

BOND BROTHERS

LAHEY HOSPITAL GENERAL INTERNAL MEDICINE BURLINGTON, MA

TOUCHPLAN CASE STUDY



CHALLENGE

Lahey Hospital and Medical Center, one of metro Boston's premier medical facilities, had outgrown its main campus at 41 Mall Road in Burlington, MA. The hospital, which features a twenty-four-hour emergency department, a Level II trauma center, over 300 hospital beds and an ambulatory care center, needed to relocate its general internal medicine (GIM) department through a fit out of a nearby 37,000-square-foot site. In addition, the hospital required a 4,000-square-foot diagnostic fit out on the first floor complete with a pharmacy, two X-ray units, and a blood specimen collection area.

ABOUT BOND

BOND is headquartered in Medford, Massachusetts and serves clients across the Northeast and Mid-Atlantic. BOND's specialties include healthcare, education, district energy, power generation, civil infrastructure, oil and gas, and electric transmission and distribution, and self-performing civil and utility infrastructure work. Founded in 1907, the company has earned a reputation for combining traditional craftsmanship with cutting-edge technology and techniques.

ABOUT TOUCHPLAN

Touchplan is the leading Lean way for project teams to easily execute the Last Planner® System by digitizing the old, analog process of sticky notes on the wall. Touchplan is a web-based, accessible-anywhere tool with a way to quantify and qualify areas for continuous improvement. Designed for field planning and management, Touchplan serves everyone on the project team.

The hospital's needs were complex. The new department needed to be up and running by August 13 and had to be moved from the midst of a functioning hospital into an occupied office building while minimizing disturbance to both locations through close coordination with the building operator. The location of the office building was key—it had to be within 250 yards of the main campus in order to maintain the hospital's reimbursement structure. The project was budgeted at seven months and \$8.5 million.

Complicating matters further, the project's start date was delayed, but the opening date for the new location remained the same. The team needed to complete the project in an even more compressed time frame than they had anticipated. On top of that, there was a sudden change to the design once the project was underway, which created unexpected rework. Losing time against hard deadlines, the project was at risk of not being completed on schedule.

"This held people accountable to the promises that were being made throughout the project."

Mike Walsh
Vice President of Healthcare and Life Sciences at BOND

4%
savings
returned
to owner

5
weeks'
time
saved

Results
seen on
first
project

Already
won the
next Lahey
project

SOLUTION

Fortunately, this project team was focused from the outset on working smarter, not harder. To facilitate the planning, Lahey hired a Lean project consultant, Hal Macomber, who uses planning technology on all of his projects. While he leaves the selection of software up to his clients, they consistently choose Touchplan.

Macomber, working closely with the Senior Project Manager at BOND, Ben Hoffman, determined that using a combination of takt planning and the Last Planner® System in Touchplan would accelerate the project's progress. The concept of takt time originated in Toyota manufacturing plants as a system of pacing production time to match the rate at which Toyota cars were being sold in order to keep up with demand.

Macomber explained the takt planning process. "We said, 'Okay, what's the rate at which we would need to perform all of our takt so that we can be done by this time?' It takes some working out. You need to know when you want to be done, you also need to learn what all the tasks are."

Key to this effort was breaking the pull planning process down to very detailed sequences of work. "It starts with determining the flow unit. For building a building, you've got space as your general flow unit. Your flow unit could also be a system like an HVAC system. You start by designing your flow unit and then you work out the sequence of all the small steps that you can give. In the case of the Lahey project, the main flow unit was an examination room," said Macomber.

Once the team had determined the flow unit, they needed to specify the required components and duration of an exam room. "We worked out that from the moment we started framing until we were done putting a lock on the door, that every single step was done in a day. We determined that seven exam rooms was the batch size that they were going to use because the smallest trade was two people. That group of two people could do seven rooms in a day."

With this planning structure in place, the team was ready to maximize their efficiency to recover lost time.

RESULTS

In the face of complex challenges—a delayed start, unexpected design changes that necessitated significant rework, and the team’s first experience with Lean and takt planning—many feared the project could go awry.

Instead, the new GIM and diagnostics center was completed five weeks early. “The project was, overall, extremely smooth,” said Mike Walsh, Vice President of Healthcare and Life Sciences at BOND. “At first, I think a lot of the players were very skeptical, they had not really been exposed to the Last Planner® System or Lean construction and by the efforts of our team... [we] got to lay out what our vision was and our goals for the job, and how we were going to get there and to see if we could improve that...and with everyone sitting at the table I think they came around right from the beginning kick-off meeting.”

Hoffman credited all of the teams for embracing the new methodology and striving to implement it correctly. “In actuality, it was quicker than I thought it would be to get everybody up and running and working together as a team. And I think everyone saw the benefit of it once they realized that they had to work together as a team to build their schedules.”

The collaboration required to use Touchplan and the Last Planner® System was key to helping the teams work together to make up for lost time. “The tool forced people to identify where they had issues and identify how they could improve their issues,” said Hoffman.

Communication was a key improvement, according to Walsh. “Working with the Lean process, it just allowed more communication. We do this on a daily basis and I think...this held people accountable to the promises that were being made throughout the project. So, the expectations of the construction manager were driven down through the subcontractors and at all times they knew what our goals were and that we were playing as a team player with them, and it allowed them also to have an opportunity to have their voices heard and to buy-in to our schedule.”

"Everyone saw the benefit of it once they realized that they had to work together as a team to build their schedules."

Ben Hoffman
Senior Project Manager at BOND

"I was very surprised that a couple of our contractors at the end said that they would love to do this on all their projects going forward, and they wish more companies did this. I would love to have all of our subcontractors saying that in the future," Walsh continued.

This enhanced collaboration and improvement paid off for the project's owners. According to John Navarro, Project Manager of Planning, Design, and Construction at Lahey Hospital, "The work was coordinated at a higher level across the trades which provided a better and more detailed overall schedule."

The improved coordination and accelerated completion offered tangible benefits for Lahey Hospital. The project savings totaled four percent of the budgeted cost, which was returned to Lahey and reallocated to support end user requests.

In addition to financial savings, the time saved offered other unexpected benefits. "The end users were able to spend more time ahead of the move in a finished space doing training and getting supplies and equipment into place. There was also additional time for administration, philanthropy, marketing and other departments to document and promote the site prior to seeing the first patients," said Navarro.

When asked if Lahey would request or require the use of a digital Last Planner® System tool on future projects, Navarro was confident that Lean methods offer advantages. "We would definitely request it depending on the size of the project. We would require it if we had specific performance goals defined that would benefit and/or necessitate the use of Lean techniques," he explained.

Macomber, meanwhile, noted the commitment to success on the part of the BOND team. "They're creating really good, friendly competition inside the company." That competitive spirit has already paid off: BOND is about to begin another project at Lahey.



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