Project Delivery Process Mapping Exercise: Directions for Implementation

Background

Do you feel that your project delivery process creates conditions conducive to achieving high performance goals? How effectively does your design process optimize collaboration and the integration of building systems? Do you ever feel frustrated or disappointed in your interactions with consultants or team members? Are you aware of the "invisible losses" in efficiency, cost or performance on projects due to an ineffective process? Do you feel there are barriers that make it hard to achieve performance goals?

Most of us know that the traditional design process is rife with problems, dissatisfaction and frustration, but we dislike change, and tend to be more comfortable with a familiar (if dysfunctional) situation rather than change it! Often we are not even aware of what the alternatives are or how valuable they might be. In the case of building design, these process issues directly impact cost and performance (and sanity) and therefore it is our responsibility to take steps to intentionally optimize the process and redefine our standard of care.

In order for you to better understand how well your company's systems, resources and methodologies support project delivery, it is useful to spend a little time "mapping" your process and re-designing it. Being intentional about how you deliver your projects is the first step to achieving better outcomes and higher performance. A focus on "ReDesign" will help you identify specific actions to take to enhance your process.

This document provides an overview of the mapping and ReDesign exercise and gives direction for how to run it in-house.[1] A variant on this exercise (or "Part 2") is to spend a couple of hours using the structure from your ReDesign as a basis for discussion with your key consultants or clients. They are the other part of the project delivery equation and some of what you want to influence involves their decisions and actions.

[1] SPI frequently facilitates mapping workshops (for AIA credit) so contact us if you are interested in having us work with you. A knowledgeable outside facilitator can serve as a neutral party and can also challenge the status quo and bring up ideas that may not occur to the group who can be weighed down by the pressures of their projects.

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Preparation: the Who and the What

For this exercise, it's important to get the right people in the room. Representatives from different service areas or disciplines are important because they each influence the process in different ways. Depending on the size of your firm and the scope of services you offer, this will vary. For large companies, in terms of hierarchy, participants should range from executive decision makers to project managers and support staff. In terms of role diversity, participants might represent marketing, finance, IT, project executive or the lead client contact, project manager, specifier and project support (junior designers, BIM operators, etc). In terms of scope, in a larger architectural firm this may include architecture, interior design and planning. In a construction company it may include project executives, pre-construction experts, estimators, foremen, procurement specialists. If a particular role has direct influence on a project delivery process, you should consider inviting them.

It is a significant commitment to get many people in one room for a few hours, and that may (understandably) be met with hesitation. However, project delivery is the heart and soul of your business. A focused and intentional effort to improve the outcome of it has tremendous value to all aspects of your work, from business development to collaboration to – ultimately, performance and profitability.

The next issue to define, ideally before doing the exercise, is what "best practices" means for your firm in terms of sustainability. In other words, what does your firm consider integral to its practice, independent of client demands? What is the minimum sustainability standard that you set for yourselves? You can define this in terms of performance standards (LEED or other framework) such as "All of our projects should meet LEED Silver level", you can think of it in the context of Architecture 2030 or any way that works for you. It's helpful to have some definition roughed out so that your project delivery ReDesign can be helping you move towards your desired outcome. At a minimum, the basic tenets of professional practice should include commitment to:

- Maximizing passive design strategies
- Optimizing building systems integration for maximum efficiency
- Using data driven, performance-based analysis as basis of decision-making (simulation, etc)
- Understanding operational considerations in design and developing cost in a life cycle framework
- Evaluating products using health selection criteria (red list or other)
- Managing an effective integrative design process (not to be confused with contractual structure IPD) including measuring and tracking performance of projects to the best of your ability

Getting Started

This exercise is best completed in a 6-hour block, although it can be compressed to 4 hours or broken into two sessions. If you are doing it in a 4-hour block and you have a large number of people, you might want to structure the second part of the exercise in 2 or 3 beak-out groups rather than full group facilitation.

To begin the exercise, first clarify what is meant by “green building” or “sustainability” by referring to the list above and asking if anyone has anything to add to that list. This ensures that everyone has a shared understanding. Next, conduct a short brainstorm using a flipchart asking people to articulate some specific ideas about their “desired future state”. These short statements can be thought of as press release headlines from the future – what people would like to be able to brag about in 3 years that is not true in the present day. These typically include things like, “we know and track the performance of all of our projects”, “leadership is committed to sustainability and we are signatories to AIA’s 2030 Commitment”, or “we have designed X net zero energy projects”. After you complete the mapping that follows, you will return to this list and ask people if the mapping represents actions that will lead you to achieving these desired future states.

To begin the mapping, you first need to decide what type of project you want to focus on. Most firms work on more than one building type and different types can have vastly different contexts. Public schools vs. hospitality vs. healthcare – the financing, decision-making structure and performance requirements are so different that trying to do the exercise addressing more than one type can be confusing. It is important to decide what kind of project type you want to focus on for the purposes of the exercise.

Once you have decided on a specific project type, one person will be designated to do the diagramming. Using flip chart paper, a large roll of trace or other means, a long, blank surface is laid out that is large enough to capture the timeline of a project. The timeline represents (at a minimum) the duration of the project from its inception (which can include responding to an RFP or the first meeting post-contract) through its termination (which can vary from construction administration and turnover to a period of post-occupancy operation.)
The exercise has four layers:

- The first layer is diagramming the existing situation and major milestones in a timeline, or project flow.
- The second layer describes, for each milestone, the challenges, barriers or things that don’t work.
- The third layer is a corrective overlay that represents how things shift so that project delivery is more conducive to success
- The fourth layer builds on the third to identify specific tools, resources, protocols or processes that need to be created or modified and added to the typical project delivery process.

For Layer 1 (diagrammed in black ink) the first question is, “Where does a project start?” Typically, people say project inception is the starting point (responding to an RFP) but many times bigger-picture questions come up, such as, “What clients do we want to target?” or “Do we have a business plan that drives how we market and what we go after?” and questions like that. Starting with an open-ended question will open the door to see what makes sense for your group. It is also important to ask, “Where does the process end?” Project end-point is actually a complex and ambiguous element. It may include activities that you don’t currently undertake, or missed opportunities for marketing or knowledge management. Frequently this raises interesting dialogue around project closeout processes, duration of project into occupancy and post-occupancy evaluations, lessons learned and any reporting or tracking of metrics. This layer can take between 15-30 minutes depending on what discussion arises.

In Layer 2 (diagrammed in red ink) the discussion focuses on each milestone and identifies barriers or gaps that compromise the ability of the project to achieve sustainability goals. These can be related to *timing* or *content* (particular consultant input happens too late or without enough detail), *skills* and *expertise* (lack of knowledge about technologies, strategies), *cultural issues* (mindset and attitude), *process gaps* (lack of clearly choreographed steps for analysis, input, feedback loops), lack or misuse of *tools* (energy modeling in DD, lack of life cycle costing) or other issues. This usually takes 1.5 hours.

Layer 3 (done in green ink) considers the barriers and offers shifts, changes or tweaks so that the project deliver process is conducive to effective collaboration, clear and valuable analysis and optimization of systems to achieve performance. Examples include *clarifying expectations* (between architects and MEP engineers, for example), *using new tools or resources* (life cycle costing templates, product spec tools, etc), *clarifying the choreography* of feedback loops in analysis (creating workplans for critical-path decision-making around major performance goals – energy, water, indoor air), creating knowledge management and mentoring opportunities to develop internal skills and expertise – or any other change to behavior, mindset or action that influences different outcomes.

To recap, proposed changes may address:

- Skillsets needed
- Analysis to be done (qualitative/quantitative characteristics)
- Process steps to complete each task
- Methodology (approach to the task)
- Tools & Resources used at critical steps (OPR, LCC, POE)
- Partnerships/relationships engaged – expectations from that relationship at each step
- Culture and mindset that influences behavior

For each milestone along the project delivery process, the group needs to ask itself, “What makes this milestone a success?”

Some of the suggested changes will be easy to put in place immediately and completely under the control of the firm (meeting agendas changed, templates or checklists created). Others may be longer-term items that are dependent on the agreement or participation of clients or partners. In either case, identifying the need and the strategy to address it are the first steps in creating the future state you want to deliver. Layer 3 usually takes 1.5 hours.

Layer 4 builds on the desired future state, but focuses on what organizational shifts need to happen to align with the desired changes and how to institutionalize the change. This layer looks at developing, in more detail, the specifics of what tools, resources, actions or protocols need to be created or managed to achieve the desired outcome. These can relate to accountability, culture change, HR or IT processes. For example, if your project kick-off doesn't include the use of a workplan to lay out critical-path (performance) decision flow or goal setting, creating that template would be one item. Similarly, life cycle costing templates, post occupancy evaluations, owners project requirements – are all different kinds of tools that may not be in regular use. Many architecture firms express their frustration with mechanical engineers. In that case, one outcome is a dedicated effort to define and articulate expectations for MEP consultants (quantitative and qualitative) as a tool for changing the working relationship and work products. This usually takes 30 min to identify all the different elements.

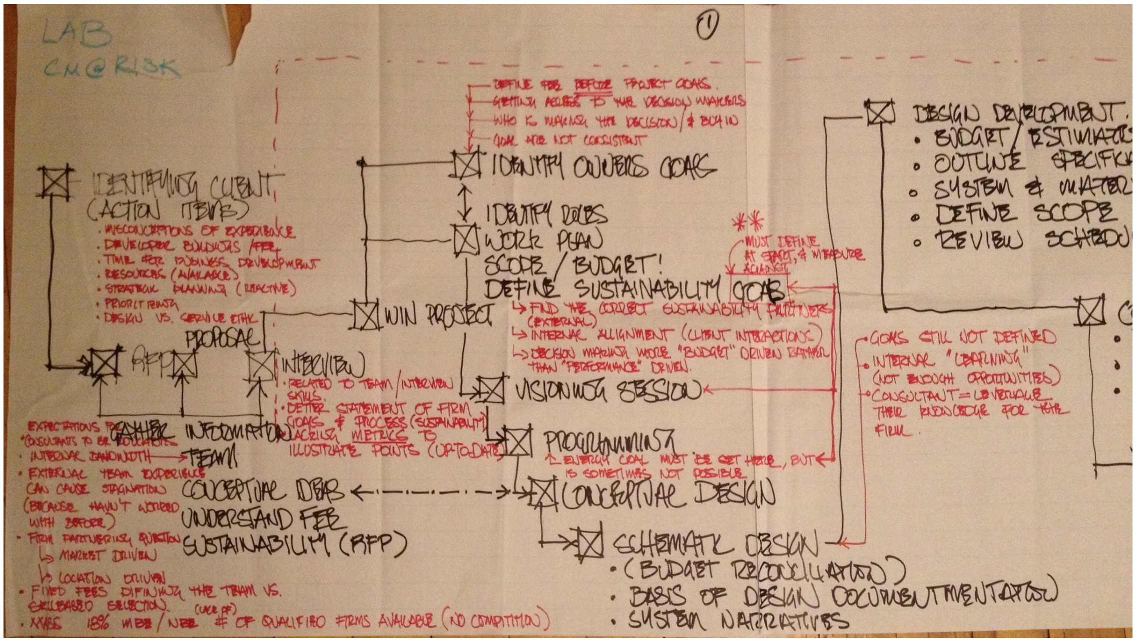
This exercise has many benefits. First it helps make sure that everyone in your company has a shared understanding of how sustainability is integrated into all steps of your project work (especially helpful for your non-technical staff). Second, it helps you to validate that the systems and infrastructure that support projects are aligned with these processes. Third, it helps to shed light on dysfunctions and gaps that people have been "comfortable" with or assumed they couldn't change.

Additionally, it is common for companies to have methodologies that are used by some people or in some divisions of a company, but not consistently by all. Because there is usually no documentation of what the "standard, or recommended methodology" is for the company, this exercise can be helpful to establish that standard and provide a tool to communicate expectations and migrate best practices across the organization.

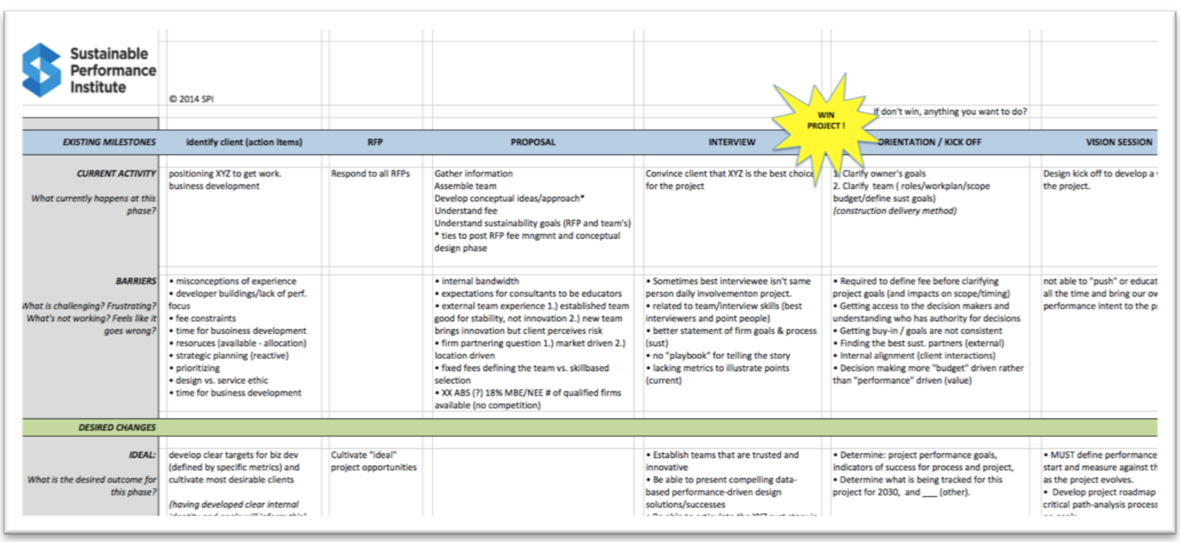
Work Product / Deliverable

The product of this work typically includes three different kinds of deliverables. First there is the output of the mapping or diagramming ReDesign that is created from the "group-think". Second is a more formalized version of a refined and detailed roadmap in spreadsheet or other form that is the first step to integrate key changes into traditional project management tools, share point systems or other resources used daily. Third is the development of specific tools, policies or protocols that are identified in the exercise. Following is an example of what those could look like.

Below is an example from one work session. There is no right or wrong way to approach this, but it is important that the product be a visual diagram that is created by group input and addresses all the major milestones of project delivery (and sometimes beyond).

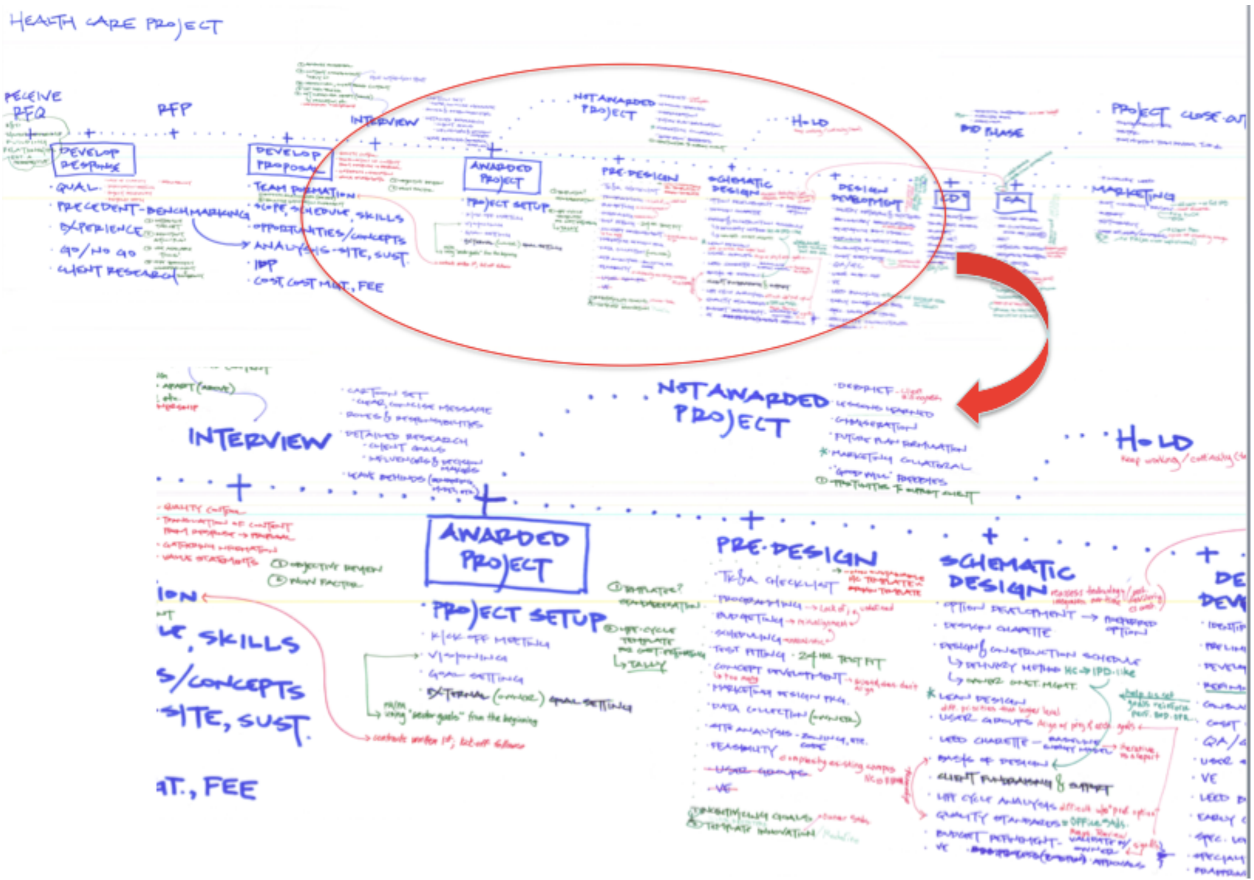


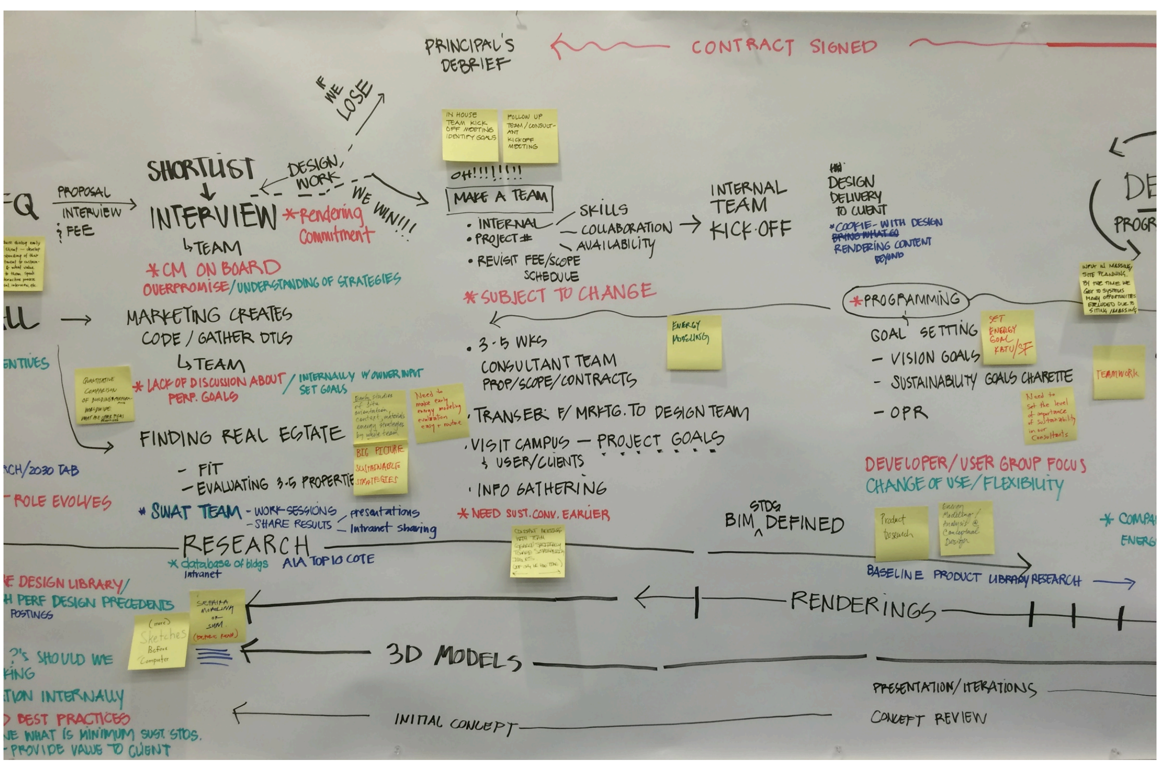
Once the initial ReDesign diagram is created, a more formalized framework can be developed that begins to identify more specific actions, resources and outcomes and can be the basis, or precursor, for other tools, templates and roadmaps to be created that can be integrated directly into agendas, project management or quality control tools. This map identifies other tools to be created.

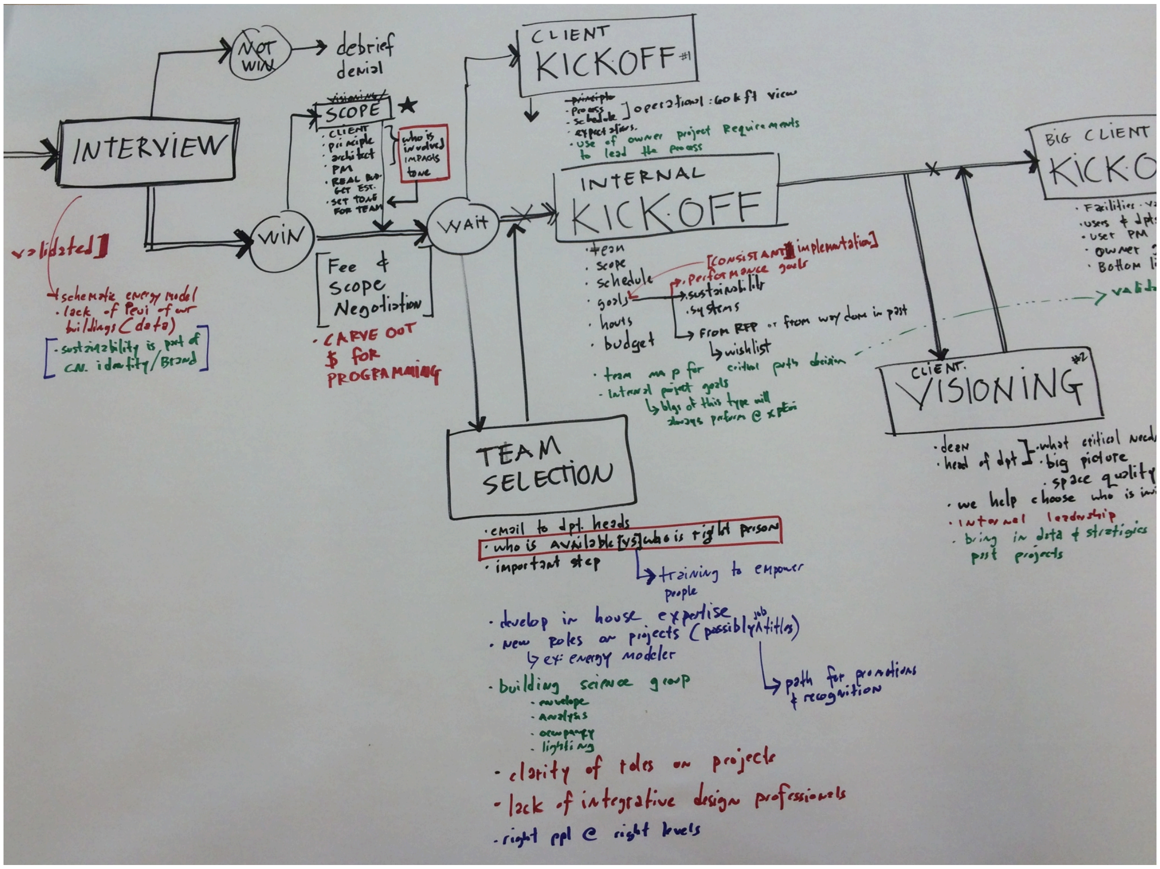


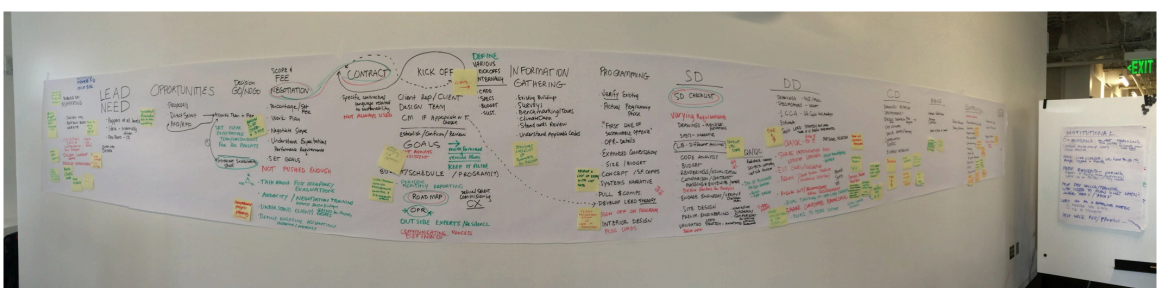
EXISTING MILESTONES	identify client (action items)	RFP	PROPOSAL	INTERVIEW	ORIENTATION / KICK OFF	VISION SESSION
CURRENT ACTIVITY *What currently happens at this phase?*	positioning XYZ to get work. business development	Respond to all RFPs	Gather information Assemble team Develop conceptual ideas/approach* Understand fee Understand sustainability goals (RFP and team's) * ties to post RFP fee mngmnt and conceptual design phase	Convince client that XYZ is the best choice for the project	1. Clarify owner's goals 2. Clarify team (roles/workplan/scope budget/define sust goals) *(construction delivery method)*	Design kick off to develop a the project.
BARRIERS *What is challenging? Frustrating? What's not working? Feels like it goes wrong?*	• misconceptions of experience • developer buildings/lack of perf. focus • fee constraints • time for busoiness development • resoruces (available - allocation) • strategic planning (reactive) • prioritizing • design vs. service ethic • time for business development		• internal bandwidth • expectations for consultants to be educators • external team experience 1.) established team good for stability, not innovation 2.) new team brings innovation but client perceives risk • firm partnering question 1.) market driven 2.) location driven • fixed fees defining the team vs. skillbased selection • XX ABS (?) 18% MBE/NEE # of qualified firms available (no competition)	• Sometimes best interviewee isn't same person daily involvementon project. • related to team/interview skills (best interviewers and point people) • better statement of firm goals & process (sust) • no "playbook" for telling the story • lacking metrics to illustrate points (current)	• Required to define fee before clarifying project goals (and impacts on scope/timing) • Getting access to the decision makers and understanding who has authority for decisions • Getting buy-in / goals are not consistent • Finding the best sust. partners (external) • Internal alignment (client interactions) • Decision making more "budget" driven rather than "performance" driven (value)	not able to "push" or educat all the time and bring our ow performance intent to the p
DESIRED CHANGES						
IDEAL: *What is the desired outcome for this phase?*	develop clear targets for biz dev (defined by specific metrics) and cultivate most desirable clients *(having developed clear internal*	Cultivate "ideal" project opportunities		• Establish teams that are trusted and innovative • Be able to present compelling data-based performance-driven design solutions/successes	• Determine: project performance goals, indicators of success for process and project, • Determine what is being tracked for this project for 2030, and ___ (other).	• MUST define performance start and measure against th as the project evolves. • Develop project roadmap critical path-analysis process

Following are more examples from different sessions at different firms:


HEALTH CARE PROJECT
RECEIVE RFQ
RFP
DEVELOP RESPONSE
DEVELOP PROPOSAL
INTERVIEW
NOT AWARDED PROJECT
HOLD
AWARDED PROJECT
PROJECT SETUP
PRE-DESIGN
SCHEMATIC DESIGN
DESIGN DEVELOPMENT
PROJECT CLOSE-OUT
MARKETING


PRINCIPAL'S DEBRIEF
CONTRACT SIGNED
IF WE LOSE
SHORTLIST
DESIGN WORK
INTERVIEW
WE WIN!!!
MAKE A TEAM
INTERNAL TEAM KICK-OFF
DESIGN DELIVERY TO CLIENT
* CM ON BOARD
MARKETING CREATES CODE / GATHER DTLS
FINDING REAL ESTATE
* SUBJECT TO CHANGE
3-5 WKS
CONSULTANT TEAM
TRANSFER F/ MRKTG. TO DESIGN TEAM
VISIT CAMPUS — PROJECT GOALS
INFO GATHERING
* PROGRAMMING
GOAL SETTING
– VISION GOALS
– SUSTAINABILITY GOALS CHARETTE
– OPR
DEVELOPER/USER GROUP FOCUS
CHANGE OF USE/FLEXIBILITY
* SWAT TEAM
RESEARCH
BIM STDS DEFINED
RENDERINGS
3D MODELS
PRESENTATION/ITERATIONS
INITIAL CONCEPT
CONCEPT REVIEW





Every firm is different, yet themes emerge that are consistent. Most of the firms we work with have a sustainability commitment in place, such as the AIA 2030 Commitment, but have hit walls or plateaus with their portfolio-wide performance. This deconstruction and “ReDesign” helps them understand what their internal barriers are and how they can overcome them.