National Institute of BUILDING SCIENCES

The Academy for Healthcare Infrastructure

Collaborative Research Program

RESEARCH TEAM 3:

Project Acceleration / Speed to Market Strategies

Underwriter
Balfour Beatty Construction

Team Chairs
Frank F. Aucremanne
Cleveland Clinic Foundation

Scott Nelson
Advocate Health Care

Donald H. Orndoff
Kaiser Permanente Healthcare System

Dana E. Swenson, PE, MBA
UMass Memorial Healthcare

Subject Matter Experts
Coker Barton
Hoar Construction

Eric T. Burk
Balfour Beatty Construction

Victor Sanvido
Southland Industries

Brian J. Smith
Cleveland Clinic Foundation

Paul E. Strohm
HOK Architects

Barbara Wagner
Clark Construction

Michael Weiss
WorkingBuildings

Brent Willson
HKS Architects

Team Facilitator
Rebekah G. Gladson, FAIA
rggroup global

An Authoritative Source of Innovative Solutions for the Built Environment

2015

2015 Collaborative Research Program

Team 3
Project Acceleration / Speed to Market Strategies

Authors

Academic Facilitator
Rebekah Gladson, FAIA, President, rggroup global

Team Co-Chairs

Donald H. Orndoff, AIA
Sr. VP, National Facilities Services
Kaiser Foundation Health Plan, Inc.
Oakland, CA

Frank F. Aucremanne
Executive Director, Buildings & Properties
Cleveland Clinic Foundation
Cleveland, OH

Scott Nelson, AIA
Director, Planning & Design
Advocate Health Care
Chicago, IL

Dana E. Swenson, PE, MBA
Sr. VP & Chief Facilities Officer
UMass Memorial Healthcare
Worchester, MA

Team Subject Matter Experts

Eric T. Burk, Balfour Beatty
Brent Willson, HKS Architects
Victor Sanvido, Southland Industries
Barbara Wagner, Clark Construction
Paul Strohm, HOK Architects
Coker Barton, Hoar Construction
Michael Weiss, Working Buildings, LLC
Brian J. Smith, Cleveland Clinic Foundation

Underwriter
Balfour Beatty

Foreword

In 2013, the National Institute of Building Sciences established a collaborative research program to bring leading healthcare professionals together to address industry challenges at a national level. The Academy for Healthcare Infrastructure (AHI) would focus on improving the processes to create and maintain the complex built environment required to support America's healthcare mission. It would serve as a collaborative network with the purpose of exploring large, comprehensive ideas.

Upon establishing its charter and selecting Research Governors, AHI began the process of setting up Interdisciplinary Research Teams to identify current best practices; envision the future of the healthcare infrastructure industry; and engage appropriate industry leaders to develop new approaches for solving critical problems. Each of the resulting five teams consisted of leaders from the healthcare facilities industry and related subject matter experts, as well as an academician to facilitate the process who would be responsible for compiling the data and developing a white paper for publication.

The Academy's research methods were formulated to utilize the power of interdisciplinary collaboration to actively break traditional professional boundaries. Each of these small, focused teams of industry experts have committed to envision materially improved approaches to a specific critical industry issue. The structure is designed to result in breakthroughs in the creation, management and repurposing of healthcare infrastructure.

Each team focused on a specific topic: Owner Organization for Successful Project Outcomes; Developing a Flexible Healthcare Infrastructure; Speed to Market Strategies; Defining the Next Generation's Focus; and Reducing Initial Capital Costs.

Over the course of 2015, the facilitators coordinated with the healthcare facilities industry leaders and related subject matter experts, and began the process of compiling white papers with their findings.

This paper, "Project Acceleration/Speed to Market Strategies," is the result of Team 3's efforts.

Henry L. Green, Hon. AIA
President
National Institute of Building Sciences

Joe M. Powell
Executive Director
Academy for Healthcare Infrastructure

Introduction

There are times when systematic incremental improvement is desirable. This is not one of those times. Affordable, quality healthcare is essential to sustaining a vibrant society. And yet, the American healthcare industry is facing overwhelming uncertainty in almost every segment.

The Academy for Healthcare Infrastructure (AHI) was established to materially improve the processes used to create and maintain the incredibly complex built environment required to effectively support America's healthcare mission. This collaborative research program is designed to focus on issues that are vital to improving the performance of the healthcare facilities industry, while avoiding the temptation to repeatedly address the same old issues.

"Speed to Market" is an aspirational conversation on how we can improve the overall healthcare business success by considering project planning, project delivery, risk management and innovation as an integral part of our ability to accelerate project development economically. Owners' strategic and business plans are overarching where aspects of the plans can include the design and construction of capital projects. The challenge is, "How can the interface of design and construction align with the strategic and business plan and be optimized for healthcare?"

The single overarching influencer and determinate factor in the success of project acceleration and improvement in "Speed to Market" outcomes is the owner. The AHI's Interdisciplinary Research Team 3 set out to look at this issue.

Definition of "Speed to Market"

As the demands for healthcare change, the definition and understanding of "Speed to Market" requires the acceleration of any project delivery method. In addition, project delivery methods also are changing, which is providing additional opportunities. The past metric of, "How quickly can a project be designed and constructed?" is now, "How quickly can healthcare and services be provided?" The lexicon today has become "Speed to Market" However, the definition of "Speed to Market" can be significantly different from one owner to another, and even redefined depending on whether the person is a design professional or builder. This lack of consistent definition has made it difficult to develop industry metrics, align expectations or create a common understanding. It is critical to establish expectations among the entire internal and external team for each owner and project.

When a project has been determined as necessary, the project planning and project delivery are responsive to the size and complexity of the project. However, the challenges of risk management and innovation create both opportunities and dilemmas for owners, depending on the:

- Size of the organization,
- Market position,

- Culture for decision making, and
- Willingness to share control on the project decisions and management.

Two important elements that impact both risk and innovation are the revelation or development of a strategic plan and business plan, and the availability of funding. Each of these factors has a direct causal effect on risk management, innovation and improved “Speed to Market” performance.

Although the design and construction industry is the primary entity for delivering healthcare projects and facilities, it is the owner who has the majority of control over the "Speed to Market" decisions and actions, which effect outcomes. This white paper explores the responsibilities of each significant player, identifies where better outcomes might be seen and establishes the best practices that are the catalyst for creating industry standards. Owners of healthcare organizations and healthcare systems who pursue a new project will set the standards for acceptable strategy and business decisions, balance the risk, pursue innovations and determine what might evolve in the future as new standard practices.

The process and time required for the development of a strategic and business plan and its tactical response prior to the identification of project requirements requires significant time and includes a vast range of professionals, each with their own terminology and frame of perspective. Although it is unlikely that a universal definition of “Speed to Market” will be developed and consistently applied, it is imperative that a definition of “Speed to Market” (which includes the required acceleration actions) be developed and understood within the owner’s organization or, in the case where the plan entails a project, the definition must be inclusive of the design and construction team for a specific project definition.

The general framework and processes for the planning and subsequent identification of requirements or recommendations follow:

1. What is the business need that we are satisfying?
2. What are the range of options (funding requirements/options included)? and
3. What is the recommendation?

The recommendation may or may not require a built environment solution. Within the industry, there is much confusion as to when the clock starts on the metric of “Speed to Market” and what is included. In reality the metric can be different depending on whether the person is an owner or within the design and construction team. However, regardless of their role, in many insistences, these early steps and processes are omitted, which results in the stop and starting of projects, re-scoping of work and/or moving forward with a less than optimal project program and operational intent.

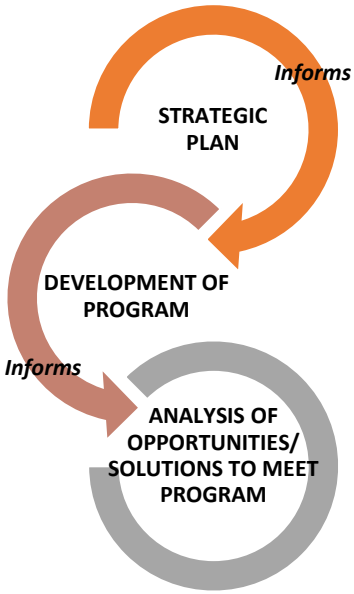
For the sake of this paper, the term “Speed to Market” begins at the time the owner starts the planning process and identifies a need, and ends when the first patient has been seen. The logic for including this broader timeframe is that the area of greatest impact in project acceleration or reducing the “Speed to Market” duration lies in the owner’s ability to develop and clearly identify the detail requirements needed to fulfill the project requirements.

Within the owner's organization, the path of "Speed to Market" is characterized by several project phases, stages and handoffs from divisions and/or departments within an organization. In looking at the overall process and strategy/business line development, there are three critical phases that require clarity and, perhaps, redefining of parameters if sustainable improvements are to be achieved:

1. Identification of specific needs within the overall **Strategic Plan** and a general statement and commitment that the need will be satisfied by a building. (This assumes there is a viable and well thought out strategic plan that is being followed.)

2. Development of a **Project Program and Operational Intent,** which provides flexibility and ability for reasonable adjustment of demand that promotes creative problem solving.

3. Robust and creative **Analysis of Options**, including cost and schedule information, to meet the need, program and operational intent.



Early Project Phases

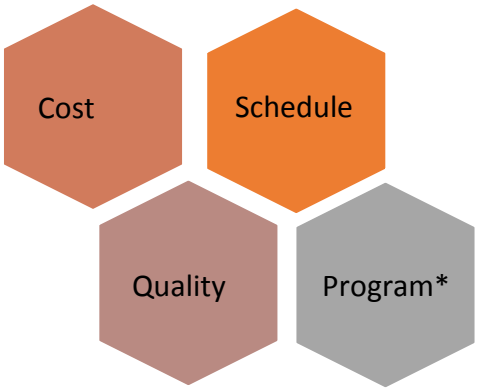
The development of owner-specific parameters for the three phases of "Speed to Market" durations must include not merely the physical development of a project but the initial strategic and planning phase. The owners who have had the highest level of success in achieving favorable project metrics and outcomes included members of their project implementation teams early in the development of strategic and business plans, along with project requirements. Decisions, priorities and expectations developed in this initial phase are critical to understanding and identifying possible solutions, alternative possibilities and relative cost and schedule parameters.

The challenges of improving the delivery of healthcare solutions that require physical components of development are not limited to owners. There are many other factors that contribute and impact the duration, cost, quality and outcomes. It is fair to say that all facets of the design and construction team (architects, engineers, contractors, specialty and sub-contractors and vendors) can play a role in improving outcomes, both physically and financially. This, in turn, will impact the opportunities for alternative solutions, quality of service and cost for healthcare.

Traditional Project Metrics in Evaluating Success

Traditionally, the metrics for evaluating project success have been time, cost and quality. While these are important and need to be measured, there are other metrics that must also be considered in determining successful project acceleration. These additional metrics, although not exclusively in the control and management of the design and construction professions, are either successfully achieved, or the process and/or project team (and at times the industry) have failed to assist the owner in **achieving their goals.**

Before discussing these additional metrics, it is important to recognize that the traditional metrics of time, cost and quality must also be looked at in a different manner. The benchmarking of cost, time and quality is not merely the review of comparable numbers, but of the value received. With the rapid evolution of patient issues and service opportunities, the notion of building for 25-plus years must be reconsidered. For example, is the return on investment in the best interest of the owner, with the certainty of change and question of longevity?



Traditional Metrics for Evaluation
*Depends on team and owner metric definition.

Many papers and studies have been published addressing the cost per square foot of various types of construction. Therefore, the discussion of comparable cost and schedule metrics will be limited in this paper.

The metric of **quality** merits further discussion, since many owners have made the decision to reconsider the 'quality' metric of the equation: Are we good stewards of use of resources: (people?); time; capital and operational cost; high performance and low energy; successful building operations; patient and staff satisfaction; patient safety and infection control; federal and state regulatory compliance; cost of design (not the design fee, but what did the design cost to accomplish the other dimensions of measurements) and other metrics? Many owners have developed design guidelines or development standards that should be updated, reviewed and revised if necessary, in light of the rapid changing healthcare environment and the need to change the "Speed to Market" outcome.

Significant Factors that Impact Project Acceleration and "Speed to Market"

Before discussing how to improve project acceleration and "Speed to Market", the team needed to identify what is contributing to the high cost of healthcare facilities in terms of cost, time and quality to meet the program. The topics of contributors were divided into the following: owners, design professionals and construction professionals (including specialty contractors, sub-contractors and vendors).

OWNERS

The role of many owners has historically been to identify the programmatic need; seek assistance in how that need can be met; engage stakeholders as politically or technically required; provide the final project program; insure project funding; negotiate contracts; and participate at the level their internal expertise allows. This framework requires ongoing and ever-present leadership, direction and decision making to keep the project moving ahead to achieve the stated goals and desired outcomes.

Observations

It is clear that ongoing owner leadership and responsibility for success is required, but is that what is typically occurring in projects? There is always a danger in stating "generalities" as a result of only including a limited group of owner representatives, design professionals and the construction professionals, who often come on the project too late in the discussion. However, there is too much evidence to ignore that this owner approach exists. The process of developing a **strategic plan (and/or a project specific planning/programing process)** is to be inclusive in development and/or 'buy-in' from the highest level of leadership to the minor players who will operate and use the facility. The lack of this critical planning step has a long-term impact on all possible "Speed to Market" characteristics.

The process of developing either a strategic or project-specific plan or program requires time. It is often the case that by the time the analysis is completed, or during the project implementation phase, the program requirements will change. These changes are usually due to advances in technology, implementation of new programs, changes in demographics served; new faculty; change in funding; or a number of other reasonable causes. The resultant impact, regardless of cause, is the stop and re-start of the process at any phase of the project. This always requires additional time and fees, and is linked to the overall cost of the project and schedule duration. Since the demands in the healthcare field are not static, it is both prudent and essential to develop a plan that will allow for present or future flexibility during the implementation phase of the project. However, flexibility comes at a cost and, even with flexibility, there is a cost of responding to changing needs.

Two important owner issues, which directly impact project acceleration and the "Speed to Market" services, are discussed below:

Internal Consultation

The process of continued stakeholder input must be understood from the beginning because if there is a change of mind, there will be an impact on cost and time. The optimal time for stakeholder input is during the planning, programming and concept design phases of the project's development. Input after this point must be limited to the execution of specific issues, rather than the change in direction of any of these earlier phases of work.

In order to expedite internal consultations, some leading healthcare owners have developed a template for general project requirements and recognize the importance of establishing a group of leaders (clinical and technical stakeholders) within the organization to develop these standards. Although each program will have some specifics that need to be determined during the planning and programming phases, there are some default requirements that are non-negotiable. Although this may be contrary to designing and implementing a project with high staff and patient experience, it is clear that there are better outcomes when internal policies are established with the appropriate knowledgeable staff. This systematic approach produces a higher quality outcome and improves "Speed to Market".

Decision Making

The impact of owner decision making has long been recognized by the design and construction industry as directly impacting a project either positively or negatively. Many owners are not aware of the bearing of internal practices and decision-making processes on project outcomes. The owner's desire to maintain control over the details of a process can, and often does, generate a negative impact to the project. It is clear that raising awareness of the operational intent and the satisfaction of the programmatic need is essential, and the impact of decision making is not theoretical but quantifiable in both time and cost.

There is a cost-time relationship, and the desire to control the process in a manner which increases time thereby reduces the possibilities of what could be achieved if a decision-making and implementation process was used that more closely aligned with the logic associated with Return on Investment (ROI) thinking.

Recommendations

There are several challenges with improving and/or changing the outcome of "Speed to Market". Some of these constraints are within the control of the owner, and some are the result of product development/project research, market demand, accepted levels of care and the financial feasibility of providing a specific service. All of these issues, and more, can drive a change in the strategic plan, change the development of a program and alter the opportunities and/or solutions for satisfying the program. To the extent that owners can manage and/or modify the challenges below, the speed of implementing solutions can be expedited.

1. Develop a strategic plan for providing healthcare services. (See Appendix A)

2. Articulate the project goals, design image, community expectations, clinical requirements, operational, financial, emotional expectations and other project requirements.

3. Understand the project budgeting process. In the planning and scoping phases of a project, the use of a contingency in the budget will allow fluidity to accommodate the programmatic responses.

4. Make informed decisions. For example, the first cost of a project, which requires a building or significant renovation, is 9-10% of the overall operating cost of the facility in a 30-year timeframe. How does that information influence design decisions? Owners need to define for the design and construction community, how money is valued and what an acceptable return on investments in capital projects is.

5. Minimize changes in the project program where physical changes are required, especially after construction has started.

6. Project services and contracting practices are often a challenge and, as new contracting methods are being explored, contracting officers are going to need additional training and assistance to understand the value proposition and impacts.

7. Understand the value and cost of short-term and long-term flexibility in the budget, schedule and facility operations.

8. Owners need to provide knowledgeable and industry sophisticated participation on the team.

9. Provide the internal and external teams with a clear decision framework and processes. Without a clear process, design professionals and contractors add cost to cover the cost of uncertainty.

DESIGN PROFESSIONALS

Observations

One of the significant needs that owners often face is determining the need for guidance in areas that are not their core business. Tthe situation is somewhat more challenging when the need for guidance is not recognized. The ability of design professionals to assist in these situations may require more or different types of services than the owner originally requests. The ability of the design professional to assist and communicate to the owner the value of developing a strategic plan or strategy that maximizes value and project outcome will have a direct impact on project acceleration and ”Speed to Market”. Consultants or advisors who can guide owners through the development phases of a project and the tactical options can maximize the “Speed to Market” outcomes.

The flip side of this coin is that there are owners who have a broad and detailed knowledge of both their business strategy and the design and construction industry. Design and construction industry professionals need to respect this knowledge and build an inclusive team that utilizes all the knowledge.

The general perception among healthcare owners is that the time must be reduced from when a patient need is defined to when a patient is seen. The lag between need identification to open doors, although inevitable, can create a significant missed business opportunity. To minimize the duration, there has to be complete agreement, and the planning and programming time needs to be adequate to provide complete information, which minimizes the changes once design commences.

Recommendations

Design professionals pride themselves on providing reliable planning, design and construction information with a small margin of error. At times, this creates what seems like a lengthy time lag from when the owner requested the information to when it was provided and the issue was resolved. To the extent that design professionals can accelerate the process of providing information for project decisions, the "Speed to Market" duration can be reduced.

1. As owners increase their demand for innovative problem solving and design solutions, the design professional must address the planning and design process with 'fresh eyes' and from a holistic perspective. Often the approach is, "What was done on the last project?" instead of, "What does this project demand?"

2. Owners have a need for conceptual estimates/cost or rough or magnitude estimates, without the development of detailed conceptual designs. For design professionals, specifically architects, this issue is especially challenging when a significant part of the project cost is mechanical, electrical, plubming (MEP) and low voltage systems, and the culture of engineers is to be conservative and not provide information that may be inaccurate. The delay between when a design is made and the cost of that decision is a frustration to owners. A closer working relationship with cost consultants or contractors is needed to reduce the gap. Both design-build and integrated project delivery (IPD) project delivery models are beneficial in resolving this information gap.

3. Improved continuity of the design professionals' team will develop stronger client relationships and minimize the relearning of client concerns and issues.

4. Design professionals are favorable to integrated project design and construction delivery models but do not want construction professionals designing the building. It is beneficial to all parties: owner, design professional and contractors, if a formal teaming agreement is developed that defines the roles and responsibilities of all parties.

5. Design professionals need to build their work around completing planning, programming and option analysis before moving into final design phase of a project.

CONSTRUCTION PROFESSIONALS, SUB-CONTRACTORS, SPECIALTY CONTRACTORS AND VENDORS

Observations

Project risks plays a significant role in when and how decisions are made. Outside of the owner, the construction team takes the largest risk on a project, and often times, has the least amount of knowledge regarding the basis for the design of the project and project goals. This often leads to the perspective of simply building what is shown in the contract and design drawings rather than looking for areas to add value. Some of this disconnect within the industry can be mitigated by changing the project delivery model to include contractor, sub-contractor, specialty contractor and vendor participation.

Independent industry studies have shown that the earlier engagement of all levels of the construction team, the better the outcome in terms of cost, schedule, sustainability, options and systems integration. The use of innovative project delivery methods provides the opportunity to construct contracts that are more inclusive of the team and balanced in project risk and reward.

There is often a discrepancy between the owner's cost model and overall project budget and real market conditions. It is often the construction community that is in the position of informing owners and design professionals that the project scope and project cost is misaligned and, at times, unrealistic. It is critical that both owners and design professionals enroll the construction community as part of the team and understand changing market conditions.

Recommendations

There are several construction innovations that can assist with project acceleration and "Speed to Market" outcomes:

1. Utilize industry innovation for prefabrication of project systems and components. Define performance specifications for systems, components and other project elements. There are some who suggest that 75% of construction could be implemented off-site. Let industry address, explore and solve the challenge.

2. Many contractors are concerned with project acceleration and improving "Speed to Market" results. The construction community should be viewed as leaders in the pursuit of lean concepts for reducing the number of times a material or product are handled in the procurement process. In some instances, owners are paying for four to five middle markups, with a cost impact of 20 to 30% for construction materials.

3. Integrated project delivery models, such as design-build or IPD, allow contractors to share in both the risk and reward associated with the performance of facilities. Both design-build and IPD allow for the subcontracting and specialty contractors to bring their innovation into the design arena and improve project acceleration.

4. Regardless of any project delivery methodology, there can be no compromise on safety for the owner's users or construction workers.

5. Depending on the sub-contractor's ability (specifically those with expertise in design-build or IPD project delivery) some contractors find additional risks are incurred when the project is designed by someone other than themselves, or when they are brought in late to the process. The maximum benefit in either design-build or IPD is achieved with early involvement of all team members.

6. Owners, design professionals and contractors need to develop a process and commitment for a 'Smart Start' on projects which minimizes the amount of rework and project delays. 'Smart Start' is defined as when all the required project decision have been explored and made, and the team is fully aware and understands the decisions and impacts before proceeding to the next phase of work.

7. It is important to note, that for a 'Smart Start' to be successful all team members need to be involved and committed to the process.

8. The utilization of one building information model (BIM) for project development by all consultants will reduce project cost, time and opportunities for coordination errors. The current practice is often to re-input model information multiple times between consultants and sub-contractors, which increases project time, cost and the opportunity for model error.

New Metrics and Definitions of Success

Earlier in the paper, the team's discussion addressed the need for project or program metrics other than the traditional time, cost and quality. Some of these metrics fall into the categories below:

a. Cost of patient day or patient interaction,

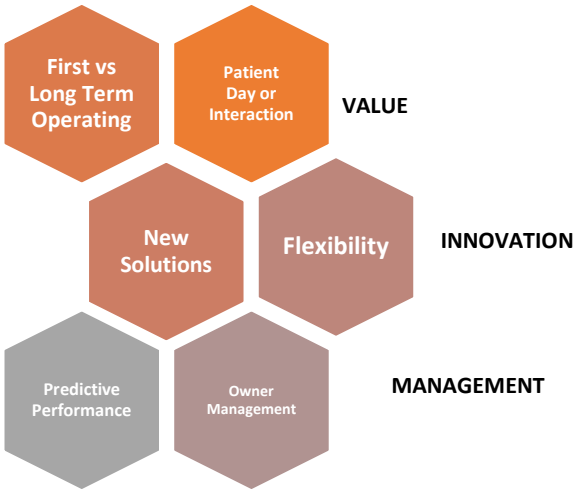


Figure 1: Metrics for Evaluation

b. New solutions other than brick and mortar,
c. First cost versus long-term operating cost,
d. Cost of flexibility,
e. Length of time for and management of decisions (owner management),
f. Predictive performance,
    i. Schedule
    ii. Operational efficiencies
        1. Clinical
        2. Physical & plant
g. Reduced construction durations and cost for standardized systems and units.

All of the metrics above are performance-based metrics. The determination of successful programs and, thereby, projects in an environment of increasing regulations, oversight and pressure for greater cost management, is based on the performance of systems, processes and measurable outcomes.

Best Practices and Future Look ……

The following is a summary of 'Best Practices' and what may be common in the future:

1. Some owners are developing a doctrine around user input and eliminating the same conversations for every project. Aspirational templates have been developed and adjustments are made for truly unique and specific reasons. In other words, some "default" requirements/answers have been pre-determined, which are non-negotiable.
2. Shared risk between the design and construction industry, with a clear definition of responsibilities and measurements of success.
3. Owners determining part of the design and construction fee, based on performance of the facility. Performance measurements are established in the project program with metrics for determining success.

    a. Types of Metrics:
        i. Owner performance, i.e. decision-making durations, performance and knowledge of owner's staff, etc.,
        ii. Staffing cost/count required by the design of the facility,
        iii. Operational cost of facilities by in-house maintenance,
        iv. Utility cost, measured in units,
        v. Flexibility of the design and construction,
        vi. Limit on the number of meetings and attendance (Are attendees in meetings prepared?),
        vii. Utilization and engagement of prefabrication opportunities,
        viii. Performance of the design and construction team that extends beyond the typical (cost, quality, time) and includes the success of throughput; patient and staff experience; and the cost of delivering services where the built environment engages the service.
        ix. Development of a design and facility plan that will allow for present or future flexibility.

x. Procurements that reduce the number of hand-offs between the point of origin and installation in the field/project.

Appendix A

Strategic Questions to Ask Before You Start a Project

Paul E. Strohm, Senior Vice President, HOK Architects

The following are questions that are ideally asked and answered before a capital facilities project is started:

1. **Strategic Business Plan.** Is there an approved strategic business plan that outlines the business case for determining that the project is justified, or at least the return on investment (ROI) expected? There will always be some projects that may not have a ROI but are needed for other strategic purposes.

2. **Population Health Contribution.** Is there a plan for how this project contributes to furthering the population health strategies of the system or hospital?

3. **Alternative Solutions.** Are there legitimate ways to accomplish the result without a physical facility or an alternative facility…telemedicine, home care, technology, partnerships?

4. **Technology Adaptation.** How will technology likely transform the care provided to obtain results that will impact the need for or size of the planned facility?

5. **Innovation Transformation.** How receptive are you to innovation to transform the resultant facility? Define all aspects of innovation and your targeted degree of innovation for the multiple aspects of the facility— incremental improvement, transformational change or bold reach. Each comes with various degrees risk and potential reward/return.

6. **Brand.** Is the facility part of the brand of the healthcare provider? Can it be? Should it be? If so, what are you willing to invest to achieve?

7. **ROI – Lower Cost of Care**. How will the facility contribute to the lowest possible cost of care for the healthcare provider?

8. **Life of the Facility.** Do you have a plan for how long the facility must last to understand the appropriate investment?

9. **Budget.** Do you have a complete breakdown for all aspect of costs necessary to complete the project, including but not limited to construction costs, development costs, land costs, owner soft costs, design costs, medical equipment, furniture, move costs, activation and contingency?

10. **Time to Market.** What is the timeframe required for implementation to align with the project objective? How important is it to open on a specific date? What is it worth to reduce the project duration?

11. **Guiding Principles.** Do you have guiding principles that will be the barometer for how you make decisions along the project?

2015 Collaborative Research Program
White Paper Teams

Team 1. OWNER ORGANIZATION FOR SUCCESSFUL PROJECT OUTCOMES

Underwriter: Gilbane *Gilbane*

Academic Facilitator: Kirk Hamilton, FAIA, Texas A&M University

Chair:

Peter R. Dawson, AIA
Sr. Vice President
Texas Children's Hospital
Houston, TX

Chair:

John A. Becker
Director, Facilities Division
Defense Health Agency
Washington, DC

Chair:

Brian Holmes
Sr. Vice President
Texas Health Resources
Dallas, TX

Chair:

John Kouletsis, AIA, EDAC
Sr. VP, National Facility Services
Kaiser Foundation Health Plan, Inc.
Oakland, CA

Subject Matter Experts:

William R. Calhoun, Jr., Clark Construction
Bruce Raber, Stantec Architecture
Doug Harper, Gilbane
Judy Quasney, National Institutes of Health
Patrick E. Duke, CBRE Healthcare
Sam Gioldasis, Walker Engineering
Stephen C. Wooldridge, MedStar Health

Team 2. DEVELOPING A FLEXIBLE HEALTHCARE INFRASTRUCTURE

Underwriter: Southland Engineering *Southland Industries*

Academic Facilitator: David Allison, FAIA, Clemson University

Chair:

Spencer Moore
VP, Chief Facilities Officer
MD Anderson Cancer Center
Houston, TX

Chair:

Tom Kinman
Vice President, Facilities
Cincinnati Children's Medical Center
Cincinnati, OH

Chair:

Walter B. Jones, Jr.
Senior VP, Campus Transformation
MetroHealth System
Cleveland, OH

Chair:

Michael H. Covert
President & CEO
CHI St. Luke's Health System
Houston, TX

Subject Matter Experts:

Victor Sanvido, Southland Industries
Kurt Stahl, Hunt Construction Group
Chip Cogswell, Cogswell, LLC
Richard M. Harris, HDR, Inc.
R. Clay Seckman, SSR Engineers
George Sterling, Trane Healthcare Practice

Team 3. PROJECT ACCELERATION / SPEED TO MARKET STRATEGIES

Underwriter: *Balfour Beatty*

Academic Facilitator: Rebekah Gladson, FAIA, rggroup global

Chair:

Donald H. Orndoff, AIA
Sr. VP, National Facility Services
Kaiser Foundation Health Plan, Inc.
Oakland, CA

Chair:

Scott Nelson, AIA
Director, Planning & Design
Advocate Health Care
Chicago, IL

Chair:

Frank F. Aucremanne
Executive Director, Buildings & Properties
Cleveland Clinic Foundation
Cleveland, OH

Chair:

Dana E. Swenson, PE, MBA
Sr. VP & Chief Facilities Officer
UMass Memorial Healthcare
Worchester, MA

Subject Matter Experts:

Eric T. Burk, Balfour Beatty
Brent Willson, HKS Architects
Victor Sanvido, Southland Industries
Barbara Wagner, Clark Construction
Paul Strohm, HOK Architects
Coker Barton, Hoar Construction
Michael Weiss, Working Buildings, LLC
Brian J. Smith, Cleveland Clinic Foundation

Team 4. DEFINING THE NEXT GENERATION'S FOCUS

Underwriter: *Clark Construction*

Academic Facilitator: Mardelle Shepley, FAIA, Cornell University

Chair:

Walter B. Jones, Jr.
Senior VP, Campus Transformation
MetroHealth
Cleveland, OH

Chair:

Kip C. Edwards
VP, Development & Construction
Banner Health
Phoenix, AZ

Chair:

Stephen C. Wooldridge
VP, Integrated Real Estate & Facilities
MedStar Health
Columbia, MD

Chair:

Jeffrey Land
VP, Corporate Real Estate
Dignity Health
San Francisco, CA

Subject Matter Experts:

Carlos Gonzales, Clark Construction
Zigmund Rubel, Aditazz
Ryan McKenzie, Clark Construction
Phil Tobey, Smith Group

Team 5. REDUCING INITIAL CAPITAL COSTS

Underwriter: JACOBS *Jacobs Project Management*

Academic Facilitator: Dennis Bausman, PhD, Construction Science & Management, Clemson University

Chair:

Robert F. McCoole
Senior VP, Facilities Resource Group
Ascension Health
St. Louis, MO

Chair:

Jeffrey Land
VP, Corporate Real Estate
Dignity
San Francisco, CA

Chair:

Skip Smith
VP, Physical Asset Services
Catholic Health Initiatives
Denver, CO

Chair:

Don Wojtkowski
Executive Director, Plant & Properties
SSM Health
St. Louis, MO

Subject Matter Experts:

Richard Onken, Leo A Daly
Geoffrey Stricker, Edgemoor Infrastructure
Chris Kay, Jacobs Project Management
Randy Keiser, Turner Construction
David Prusha, HKS Architects
Brian Garbecki, Gilbane

Governors

Mark Tortorich, FAIA
Vice President
Stanford University Medical Center
Palo Alto, CA

Howard W. Reel, Jr.
Senior Director of Facilities
Johns Hopkins Health System
Baltimore, MD

Spencer Moore
VP, Chief Facilities Officer
MD Anderson Cancer Center
Houston, TX

Robert F. McCoole
Senior VP, Facilities Resource Group
Ascension Health
St. Louis, MO

Donald H. Orndoff, AIA
Senior VP, National Facility Services
Kaiser Foundation Health Plan, Inc.
Oakland, CA

Frank Aucremanne
Executive Director, Buildings & Properties
Cleveland Clinic Foundation
Cleveland, OH

John A. Becker
Director, Facilities Divison
Defense Health Agency
Falls Church, VA

Walter B. Jones, Jr.
Senior VP, Campus Transformation
MetroHealth System
Cleveland, OH

Brian Holmes
Senior Vice President
Texas Health Resources
Dallas, TX

John Kouletsis, AIA, EDAC
Senior VP, National Facility Services
Kaiser Foundation Health Plan, Inc.
Oakland, CA

Dennis Milsten, CCM
Associate Executive Director, Facility Programs
U.S. Department of Veterans Affa
Washington, DC

Scott Nelson
Director, Planning & Design
Advocate Health Care
Downers Grove, IL

Stephen C. Wooldridge
VP, Integrated Real Estate
MedStar Health
Columbia, MD

Clayton Boenecke
Chief, Capital Planning
U.S. Defense Health Agency
Washington, DC

Michael H. Covert
President & CEO
CHI St. Luke's Health System
Houston, TX

Peter R. Dawson, AIA
Senior Vice President
Texas Children's Hospital
Houston, TX

Dana E. Swenson, PE, MBA
Sr. VP & Chief Facilities Officer
UMass Memorial Healthcare
Worchester, MA

Gregory Mohler
VP, Planning Design Construction
BJC Healthcare
St. Louis, MO

Denton Wilson
AVP, Design & Construction
Methodist Health System
Dallas, TX

Tom Kinman
Vice President, Facilities Management
Cincinnati Children's Medical Center
Cincinnati, OH

JoAnn Magnatta
Senior Vice President
Main Line Health System
Radnor, PA

Joanne Krause
Director, Medical Facilities
U.S. Navy NAVFAC HQ
Washington, DC

Kip C. Edwards
VP, Development & Construction
Banner Health
Phoenix, AZ

Mark P. Ehret, AIA
AVP, Inova Facilities Management
INOVA Health System
Falls Church, VA

Robert Mitsch
Vice President
Sutter Health
Sacramento, CA

Jeffrey W. Land
VP, Corporate Real Estate
Dignity Health
San Francisco, CA

Skip Smith
VP, Physical Asset Services
Catholic Health Initiatives
Denver, CO