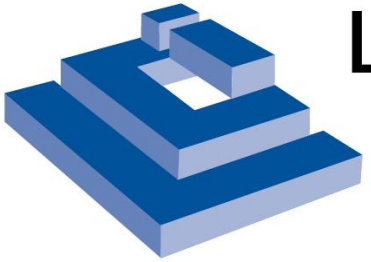

# Lean Construction Institute

Building Knowledge in Design and Construction

AIA

## *Target-Value Design*

Nine Foundational Practices for Delivering Surprising Client Value

by Hal Macomber, Gregory Howell, and John Barberio

Throw-it-over-the-wall design, performed by specialists and subspecialists working in isolation from others interacting with the design, results in projects that are unaffordable, unconstructable, off-target, and late. Rework, repricing, change orders, and de-value engineering are all symptoms of a process that ignores the nature of design and the systems nature of the built environment.

Target-Value Design (TVD) turns current design practice upside-down:

- Rather than estimate based on a detailed design, design based on a detailed estimate
- Rather than evaluate the constructability of a design, design for what is constructable
- Rather than design alone and then come together for group reviews and decisions, work together to define the issues and produce decisions then design to those decisions
- Rather than narrow choices to proceed with design, carry solution sets far into the design process
- Rather than work alone in separate rooms, work in pairs or a larger group, face to face

TVD offers designers an opportunity to engage in the design conversation concurrently with those people who will procure services and execute the design.

**A Little Background**

What do we mean by design conversation? We hold design as principally a social activity. The notion that some one person sits alone and is inspired to design misses both the nature of design and the countless contributions from others. The point of design is to bring forth new value in line with the client's interests.

What is value? Value is an assessment made relative to a set of concerns that someone wants addressed. There is nothing *of value* independent of a person saying (assessing) it is *valued*. Client concerns—interests, not worries—must be kept in the foreground of the design conversation. Doing so allows designers to engage in a conversation for exploring various ways to take care of the concerns of that client. Those concerns inevitably change over the life of the project. As design proceeds new concerns arise while others fade away. Locking down requirements early in the process cuts short the exploration and development of the clients' concerns. Consequently, design suffers as does the value delivered to the client.

What roles do clients play? Clients are key performers during design, not just customers. As performers they express their concerns, make value assessments, and eventually make choices. When clients fail to take those actions in a timely way it leads to immeasurable waste for the project team. The team cannot let their fear of the client get in their way of holding all performers, including the client, to act responsibly.

**TVD Foundational Practices**

Here we introduce nine practices for creating the conditions for delivering the target value from the design process:

1. *Engage deeply with the client to establish the target value*. Both designers and clients share the responsibility for revealing and refining concerns, for making new assessments of what is value, and for selecting how that value is produced. Continue engaging with the client throughout the design process continue to uncover client concerns.
2. *Lead the design effort for learning and innovation*. Expect that the team will learn and produce something surprising. Establish routines to reveal what is learned and innovated in real time. Also expect that surprise will upset the current plan and require more replanning.
3. *Design to a detailed estimate*. Use a mechanism for evaluating design against the budget and the client's target values. Review how well you are achieving the targets in the midst of design. When budget matters, stick to the budget.
4. *Collaboratively plan and replan the project*. Use planning to refine practices of coordinating action. This will

avoid delay, rework, and out-of-sequence design.

5. *Concurrently design the product and the process in design sets*. Develop details in small batches (lot sizes of one) in tandem with the *customers* (engineer, builders, owner, users, architect) of the design detail. Adopt a practice of accepting (approving) completed work as you design.
6. *Design and detail in the sequence of the customer who will use it*. This maintains attention to what is valued by the customer. Rather than doing what you can do at this time, do what others need to do what they need to do next. This leads to a reduction in negative iterations.
7. *Work in small and diverse groups*. Learning and innovation arises socially. The group dynamics of small groups—eight people or less—is more conducive to learning and innovating: trust and care for one another are established faster; and communication and coordination are easier.
8. *Work in a big room*. Colocating design team members is usually the best option. Design is messy. Impromptu sessions among design team members are a necessary part of the process. So are regular, short codesign sessions among various specialists working in pairs.
9. *Conduct retrospectives throughout the process*. Make a habit of finishing each design cycle with a conversation for reflection and learning. Err on the side of having more retrospectives, not less. Use plus/deltas at the end of meetings. Use more formal retrospectives that include the client at the end of integration events. Instruct all team members to ask for a retrospective at any time, even if they just have a hunch that it might uncover an opportunity for improvement.

**How to Proceed**

Be careful not to pick and choose from the above nine practices. We call them foundational practices, indicating that taken together they establish a base for adopting other lean design practices. Both *responsibility-based project delivery*™ and *knowledge-based design* build on TVD.

Also, be careful not to think “We already do this.” While we have taken care to describe what we see as different, we recognize that it might sound like something very familiar. Consider how what we are describing here is different from what you are doing.

Adopt an experimental approach to adoption—plan-do-confirm-adjust (PDCA)—based on the scientific method. While the nine foundational practices work, exactly how they work for your organization and specific projects might vary. Use your team leaders to bring about TVD practices on a project-by-project basis by considering both what is being designed and who will be doing the work. Stay close to these early experiments standing ready to offer whatever help the project team needs to succeed both on their project and with these new practices.

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