

Virtual Round Table | September 20, 2018

Digging into the Business Case and Numbers Behind Off-Site Construction | Follow Up Notes

Housing Innovation
Alliance

INTRODUCTION

Innovation is the path to delivering new homes that are built to the highest standards of quality, performance and value –and are affordable and attainable.

Here's what we heard late last year and at the 2018 Summit in April. We know we need to go in this direction. We want to give you a snap shot of what we are doing and what we are going to do to get the ball rolling in this area. (See word cloud >>)



PRESENTERS

Betsy Scott, Housing Innovation Alliance
Margaret Whelan, Whelan Advisory, LLC
George Casey, Stockbridge Associates

Thank you to our partners, you make this type of research and programming possible!

turnkey simpler. cleaner. faster.
BIM as service **real #s productivity**
value calculation PANELIZATION
SCALABILITY **OFF-SITE** components
partnerships modular
INVESTMENT international drivers
affordability data integration JAPAN LABOR

Business Models

- Site Built
- Components – smaller pieces, prefab, ready frame
- Panelization – 2D
- Modular

Depends on the Builder. Considerations:

1. Ownership – Outsourcing? Partnership? Building your own factory?
2. Impacts on **process**?
3. Impacts from **technology and engineering** perspective?

BIG PICTURE Off-Site Insight from Margaret Whelan:

- Our industry has been cyclical and has relied on undocumented workers who would build up skillset over time
- Labor is one of our biggest stressors, we have to work hard to attract talent into industry
- How can we increase supply?
- Look to overseas for best practices, as well as Toll, NVR
- 3rd parties could sponsor these initiatives (CertainTeed + Unity Homes, Louisiana Pacific + Entekra, etc.)
- Open frame, panel will see most improvement over the next few years
- Raney Construction (RCI) builds house twice – with BIM online and in the factory; takes 10+ days off build cycle
- Entekra offers similar solution: FIOSS – Fully Integrated Off-Site Solutions; not just efficient for framing, but will reduce cycle time and increase cash flow

- Challenge is being on time + on budget; these types of innovative processes and products will get us there

BIG PICTURE Off-Site Insight from George Casey:

- Business model has relied on subcontractors, you can't improve process
- How to improve process:
 - Go from 50-60 trade contractors → "Super Subs" – which would be large pieces of the house built by a more financially capable and sophisticated than current subcontractor base
 - Building house using 3D, BIM software upfront – removing problems in the beginning + integration of trades = efficient + less waste

CALCULATING VALUE

[View the calculator on our website.](#)

- Built on the premise that off-site allows you to complete more homes with fewer workers in less time
- Capture cost data including traditional numbers (standard direct costs) as well as reductions in material waste, theft, and VPOs/rework
- Also looking at cycle time savings, indirect costs such as the impact on taxes, insurance, loan interest, and added margin
- What is the impact on site supervisors? More houses covered by each?
- Use the calculator to tie back harder to quantify costs
- How to get the data for the calculator? We've tried to delayer the calculator into questions that you could use as a builder to ask various departments within your organization
- Position yourself to be more productive and prepared for the future

NEXT STEPS | UPCOMING EVENTS

- **November 14-15, 2018 | Baltimore | [Live Round Table](#)** | Off-Site Construction: Making the Numbers Work for Your Business. [Visit Blueprint Robotics](#), get real number comparisons of off-site versus on-site, and participate in table-based think tanks to dig deeper into the numbers
- **October 2-3, 2018 | [Road Trip](#) | Tennessee** | Among the visits is a tour of Clayton Homes' factory and [discussion](#) on how they plan to bring off-site to their production homebuilders
- **April 2-3, 2019 | [Innovation Summit](#) | Scottsdale, Arizona** | More financial case studies as part of a broader program on housing innovation
- **Summer 2019 | International Road Trip** | contact Betsy if you are interested or have ideas to contribute for the program betsy@housinginnovation.org

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