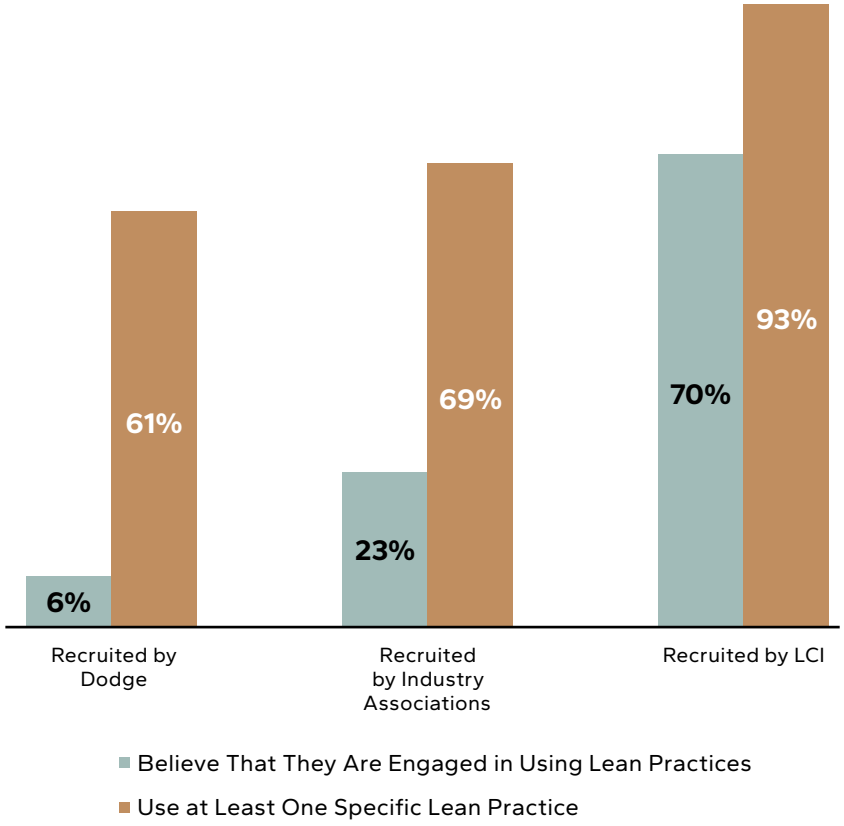
The disparity between the responses demonstrates that many do not think of themselves as Lean practitioners, even though they, their teams or their organizations are, in fact, deploying the Lean practices. This disparity is strongest among the industry-representative Dodge respondents, but it is even evident among the respondents from the Lean Construction Institute (LCI).

These findings suggest that most project teams recognize the value of specific Lean practices, but are less aware of how the benefits of using Lean increase with greater commitment to taking an overall Lean approach to their work, as the findings on Lean intensity on pages 12 and 13 reveal.

### Use of Lean

**(Believe That They Generally Use Lean Practices Versus Use of at Least One Specific Practice)**

Dodge Construction Network, 2025



# Belief That Lean Is Effective in Improving Outcomes

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## THOSE WHO HAVE USED LEAN MORE FREQUENTLY ALSO FIND THAT IT IMPROVES OUTCOMES

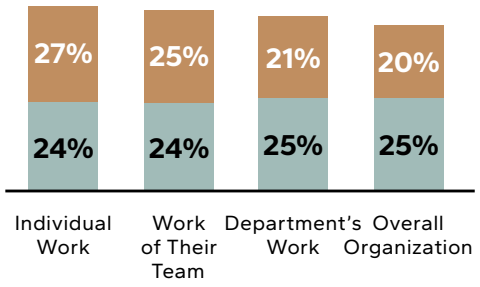
All respondents, regardless of their level of experience with Lean, were asked to rate the effectiveness of Lean for improving outcomes in their individual work, the work of their teams and departments, and in their overall organization, compared with using traditional techniques. The question included the following list of outcomes to consider: improved health/reduced individual stress; improved team trust/health; individual/team productivity; business/financial performance, and typical project performance measures (e.g., improved safety/reduced injuries, quality/reduced rework, design awards, faster schedule, reduced cost). The findings are shown in the charts at right.

- More respondents believe Lean improves their individual work and the work of their teams than their department's work or their overall organization. This may suggest "pockets" of Lean use are more common than an organization-wide commitment to these approaches.
- 90% of respondents recruited by LCI, who utilize more Lean practices (see page 9) than the other respondents, believe Lean is effective at improving outcomes in their individual work.
- Architects and general contractors are the most positive about the impact of Lean on improving their work.

These findings suggest more direct experience with Lean leads to higher expectations of its benefits.

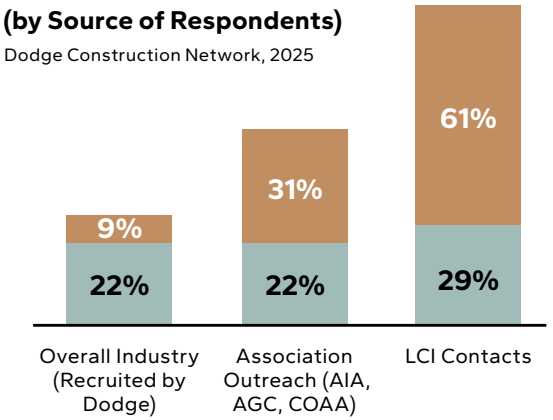
### Believe That Lean Improves Outcomes (All Respondents)

Dodge Construction Network, 2025



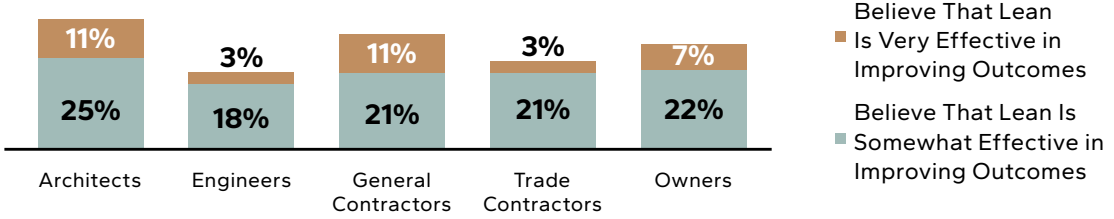

### Believe That Lean Improves Outcomes of the Individual's Work (by Source of Respondents)

Dodge Construction Network, 2025




### Believe That Lean Improves Outcomes of the Individual's Work (Dodge Panel/List Respondents by Type of Company)

Dodge Construction Network, 2025



# Expectations About the Impact of Using Lean



## THE MOST FREQUENTLY EXPECTED CHALLENGE RESULTING FROM THE USE OF LEAN IS PUSHBACK FROM OTHER COMPANIES ON THE PROJECT TEAM

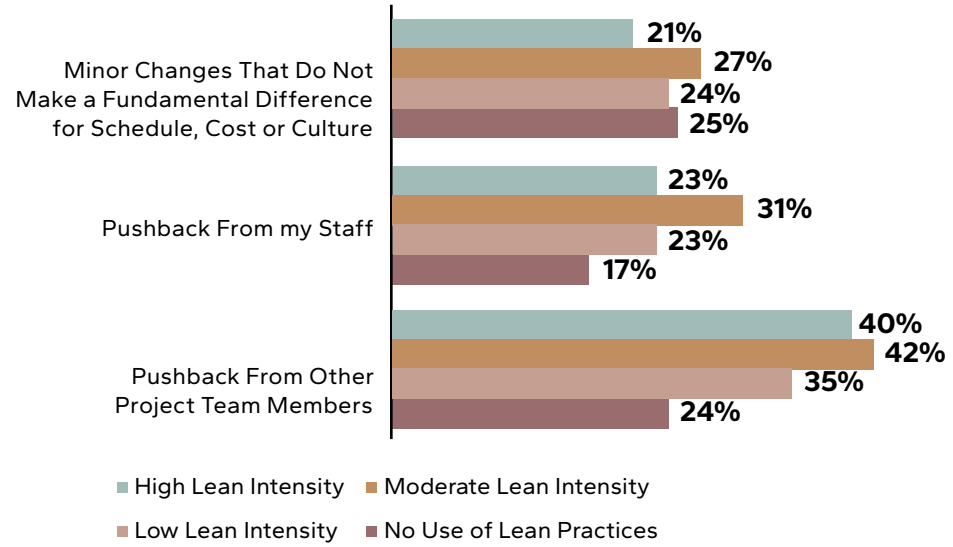
All respondents, regardless of their level of use of Lean practices, were asked whether they believe the three challenges shown at right would result from using Lean design and construction.

- Less than one quarter of those using the most Lean practices (those with a High Lean Intensity) report that they only see minor changes when Lean is deployed or experience pushback from their immediate staff.
- However, nearly half of them (40%) expect to have pushback from other project team members. Lean practices are most effective when adopted across all companies involved in a project, so this represents a significant challenge in the industry.
- There are no statistically significant differences between their responses about minor changes and pushback from their immediate staff between them and those with little to no use of Lean practices, revealing that most respondents, regardless of how familiar they are with Lean, realize that these are not common issues.
- More experience with Lean, though, does lead to greater awareness that getting pushback from other project team members is a serious risk.

The overall findings of this report suggest that a better understanding of Lean in the industry may help overcome resistance from other companies.

**Expectations About Lean Challenges (By Level of Lean Intensity)**

Dodge Construction Network, 2025



# Expectations About the Impact of Using Lean CONTINUED

SmartMarket

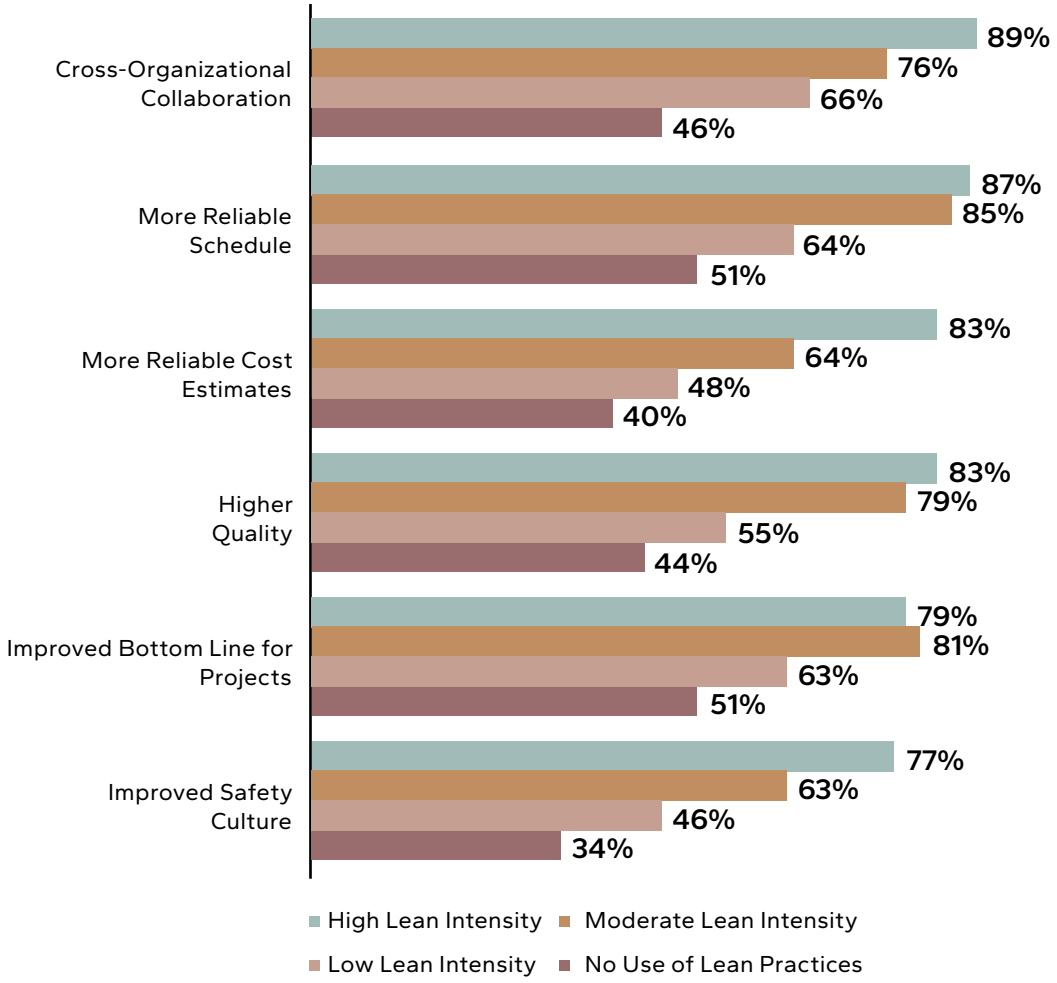
## MOST WHO USE A MODERATE TO HIGH NUMBER OF LEAN PRACTICES EXPECT COST, SCHEDULE, QUALITY AND PROCESS BENEFITS

Owners, designers and contractors were asked what benefits can be expected from using Lean practices, regardless of whether they use them or not. Those with more experience with Lean practices, who fall into the Moderate to High Lean Intensity categories, are likely to expect the benefits that they have experienced from Lean in the past, while the other responses reveal the expectations of those with no or limited experience with Lean .

- Over three quarters of those with High Lean Intensity expect a variety of benefits from its use, including reliable schedule and cost, higher quality, an improved safety culture, better collaboration and an improved bottom line.
- Over three quarters of those with Moderate Lean Intensity agree that they expect better collaboration, reliable schedules, higher quality and an improved bottom line, and just under two thirds also count on more reliable cost estimates and an improved safety culture.
- Even limited experience with Lean leads to over half who think it will yield better collaboration across organizations, more reliable schedules, higher quality and an improved bottom line.
- The majority of those with no experience in Lean underestimate the benefits it offers.

**Expectations About Lean Benefits (By Level of Lean Intensity)**

Dodge Construction Network, 2025



# Methodology

SmartMarket

The findings in this report are drawn from six surveys conducted by Dodge Construction Network with owners, designers and contractors between 2013 and 2024.

**2013 CONTRACTOR SURVEY**

- Survey was fielded online in September 2013.
- 193 contractors participated in the online survey, including 135 general contractors and 58 specialty trade contractors.
- 120 respondents came from the Dodge Contractor Panel and 73 from outreach by the Lean Construction Institute (LCI).

**2015 OWNER SURVEY**

- Survey was fielded online in 2015 and 2016.
- 81 owners responded, with the majority recruited by the LCI.
- Each respondent had to have at least six capital construction projects in the last three years, with at least one project with a value of $10M or more during that period. In addition, their total capital expenditure in the previous year had to be at least $10M.
- Survey respondents were asked to consider a specific project that they considered their best in the previous five years and one that they considered typical.

**2017 DESIGNER SURVEY**

- Survey was fielded online in July 2017.
- 310 architects and interior designers responded to the survey.
- Respondents had to select a specific project that they considered their best in the previous five years and one that they considered typical.
- Respondents had to be involved in both projects for over half of the design and construction duration.
- Sample drawn from the Dodge Architect Panel and from outreach by LCI.

**2021 CONTRACTOR SURVEY**

- Survey was fielded online in June and July 2021.
- 336 contractors participated in the survey, including 187 general contractors/construction managers, 108 specialty trade contractors and 41 heavy civil contractors.
- Sample was drawn from the Dodge Contractor Panel and from outreach by the Associated General Contractors of America.
- Companies with over 50% single-family residential or over 50% industrial projects were excluded from the survey.
- Respondents had to select a specific project that they considered their best in the previous five years and one that they considered typical.

**2022 SURVEY OF OWNERS, DESIGNERS AND CONTRACTORS**

- Survey was fielded online in July and August 2022.
- 624 owners, designers and contractors participated in the survey, including 206 designers, 227 general contractors, 107 specialty trade contractors and 83 owners.
- Sample was draw from the Dodge Architect and Contractor Panels, a Dodge database of owner contracts, outreach by LCI, outreach by AGC and outreach by ELECTRI.

**2024 SURVEY OF OWNERS, DESIGNERS AND CONTRACTORS**

- Survey was fielded online in June and July 2024.
- 809 owners, designers and contractors participated in the study, including 285 designers, 274 general contractors, 110 specialty trade contractors and 140 owners.
- Sample was drawn from the Dodge Architect and Contractor Panels, a Dodge database of owner and engineer contacts, outreach by LCI, and outreach from industry associations COAA, AIA and AGC.

# Contacts & Resources

## DODGE EDITORIAL TEAM

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**Research Director**
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## RESOURCES

### PREMIER PARTNER

**Lean Construction Institute:** https:/leanconstruction.org

- **Collaboration and Creative Conflict:** https://leanconstruction.org/blog/collaboration-and-creative-conflict
- **Lean v. Sigma Six: What's the Difference?:** https://leanconstruction.org/blog/lean-vs-six-sigma-whats-the-difference
- **Doing Lean v. Being Lean: Understanding a Key Distinction:** https://leanconstruction.org/blog/doing-lean-vs-being-lean
- **Leveraging Lean for Healthcare: An Inside Look at HCA Healthcare** https://leanconstruction.org/blog/leveraging-lean-for-healthcare-an-inside-look-at-hca-healthcare

### RESEARCH PARTNERS FOR THE 2024 STUDY

**American Institute of Architects:** www.aia.org

- **AIA Project Delivery Knowledge Community Resources:** https://classic.aia.org/pages/6202686-project-delivery-resources

**Associated General Contractors of America:** www.agc.org
**Construction Owners Association of America:** www.coaa.org

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