

GRANGER CONSTRUCTION

SPARROW HOSPITAL 5 FOSTER PEDIATRIC UNIT LANSING, MI

TOUCHPLAN CASE STUDY



CHALLENGE

Granger Construction undertook a \$3.1 million project to substantially renovate the 5 Foster Pediatric Unit of Sparrow Hospital in Lansing, Michigan. The project began when a pervasive mold issue was discovered in the course of minor work on the floor, necessitating a complete renovation.

In addition to the complexity of working within a functioning hospital, the looming threat of RSV season (respiratory syncytial virus, which commonly spreads in the colder months and poses a high risk to young children) added urgency to the completion deadline. Work began in mid-September of 2016, and the project was slated to finish in early February of 2017.

ABOUT GRANGER

Founded in 1959, Granger Construction is a general contractor in Lansing, Michigan that specializes in education, healthcare, industrial, corrections, commercial and public sector work. One of the first general contractors to adopt Lean methodology in Michigan, Granger prides itself on its employees' commitment to constant learning and continuous improvement. As proof of this commitment, Granger is a pioneer in new industry segments such as data center construction.

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.

Conventional wisdom dictated that renovations within a working hospital cannot be completed in fewer than three to four months, and if patient rooms and wall movement are included in the scope, in fewer than six months. That timeline created a dilemma for Sparrow Hospital, which needed its pediatric unit back at full capacity sooner than that.

Further complicating the situation, all of the work needed to be done in tight, occupied space on the fifth floor of the hospital, taking care not to disturb the floors above or below. The floor below houses a cardiac recovery unit, and at one point valves on that floor had to be shut off in order to isolate the fifth floor. This required extensive coordination with the nursing staff, hospital management and the owner's representative to ensure that no operations were disrupted. Walls could not be closed off until the valves and pipes had been replaced, so the timing of every step of the project needed to be accurately predicted and adhered to.

While the work was in progress, the pediatrics unit had to be relocated to other areas of the hospital, putting pressure on the operations of those units. Additionally, the project's scope increased as it progressed, which required stringent change management on the part of the project team to ensure that the pediatric unit could continue to operate.

In the face of these complexities, the project team, under the guidance of Lean consultant Hal Macomber, decided to implement Touchplan to make sure they could still meet their deadlines.

**Cost
savings
enabled
upgrades**

**6
weeks'
time
saved**

**Results
seen on
first
project**

**Pediatric
unit re-
opened
early**

SOLUTION

The project's anticipated scope consisted of removing all of the drywall and completing an architectural finish of the walls, floors and ceilings. However, the scope increased when it became clear that more work including valve replacements, plumbing work, the removal of galvanized piping, and servicing of med-gas outlets would also be necessary. Since the hospital was still fully operational, careful management was required to ensure that none of the work interfered with patient care.

To accommodate the increasing scope of an already challenging project, the team knew that they would have to work very strategically. Under Macomber's guidance, they implemented Touchplan and were the first team to combine it with takt planning. The takt planning approach centered on four flow units (the construction work product used for structuring work to pursue continuous flow); the twenty-six patient rooms, the nursing core, the pediatric rehab area and the corridor and support space. The teams adjusted their takt planning process depending on the function of the space in which they were working. For example, work on the nursing core was more focused on systems due to the complexities of the plumbing and HVAC infrastructure than the work on the patient rooms. The patient room planning was primarily based around space constraints.

The team's takt planning enabled them to establish flow by working in smaller batches at an accelerated and constant pace. As each week went on, the weekly meetings got shorter and shorter as the team became comfortable with the process of developing tickets in Touchplan ahead of time and preparing for the next week in a six-week work plan and making commitments for the promise period.

“We had never been through the process and hadn't used Touchplan before or the Last Planner System, so to have that kind of an outcome was a surprise.”

Mike Kissane
Senior Project Manager at Granger

In spite of it being entirely new to them, the team embraced the process. As Senior Project Manager Mike Kissane described it, “There was value...in having the deliberate or intentional conversations of getting right down to the daily and hourly tasks and having them documented, which is where Touchplan comes in, because then you have a visual of what's supposed to be done that day. [You use] that visual in your afternoon promises made/promises kept conversation, so there's value in that visual and doing that every day.”

The emphasis on these conversations also helped to reinforce the performer-customer mindset on the job. By having each person or team view the people that would occupy the space next as their customers, they were able to facilitate one another’s work. The team was also proactive about addressing punch list items on an ongoing basis so that there was not a substantial amount of rework left over at the project’s end.

A key motivating factor for every team involved, from the Granger staff to the building inspectors, was the ultimate purpose behind the work. According to Project Manager Bill Bofysil, “The inspection process, with the HFES, the Health Department, and Bureau of Fire Services, went off without a hitch. Same with local inspectors. They [were] very accommodating to the workflow that we established, because they had to come out multiple times for inspection to allow us to keep progress...Everybody bought into the idea [that]...it’s for the kids.”



RESULTS

The combination of ambitious implementation of new strategies and the motivating purpose behind the project combined to yield a very successful result. The project was completed six weeks ahead of schedule; rather than finishing the renovations in early to mid-February as originally forecast, the work was completed before Christmas.

The accelerated completion was a double boon to the hospital, which was not only able to operate at full capacity during the onset of the RSV-intensive winter season, but also to relieve pressure on the other departments that pediatric services had been occupying.

Because the project finished with time and money left over, the team was able to expand upon some of the renovations to deliver some of the hospital's wish-list items, such as an upgraded corridor finish outside of the pediatric unit.

The team was very enthusiastic about their first project using Touchplan and takt planning. Reflecting on it, Kissane observed the gradual change in the way people worked together. As the team became more comfortable with the process, Kissane noticed that they became more accountable to one another when promising work due to the performer-customer mindset that was being instilled as part of the Last Planner System. "We had never been through the process and hadn't used Touchplan before or the Last Planner System, so to have that kind of an outcome was a surprise," said Kissane. Production Manager Sharon Ruonavaara was similarly excited about the evolution of her first project at Granger. In spite of being new to Lean methodology, she came up to speed quickly along with the rest of the team. "I'd never heard of Lean until I came here," she reflected.

"The best part of the collaboration and communication is that you get to find the variation as far as the roadblocks that are there through the communication and you're able to plan around those, which you typically don't do on a traditional setup."

Bill Bofysil
Project Manager at Granger

According to Bofysil, the communication Touchplan enabled was also critical to the project's success. "The best part of the collaboration and communication is that you get to find the variation as far as the roadblocks that are there through the communication and you're able to plan around those, which you typically don't do on a traditional setup." The communication also facilitated the coordination required to maintain a predictable workflow, which was vitally important to minimizing disruption to the pediatric ward and the adjacent floors.

As is often the case, success on one project quickly spreads. The productivity metrics from the Sparrow Hospital project are so persuasive that Granger has already won new work on the strength of that project's results, embodying their commitment to continuous learning and improvement.



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