

# What Can We Do Better?

Convening the best minds to re-imagine capital construction at the UW and WSU

CAPITAL PLANNING AND DEVELOPMENT

University of Washington + Washington State University

CENTER FOR EDUCATION AND RESEARCH IN CONSTRUCTION

UW, Department of Construction Management



On October 24<sup>th</sup>, 2016, Washington State University (WSU) and University of Washington (UW) invited the building industry's best minds to discuss what they can do to add value and innovation around how and what to build. The objectives of the day's events were to identify approaches, tools, methods, processes, and more to improve:

1. Design and construction solicitation and procurement.
2. Project definition and set-up.
3. Programming and design process.
4. Project governance and decision-making.
5. Team creation and best work encouragement.

Leading the event were facilitator, Ted Sive (Ted Sive Consulting), and core team members, Michael McCormick (UW Capital Projects), Olivia Yang (WSU Capital Projects), Ash Awad (McKinstry), Dan Barrett (Sellen), Dan Chandler (OAC), Louise Sweeney (WSU), Jack Avery (Sellen), and Walter Schacht (Schacht Aslani).

Attendees represented leaders in architecture, engineering, construction, and owner (AECO) organizations, as well as representatives from the UW's Center for Education and Research in Construction (CERC) and Barbara Bryson (University of Arizona), author of *The Owner's Dilemma: Driving Success and Innovation in the Design and Construction Industry*.

To achieve the above objectives, the team spent the morning leading six groups in break-out sessions around three core themes. The break-out session themes were based on a CCI preliminary white paper draft titled, "A Guide to High-Value University Construction Projects." This white paper centered on improving value through careful consideration of *what* universities build and *how* universities build. The three core themes for the break-out session were:

1. What We Build: Programming, planning, and design
2. How We Build: Teaming
3. How We Build: Fostering innovation

## Outcome of Morning Sessions

After the morning break-out sessions, key concepts generated out of each session were condensed into thirty-four ideas that would help lead to a 40% reduction in costs. Out of these suggestions, the following five topics were developed for afternoon break-out sessions:

1. Lego buildings – standardized components
2. Decision-Making and Leadership
3. Shared Risk/reward contracting
4. Business plan
5. Team selection models

See a complete list of the morning's thirty-four key ideas at CERC's website: <http://cm.be.uw.edu/news/convene-re-imagine-capital-construction/>



## Afternoon Sessions

Each break-out group focused on one of the above topics and was asked to discuss what success would look like, the barriers to success, and immediate changes that the UW and WSU could implement into pilot projects to begin on the pathway to success.

### *Lego Buildings*

The Lego Buildings group discussed how to integrate modular, pre-fabricated components of building systems and structures that could be brought on site and assembled. A key requirement to successfully implementing modular construction was identifying what on campus could be modularized and how to define quality. Key areas identified for pre-fabrication were campus housing, interior walls, laboratory spaces, restrooms, and building systems.

Key barriers to success were cultural, legal, and logistical. These included ensuring the campus' unique character, design team cultural barriers to using pre-fab, current procurement laws and building code limitations, subcontractor and contractor competition limitations, difficulties with adapting to technological improvements, limits in building adaptability, difficulties implementing pre-fab components into existing buildings, and the potential expense of a pre-fab pilot project.

The team developed the following list of recommendations for a university pilot project:

1. Identify the lifespans of current building components to identify pre-fab options.
2. Identify building types suited for a pilot project.
3. Set targets for percentages of desired modular construction on university buildings.
4. Engage early with the design team about modular construction and scheduling needs.
5. Host a symposium with industry on modular construction.
6. Reframe user expectations around the construction process and outcomes.

### *Decision-Making and Leadership*

The Decision-Making and Leadership group identified success as a project where each stakeholder group has an enabled point person. These leaders would be fully engaged in the process, transparent about the team's challenges, and have a clear understanding of the team's functional value to make the best decisions at the right time. Success was also identified as a progressive constructive process where the project is delivered on time, on budget, meets the program, and has outcomes that satisfy the team.

Key barriers centered on the current organizational structures and practices of the university and work practices and assumptions in the AEC industry. These barriers included diverse campus stakeholders with different agendas, the potential for legislators or university leadership to undermine project leaders, the complexities of university project funding, university cultural and institutional knowledge resisting change, AEC misunderstandings about the values behind university buildings, and siloed AEC work practices leading to less time for meaningful exchange.

The team developed the following list of recommendations for a pilot project:

1. Establish the goals of the pilot.
2. Establish benchmarks and measure against them with the pilot.
3. Mentor and coach all stakeholders around goals.
4. Define the building process have stakeholders with leadership in specific areas and goal buy-in.
5. Collect and share positive and negative university building cases.
6. Include the regents and the legislators in the pilot.

### *Shared Risk and Reward*

The Shared Risk and Reward team viewed success as centered on trust through a cooperative, transparent risk management and incentive process that has measurable goals. Success also relied on having shared contingencies, using a design-build model, and having an owner using key “talking points” during periodic project milestones to keep the team engaged and maintain project continuity. Barriers to success were that universities did not fully understand how industry prices risk in projects, some AE cultures and firm sizes are unable to absorb and manage risk, team contention around how to measure incentive behavior, and warranties around contract language.

The team developed the following list of recommendations for a pilot project:

1. Have clear goals that are objectively defined for transparency.
2. Use scorecards on good behavior.
3. Have team agreement on how to measure behavior and tie to incentives.
4. Have contracts that specify performance objectives tied to behavior that can be incentivized.
5. Make a contract an open document with later negotiations.

### *Business plan*

The Business Plan group identified success as a business plan that provides clear, desired outcomes and a measured return on investment. Barriers to success were not having a measurable outcome that creates value and not having clear communication describing a return on investment.

The team developed the following list of recommendations for a pilot project:

1. Before capital project begins, identify needs for a space and demonstrate demand for funders.
2. Involve AEC non-university specialists.
3. Define measurable outcomes.
4. Use the business plan as a funding plan for donors and use early on in the legislative process.

### *Team Selection Models*

The Team Selection Models group identified success as strong teams, transparent communication and pricing, an owner receiving the project they want, the team making their fees, and everyone feeling satisfied. Barriers to success were design-build projects leading to exclusivity on teams and owners not developing clear project criteria.

The team suggested a pilot project that used a progressive design-build “snowball process” of self-selection. The team’s recommendations were:

1. Use progressive design-build.
2. Hire general contractor and architect first.
3. Select subcontractors and others later.
4. Engage users throughout process.
5. Focus on big goals.
6. Get buy-in from all team members.

### **Next Steps for Core Team**

Each break-out session identified a leader to report on their discussion to the whole group. The core team then received feedback on next steps. Two key next steps were:

1. Develop a communication plan to convey outcome of meeting and strategies for change.
2. Begin with Team Leadership Decisions and Risk/Reward Contract changes.