

Balfour Beatty & Touchplan

Labor Flow Optimization – Balfour Beatty's Approach to Managing the Skilled Labor Shortage



The construction industry today faces the compounded challenge of compressed project timelines, expanding project complexity, and a persistent shortage of skilled labor driving up costs and slowing project progress. With labor demands rising and no immediate solutions for increasing the workforce, contractors need to take proactive measures to ensure all tasks are performed efficiently and disruptions in workflows are minimized or eliminated with Labor Flow Optimization (LFO).

LFO is a software-enabled production planning regimen that assures continuous optimum utilization of available construction labor resources with production planning software based on the Last Planner System®. LFO enables flexibility and speed in daily trade worker management on the jobsite to avoid dangerous worker congestion, costly rework caused by incorrect task sequencing, and potential labor productivity loss. It does this by providing managers and field teams with a single, shared, detailed view of all planned and in-progress trade activities so that the right skills are always in the right place at the right time.

Balfour Beatty, a leading general contractor renowned for their contracting, at-risk construction management, and design-build services, is making great strides in their ability to leverage LFO as an option to combat the effects of the labor shortage.

Balfour Beatty's progress toward better labor utilization and productivity includes leveraging Touchplan®, a production planning platform, and Paul Studley, a Senior Superintendent with over 20 years of experience in large scale construction. For the past five years, Studley and his team have used Touchplan in conjunction with the Last Planner System® for collaborative planning. The Touchplan solution assists with the agility of their projects and provides an option to assign labor resources to the right place, at the right time, in the right sequence, within projects and between projects, to consistently keep their entire project portfolio on schedule.

Planning for Labor Optimization - How Leaders Create Flow

Studley and fellow Balfour Beatty team leaders use the Touchplan platform to analyze trade commitments on each construction project, ensure the plan includes all the necessary workers, and ensure that trade partners do not understaff or overstaff the project.

"We do the labor utilization analysis in Touchplan before we let the plan get to the boots on the ground," says Studley. "Our leaders, superintendents, project managers, and project executives know our constraints and what the labor on a project can manage. When they come into the planning session armed with that information, we can dig deep into the workflow and ensure that site workers are not overburdened on the one hand, nor is their productivity wasted on the other."

Production planning with Touchplan can allow for smooth handoffs between the project team and trade partners by sequencing and timing tasks to flow productively. Touchplan has digitized their planning methods to reduce the time previously spent on the traditional analog methods of Lean planning techniques such as sticky note pull planning and excel spreadsheet look ahead schedules. Instead, the team analyzes Gantt chart data in Touchplan and visually breaks down labor in a way that levels work, prevents missed handoffs, and avoids potential bottlenecks in the labor flow.

Mitigating Flow Risks - Balancing Supply Chain Challenges and Labor

Another industry challenge taking a significant toll on project schedules around the world is supply chain uncertainty. Lead times are longer, and delivery schedules are volatile, adversely affecting efficient project labor utilization by forcing site leaders to repeatedly re-sequence work to keep the project moving without disruption.

Project teams can leverage Touchplan to create milestones around potential material delays months in advance and re-sequence work when unexpected delays surface. This ability to adjust plans in real-time maximizes productivity before deliveries and allows the planning team to fit trades into ongoing workflows when delayed materials arrive.

Studley explains, "Our teams use Touchplan's capabilities as an option to identify activities we can execute if a supply chain issue is going to delay a planned activity. It allows the possibility of getting beyond the problem, keeping labor and the project moving, and experimenting with other possible tasks to complete while keeping the original plan saved within the platform."

Avoiding Trade Stacking - How Improving Flow Impacts Safety

The safety of all workers is a core company value at Balfour Beatty and preventing trade stacking is a key component of their Zero Harm culture. Each discipline needs allocated space and time to complete scheduled activities, and packing too many trades in one space increases the chance for accidents and injuries.

Balfour Beatty uses Touchplan and the Last Planner System to ensure worker safety by preventing trade stacking that can increase accidents and near misses on the jobsite. Project teams use Touchplan to visually plan workflows without stacking trades and ensure handoffs flow smoothly. The teams also leverage the collaborative nature of the Last Planner System to plan the safest, most logical sequence of work.

"It starts with safety, and we're always going to consider that throughout the planning process," Studley says. "We always have instances where you can't put two trade teams in the same area at the same time. During our daily huddles, we discuss the most logical way to approach those scenarios and discuss which trade will go first."

Stress Reduction for a Strained Workforce

With Touchplan, project teams can leverage its capabilities to maximize the flow from phase planning to look-ahead planning. The production planning platform provides construction teams in the field with a shared view of the optimum workflow to ensure workers in the field are set up for success while keeping jobsite stress to a minimum.

"As a Senior Superintendent responsible for the overall success of the construction project, everything that I do relates to delivering the folks on the jobsite all the resources they need to be efficient and have the satisfaction of successfully finishing something important when they are done," says Studley. "It's about reducing stress. That's how I quantify it," he continues. "If I walk onto the job site and see my general foreman consistently smiling or having a nice conversation, or if they're stressed out consistently, that's my gauge. I know exactly where we're at, and I know whether they need my help or not. If the team feels productive and like they are learning something and growing their expertise, that is the real barometer of success."

While Touchplan's real-time data and the methodology of the Last Planner System can identify and work through unexpected challenges, leaders like Studley also use it to foster communication and collaboration amongst the team, and to understand how workers feel on the jobsite as an option to improve both workflow efficiency and job satisfaction.

While reflecting on the impacts of adopting Lean and leveraging digital production planning platforms, Studley states, "I can confidently tell you that over the years, I have reduced my stress by 50% or better, and it all has to do with the advancement of technologies in our industry." He concludes, "It truly has changed my life because I've reduced my stress that much. I'm therefore a better parent and husband because I'm not stressed out thinking about work after work."

For a workforce coping with extended hours, working over holidays and weekends, and tackling massive, complex projects with fewer people, the value of reducing job-related stress cannot be overstated.

Conclusion - Balfour Beatty is Transforming How the Industry Manages Labor

Balfour Beatty's innovative approach to addressing labor shortages through Labor Flow Optimization and Lean construction principles is transforming the construction industry. By utilizing Touchplan and the Last Planner System in conjunction with other technological applications, they ensure efficient labor utilization, smooth project flows, and enhanced worker safety, all while also significantly reducing job-related stress for their workers.

This digital transformation not only optimizes productivity but also fosters a healthier and more positive work environment. Leaders like Studley exemplify how digitizing the Last Planner System can lead to improved project outcomes and quality of life for construction professionals. In an industry marked by stressful work environments, complex projects, and limited manpower, the ability to alleviate constraints and maintain high levels of efficiency is critical. The success of Balfour Beatty demonstrates that embracing digital production planning platforms are essential for meeting the demands of today's construction landscape and ensuring the well-being of its limited workforce.

