P2SL-LCI-AIA Lean Design Forum 2016 Session 3, 28 January 2016, Berkeley, CA P2SL.BERKELEY.EDU

INFLUENCE OF LEAN ON

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January 28, 2016

SMITHGROUP

LEAN PERSPECTIVES The Influence of Lean Processes on Design

Practice



Matt Davis, AIA Principal, Project Architect

"Lean is as much an attitude as a process. An attitude about delivering value in a team based approach."



Franco Marinaro, AIA, LEED BD+C, Associate

"Design is an iterative process... To accommodate this requires the willingness to accept and manage change."

Marianne O'Brien, FAIA, Principal, Project Manager

"The single most important trait for a highly productive team is respect for all partners, closely followed by a 'how can we' mindset to solve any challenge."



Akanksha Pande, AIA, EDAC, LEED AP BD+C, Project Architect

"A lean IPD environment is a negotiated commitment where all parties involved must believe in the collective vision."





DOLBY REGENERATION MEDICINE BUILDING

Build Partner: DPR

Client: UCSF

Building Type: Research

Size (gsf): 68,500

Year Constructed: 2010

Location: San Francisco

Cost: \$91M (w/design fees)

Delivery Methodology: Design-Build,

IPD Principles



MTHGROUP JJR

LEAN STRATEGIES

DOLBY REGENERATION MEDICINE BUILDING





Pull Planning



Big Room



Cluster Groups



Set Based Design

Continuous Improvement

Co-location



POINTS OF INTEREST

DOLBY REGENERATION MEDICINE BUILDING

- Lean strategies saved 21 months of schedule & \$20M of cost
- Highly effective Big Table/Little
 Table system conceptualized for
 stakeholder understanding &
 input
- Innovation and high degree of personal investment from entire team



CPMC VAN NESS & GEARY

Build Partner: Herrero-Boldt

Client: Sutter Health

Building Type: Acute Care Hospital Size (gsf): 740,000 sf program space 230,000 sf parking space

Year Constructed: In Construction Location: San Francisco Cost: \$1.2 billion (w/design fees) Delivery Methodology: IFOA



LEAN STRATEGIES

Target Value Design



Pull Planning

Big Room

Cluster Groups



Set Based Design

Continuous Improvement

Co-location



POINTS OF INTEREST

CPMC VAN NESS & GEARY

- Project had an earlier life as CM at Risk
- Owner's full support for lean
 processes
- Lean allowed for innovation, which lead to the first use of viscous wall dampers in the U.S.



ST. LUKE'S HOSPITAL

Build Partner: Herrero-Boldt

Client: Sutter Health

Building Type: Acute Care Replacement

Hospital

Size (gsf): 215,000, 120 beds

Year Constructed: 2019

Location: San Francisco

Cost: \$650 million (w/design fees)
Delivery Methodology: IFOA,





POINTS OF INTEREST

ST. LUKE'S HOSPITAL

- Lean IPD strategies projected to save 6
 months in construction
- OSHPD Rolling review First project ever to employ collaborative office & field review processes
- Commitment to seamless integration
 across disciplines, construction documents
 based on a live coordination model



LEAN PRINCIPLES ON NON-LEAN PROJECTS

Client Base: Civic Private and International

Building Types:

Public Aviation Commercial

Size (gsf):

Varies

Delivery Methods: Partial Design-Build Design-Bid-Build CM At-Risk









OBSERVATIONS

LEAN PRINCIPLE ON NON-LEAN PROJECTS

- Set Based Design Techniques: Increase team buy-in and understanding, leading to improvements in design constructability
- Big Room and Pull Plan: Strengthen team environment, improve conflict resolutions, and identify effects of design issues
- Target Value Design: Drives cohesive design solutions, avoids "VE", and pushs for value innovation



What is the

relationship between

design commitments

and lean project

delivery?



Where is the waste

in the Design

Process?



How can Lean design

principles be applied

to a non-Lean

project?



How has Lean

impacted design in

the selection of

architectural teams?









What is the

architect's role in a

Lean project process?



INFLUENCE OF LEAN ON

- Benefits of lean
- Out of the box application
- Potential challenges
- Strategies for success

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