COMMUNICATE

COMMIT

DELIVER

2018
Balfour Beatty

Competing in a Lean Environment
AGENDA

ABOUT BALFOUR BEATTY
DEFINING LEAN IN CONSTRUCTION
A LEAN COMPETITIVE ADVANTAGE
LEAN IMPLEMENTATION
LEAN BEHAVIOR
Meet Balfour Beatty

A recognized leader in the U.S. construction industry for more than 80 years, Balfour Beatty assists both public and private clients from coast-to-coast. We offer the resources and reach of an international company while providing a local service that meets individual needs and exceeds industry standards. With 3,000 employees nationwide and 19 offices working in collaboration, we provide our clients with the quality and predictability of the Balfour Beatty “signature experience.”

Our Locations

Atlanta
Austin
Charleston
Charlotte
Dallas
* Fort Lauderdale
Worth
Houston
* Jacksonville
LA-OC
* Miami

* Orlando
Phoenix
Portland
Raleigh
Riverside-SanBer
San Diego
Fort
San Francisco
Seattle
Ventura
Washington, D.C.

Florida Division

Established in Miami in 1933 by Frank J. Rooney, the Florida division of Balfour Beatty has enriched the lives of Florida residents, visitors and clients through the development of some of the largest and most recognizable landmarks across the state including the Dr. Phillips Center for the Performing Arts in Orlando, and the state-of-the-art Tradition Medical Center in Port St. Lucie. Our project expertise includes a vast portfolio of hospitality, multifamily, higher education, K-12 education, healthcare, corporate office, public assembly, criminal justice, mission critical, retail, transportation and special projects that have earned us over 145 Excellence in Construction awards from the regional and national chapters of the Associated Builders and Contractors and we are consistently ranked a top contractor both locally and regionally.

Florida by the Numbers

- 200+ Employees
- $500+ Million in Annual Revenue
- 145 Awards for Excellence in Construction
- 16 Market Sector
- 33 LEED™ Professional Employees
Every Dream
We work with each client to ensure we deliver their needs, wants, and wish lists.

As a leader in construction, we believe in strong foundations, lasting achievements, and staying engaged with our community. From aquatic centers to classrooms, we’re building up training grounds for every dream across the community.

Top Headlines
- ENR Southeast Top Contractor 2016
- US General Builder (ENR)
- Top 400 Contractors (ENR)
- Top Contractor (BD+C)
- BIM Construction Firm (BD+C)
- Multi-Family Sector Construction Firm (BD+C)
- Multi-Unit Residential Contractor (ENR) Green
- Building Construction Firm (BD+C) ENR
- Southeast Contractor of the Year
WE DO MORE THAN BUILD BUILDINGS. WE BUILD DREAMS.
WHAT IS “LEAN”?

- Maximize Value
- Reduction of Waste
- Focus on Productivity & Flow
- Continuous Improvement
- In a Word - Optimize

REFERENCES
INDUSTRY EFFICIENCY

WHAT DO YOU THINK?
Most who never heard of Lean think the industry is Efficient.

<table>
<thead>
<tr>
<th>Category</th>
<th>Implemented Lean Practices</th>
<th>Familiar with Lean Practices</th>
<th>Not Familiar with Lean Practices</th>
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</thead>
<tbody>
<tr>
<td>Inefficient/Highly Inefficient</td>
<td>62%</td>
<td>32%</td>
<td>14%</td>
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<tr>
<td>Neutral</td>
<td>19%</td>
<td>28%</td>
<td>26%</td>
</tr>
<tr>
<td>Efficient/Highly Efficient</td>
<td>19%</td>
<td>40%</td>
<td>55%</td>
</tr>
</tbody>
</table>
The McKinsey Global Institute: February, 2017

Reinventing construction through a productivity revolution

“...the industry has an intractable productivity problem…”

The Economist: August, 2017

Least-improved: Efficiency eludes the construction industry

“...American builders’ productivity has plunged by half since the late 1960s...”

“...an industry that raises prices for clients and mostly ignores tools that might improve productivity.”
WHY LEAN?

- Client satisfaction
- Redefine success
- Competitive advantage
CLIENT SATISFACTION

Quality
Owners
- Always: 2%
- Frequently: 12%
- Sometimes: 66%
- Infrequently/Never: 20%

Cost
Owners
- Always: 7%
- Frequently: 30%
- Sometimes: 52%
- Infrequently/Never: 11%

Schedule
Owners
- Always: 10%
- Frequently: 26%
- Sometimes: 52%
- Infrequently/Never: 12%

Architects and Contractors
- Always: 1%
- Frequently: 11%
- Sometimes: 31%
- Infrequently/Never: 57%

Architects and Contractors
- Always: 10%
- Frequently: 53%
- Sometimes: 36%
- Infrequently/Never: 1%
• Productivity
• Predictability
• Shorter Schedules
• Teamwork
• Shared Success
• Less Firefighting
COMPETITIVE ADVANTAGE

PROJECTS with HIGH LEAN INTENSITY are MORE LIKELY to complete AHEAD OF SCHEDULE & UNDER BUDGET

3X

2X
71% of trade contractors that implement lean construction practices see improved profitability to their firm’s bottom line.
IMPLEMENTATION

- Digital Documents
- BIM Coordination / VDC
- Prefabrication & Modularization
- Laser Scanning / Digital As-builts
- Just-In-Time Delivery
- Visual Management
- On-Boarding
- Collaborative Planning
ADOPTING A SIMPLE STANDARD

1. General McChrystal as a Traditional leader
   - Command
     A traditional top-down structure. The connections that matter are between workers and their managers.

2. General McChrystal as a Transition Leader
   - Command of Teams
     Small teams operate independently but still within a more rigid superstructure

3. General McChrystal as a Design-Centric Leader
   - Team of Teams
     The relationships among teams resemble the closeness among individuals on those teams.
PULL PLANNING

- Milestones
- Phases are planned by weeks
- Near-term work planned by day
- All major trades included & have a voice
- Focus on project productivity and work flow
- Simple, low tech and real time
- Visual communication
- Easy to track and update / adjust
- Issue resolution
IT'S ALL ABOUT BEHAVIOR

WHAT DO YOU HAVE TO THINK?

• Waste is prevalent in our industry
• We can do better - together
• Trust in the expertise of others
• Planning is critical
• Work flow and productivity matter

WHAT DO YOU HAVE TO DO?

• Pay attention to other trades
• Train & empower the field staff
• Make clean hand-offs (get all the way done)
• Be open about issues and help resolve them
• Always learn and always give feedback