

STUDY TO SOLUTIONS VOL. V: SHAKING UP THE PROCESS - IMPROVED START TO INTEGRATED PROJECT DELIVERY PROVIDES A BETTER RETURN ON INVESTMENT

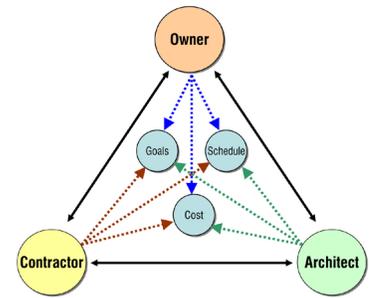
Hobbs+Black Healthcare Research Initiative

The principles of Integrated Project Delivery (IPD) have been widely accepted in recent years throughout the Architecture, Engineering, and Construction industries as well as the healthcare community for the success the team approach brings to projects. IPD attempts to provide a process that corroboratively harnesses the talents and insight of all participants (primarily owner, architect, and contractor) to optimize the outcome of the project. The three overriding factors for defining and measuring project outcomes are goals, cost, and schedule.

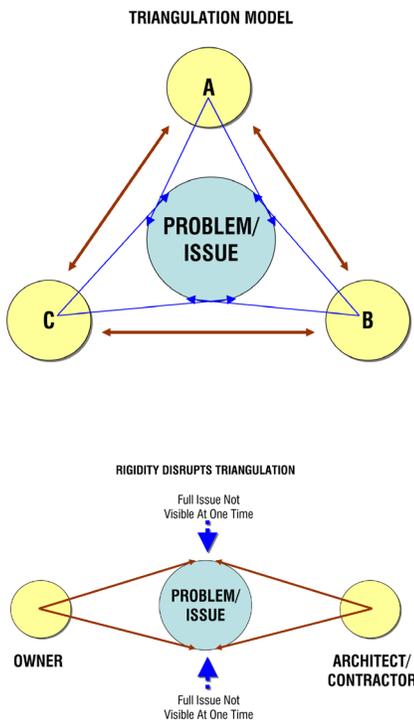
However, common implementation of the IPD approach relies heavily on the traditional proposal process where the Owner defines a building a program and then subsequently seeks to contract service professionals to make their vision a reality. But what happens when you allow the team to not only respond to the Request for Proposal (RFP), but also allow them to come up with creative solutions on how to achieve the vision that was handed to them? What if the Owner shook the project down to the root goals of the health system and allowed teams to respond as an assemblage of experts based on their collective perspectives? When project teams are encouraged not only to respond to pre-established criteria, but to analyze and challenge the programming goals and suggest the best method of achieving it, they are able to demonstrate an understanding of the project and the Owner gains an accurate perspective on how the actual project will be accomplished.

In the traditional proposal process, Integrated Project Delivery principals are omitted as the owner presents the concrete conclusions of the project to the possible project teams without the benefit of their input. The health systems allocate construction funds based on the development of business plans and improvement needs. Traditionally business plans get developed into space programming needs and a cost gets developed. (Schroder & Breen, 2007) Once this information is prepared, it is sent out to potential teams. The AEC teams are often reluctant to break outside of the box that is presented because they are concerned they will be the only ones going out on a limb and proposing alternative solutions to the root goals of the owner and therefore risk losing the commission. The consequences of this method are that it limits the proposing team’s ability to offer creative options to the owner, and breaks down the triangulation that is integral to IPD. A Triangulation Model is an analytical model used for research and problem solving. In this model, three perspectives are allowed to view the problem, but also work in conjunction with the other two entities. In the IPD model, the three entities (the Owner, Architect, and Contractor) are able to visualize the entire problem and at the same time develop solutions that support those offered by the other two instead of solutions that may be in conflict with the other two. The traditional RFP process that occurs prior to the formation of the team and beginning of the IPD process breaks down the strength of the triangulation model. It puts the proposing and eventually selected architect/builder team on the opposite side of the program that the owner has set forth. Although

INTEGRATED PROJECT DELIVERY APPROACH MODEL



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the horizontal model eventually evens out into a triangular relationship between the owner, architect, and builder during the IPD process, it is farther into the process and only after the best opportunity to affect the overall goals and eventual Return on Investment (ROI) has passed.

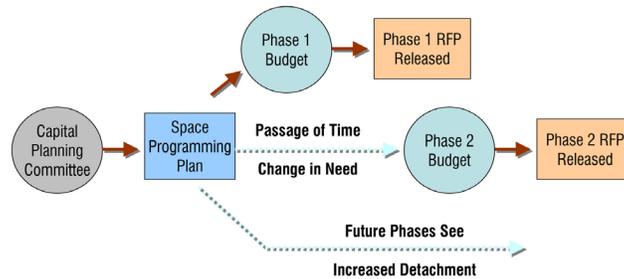
Owners and the teams proposing to them can remove this disruption to effective team building by truly opening up to the team process in their RFP and Interview respectively. From the owner’s perspective, an RFP presenting their root goals, with program and diagrams as supporting documentation not restrictions, would allow proposing teams the opportunity to present their best solutions. This is not to say that the program in the RFP is incorrect, but rather that each of the solutions presented will illuminate the presenting team’s understanding of the root goals of the project, as well as reveal how that understanding aligns with the owner’s understanding. It may also allow for the proposing teams to account for the problems often seen in a second phase of a master plan in which the passage of time since the start of the previous phase presents changes/opportunities since the master plans initial inception. Independent of the exact outcome for a specific project, the process will allow the team to start the IPD process on an even footing of understanding and collaboration.

For example, if an owner needs to create more private rooms within a healthcare facility and releases an RFP requesting an “addition” of “X” number of “new” rooms, etc., the responses from proposing teams will include information regarding how many rooms they’ve done in the past of similar facilities and how they will apply this past experience to the current project. The request automatically limits the responding team to a new construction program. If instead, the owner took an approach such as “Here’s the challenge, we need at least “X” more private rooms, we have this budget, this due date, etc” the teams would feel more open to interview with their most efficient and creative ideas to solve the given problem as well as their qualifications to bring their proposed ideas into fruition. Possibilities could include new construction, renovation, conversion, etc, and give the owner a variety of options to consider that would have otherwise never been developed.

By choosing a team based not only on past qualifications but also their capability to present an understanding of the owner’s goals and their best possible concepts/ solution to the current challenges, the client sees what they’re getting before they hire. The interview stage becomes a series of preliminary project workshops and the owner is able to see how each team would work with each other to discuss issues and present solutions. The early collaboration helps the project schedule and budget by allowing the team to start moving forward at full speed (as required by the IPD process) without tripping over the development of a cohesive understanding during the project. This is in keeping with the concepts of both IPD and Lean production methods in working toward reduced development cycles, producing higher quality

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CONCEPTUAL PROBLEM WITH RFP INVOLVING MASTER PLANS



products at lower costs, and using resources more efficiently. (Womack, Jones 2003) The IPD approach has received many accolades in recent years because it is team-based by its very nature, and it has become well understood that having a team of experts working together at the onset of a project creates an ideal environment for anticipating challenges and solving problems very early on. Extending IPD principles into the proposal process only increases this collaboration and further increases success.

One example of expanding the team approach to the preliminary stages of a project is the Southshore Medical Center Project recently completed by Oakwood Health System. In support of a promise to the community to provide exceptional health care services, Oakwood Healthcare System developed a new hospital facility at their Southshore Medical Center, located on Fort Street in Trenton, Michigan. Oakwood Southshore Medical Center provides medical services southeast metro region and as a Michigan State University teaching hospital, the campus also supports a major residency program and features a major education center.

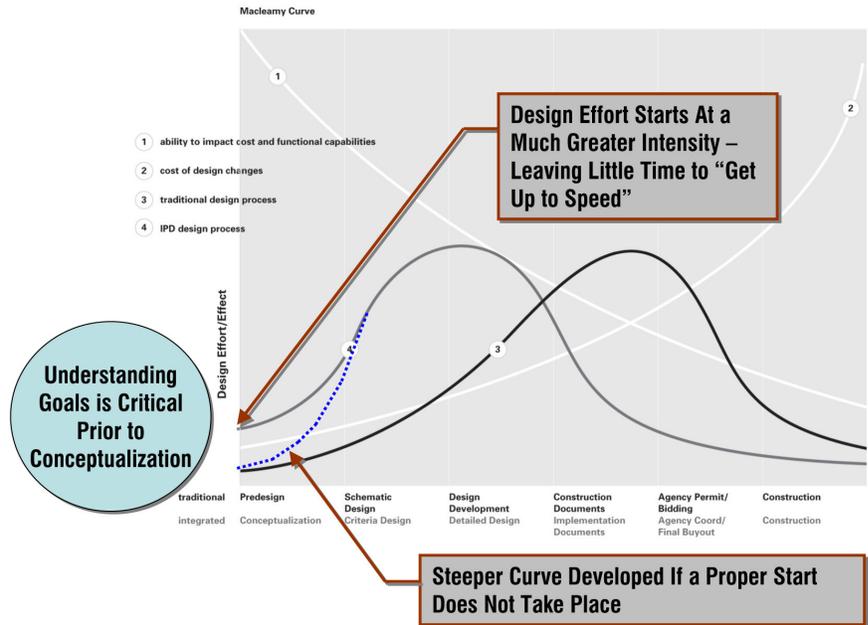
Prior to this project, Southshore Hospital was a two-story Hospital built in the 1960's with semi-private patient rooms. The need for space was the overwhelming issue facing Oakwood Southshore Medical Center. Numerous service lines within the Hospital were overcrowded, in violation of regulatory minimum standards, and lacking in space for incorporation of new technologies. Finally, to remain competitive in the modern healthcare marketplace, Oakwood knew that the conversion to an all-private room model, with universal room attributes was crucial to the viability of the facility. The existing chassis of Southshore Medical Center simply could not accommodate these needs.

When Oakwood Healthcare System issued the RFP for Southshore Medical Center, they clearly defined the goals and provided the building program from their master plan developed in 2002. The RFP outlined the health system's intent to create new Emergency, Surgery and ICU suites, to convert semi-private patient rooms to private patient rooms, and to renovate the radiology department. To achieve this program description, the responding project teams had to provide a Guaranteed Maximum Price (GMP) of sixty-three million dollars. Hobbs+Black Architects, Inc. teamed up with the Walbridge Construction to respond to the proposal and, with a bit of risk, proposed a Hospital Bed Tower in lieu of renovating their exiting semi-private rooms.

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The RFP requested the conversion of the existing patient rooms from semi-private to private. Recognizing that the number of licensed beds would be reduced, ownership still felt that this would be the most feasible way to achieve private patient rooms. As Michigan is a state that uses “Certificate of Need” criteria, Oakwood Southshore would have a very difficult time getting the number of beds back once they had been lost. Also problematic, even after the rooms were converted the patient rooms would still have been very small and would require new bathroom facilities. In addition, core areas on these units were very narrow and did not afford space needed for today’s practice of inpatient medicine.

HOW DO YOU BEST START THE I.P.D. APPROACH



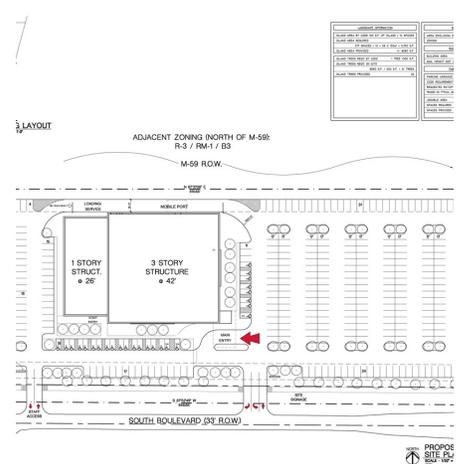
When Hobbs+Black (Architect) and Walbridge (CM) first partnered to respond to the Southshore Medical Center RFP they recognized some inherent pitfalls in the proposed building program that could be improved upon. While preparing a response, the team took part in several meetings to discuss the viability of each element and present the point of view from both the design and constructability perspectives. Issues such as budget, schedule, milestones, and program alternatives were all addressed. In the weeks before the response went in, the team discussed every presented detail in a “round table approach” where every professional present had equal input and weight. After comprehensive team analysis and consideration, the proposing team had come to firmly believe that the presented option for the renovation and conversion of semi-private rooms to private rooms at the loss of licensed beds was not the best option. Oakwood had planned a three story tower addition to support Emergency, Surgery, and ICU beds and a renovation to convert semi-private beds to private beds. The Hobbs+Black and Walbridge team had discovered in the proposal process a way to achieve much more than the Owner had anticipated.

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In fact, analysis of the program during the proposal preparation had led the proposing team to realize that new private patient rooms could be constructed within the same cost parameters as a renovation and instead of a three story tower they could achieve a new 5 story tower for less money and leave funds left over. Equally important, the number of licensed beds would not need to be reduced and licensure would not be lost. However, the team was cognoscente of the fact that although they believed they had a better concept to answer the root challenges Oakwood was trying to solve, they risked being disqualified for not responding within the parameters of the issued RFP.

After submitting their qualifications, the team was selected to interview against multiple other teams. Traditionally this interview process entails a continuation of the presentation of qualifications followed by verbal justification for why the team is best suited to handle the proposed project and questions from the client. Understanding they had an entirely different direction to present, the Hobbs+Black/Walbridge proposing team decided to approach the interview stage from another angle and use the hour they had to conduct a project workshop. The workshop entailed a discussion of root goals as the team understood it with the client and a presentation of concepts. Incorporating the main principals of IPD before the term became popular, the project team including Oakwood, held a discussion regarding the priorities of the Healthcare system and the project team answering with best way to achieve them. The presented concept was endorsed by the selection committee and the team of Walbridge and Hobbs+Black was awarded the project.

With a basic building program in position, a new series of options were developed in addition to the primary program components including Emergency, Surgery, ICU, conversion of semi-privates to privates, and renovation of the imaging department. The options accomplished the primary components for less than the total capital set forth in the RFP/master plan concept. In doing so, the team was able to increase Oakwood's ROI. The remainder of the capital would be used during the project but the owner was uncertain as to how they should use the additional funds most wisely. The project team created an electronic "à la carte"



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menu for the owner to identify the cost of each proposed program item and used to further define priorities based on program benefits and cost. The “à-la-carte” menu included various options for additional patient bed floor build-outs, dining, education spaces, a courtyard healing garden, and other hospital services and would tally bed counts and cost as each item was checked or unchecked. The tool allowed the entire team to find out what the real priorities were. When the client was able to see what everything cost, they realized their priorities were different than originally thought. The menu determined that bed utilization was viewed as most critical and resulted in the development of three new private-bed patient floors with a potential of one hundred and fourteen new private beds. Seventy-six private beds were constructed as part of the project. What was anticipated as a three story building by way of RFP resulted in a five story tower, with a garden level.

The menus and concepts were developed with the hospital’s goals, budget and schedule at the core. Necessary attributes were that the building had to be state-of-the-art, and fit into the community it served. The team strove to develop a program that accomplished the various goals put forth by the owner’s team. Space was seen as a premium, but needed to be used appropriately without compromising functionality. A balance between patient, public, and service space was developed based on needs and a positive ROI. All was made possible by the upfront work of the team, a benefit not always present in traditional project development.

The Southshore Medical Center building program was initiated with a delivery timeline of 26 months from start to completion of construction. If the team had not looked at concepts during the interview/work session to get on the same page by the time of the team selection, this schedule would have been in jeopardy. Working through the various concepts would have taken valuable project development time, which was a necessity for other phases of the project, away from the team. Rapid execution of all phases was critical. All members of the IPD team were assembled for all planning sessions, as well as team construction meetings throughout the planning and engineering effort. Time and cost savings including the use of precast panels with brick in-fill for the exterior

Hospital Area	Construction Cost	Owner 5%	Project Scope	Project Cost	Existing Beds	New Beds	Bed Count
(yes = 1 / no = 0)							
New Pavillion	\$51,356,338	\$2,567,817	1	\$53,924,155		38	38
- 4th Floor Build-out	\$4,735,983	\$236,799	1	\$4,972,782		38	38
- 5th Floor Build-out	\$4,735,983	\$236,799	0	\$0		38	0
- 6th Floor Shell	\$4,329,115	\$216,456	0	\$0			
- 6th Floor Build-out	\$4,735,983	\$236,799	0	\$0		38	0
Lab	\$1,993,647	\$99,682	0	\$0			
Diagnostic Imaging	\$2,010,187	\$100,509	1	\$2,110,696			
Diagnostic Non-Invasive	\$1,024,557	\$51,228	0	\$0			
Pharmacy	\$389,102	\$19,455	0	\$0			
Food Service	\$776,075	\$38,804	1	\$814,879			
Bio-Med	\$334,657	\$16,733	0	\$0			
Material Management	\$247,343	\$12,367	0	\$0			
West Wing							
- 1st Current Configuration			1		15(30)		15
- 2nd Current Configuration			1		17		17
- 1st Floor Bed Renovation	\$2,126,231	\$106,312	0	\$0			
- Administration Renovation	\$1,349,235	\$67,462	0	\$0			
Island Wing - Administration	\$754,051	\$37,703	0	\$0			
- 1st Current Configuration			1		12		12
North Wing							
- 1st Current Configuration			1		16(32)		16
- 1st Floor Bed Renovation	\$2,403,441	\$120,172	0	\$0			
- Administration Renovation	\$973,723	\$48,686	0	\$0			
- Low. Level Admin. Support	\$465,175	\$23,259	0	\$0			
East Wing							
- 1st Current Configuration			1		22(44)		22
- 2nd Current Configuration			1		23(46)		23
- 1st Floor Bed Renovation	\$3,248,907	\$162,445	0	\$0			
- 2nd Floor Bed Renovation	\$3,194,907	\$159,745	0	\$0			
- Demolish East Wing	\$1,262,463	\$63,123	0	\$0			
Court Yard Build-out	\$1,289,854	\$64,493	0	\$0			
					Converted Private		88
					Existing Private		17
					New Private		76
Totals				\$61,822,512			181

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shell of the building, and a pre-manufactured roof top penthouse for the mechanical services are examples of choices that were critical to meeting the construction schedule and keeping within our budget. With the use of LEAN construction processes and with a shared vision this effort continued throughout the construction phase, with the architect establishing a site office at the project site. Communication was continuous between the contractor (Walbridge), architect (Hobbs+Black), and owner (Oakwood) as the combined team was working hand in hand – a process that started before the project team was even selected.

Had the project team followed what was presented in the RFP with a “make-it-work” mentality, Oakwood Southshore would never have achieved the outcome that it did. By allowing the team to work together and challenge predetermined project details (but not the overriding Goals, Budget, and Schedule), the project was able to exceed their goals for time and budget, and deliver a better ROI than original concepts would have afforded.

If the owner is looking for a team approach with open communication of all information between Owner, Architect, and Contractor, incorporating a team environment into the procurement process is crucial. Releasing an RFP that states the defined goals, budget and schedule, and offers flexibility within those parameters will allow qualified teams to start the IPD process immediately. This methodology not only encourages responding teams to demonstrate a true understanding of the owner’s needs but gives them the opportunity to work with the owner and showcase their abilities to successfully complete the project.



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PATIENT CARE SPACE SIZES - COST EFFICIENCY							
Project	Nursing Units		Emergency Center		Surgical Suite		P.A.C.U.
	Patient Beds	Intensive Care Beds	Treatment Bay	Trauma Room	Operating Rooms		
H.C.A.B. 2007*	200 NSF - 250 NSF	250 NSF - 300 NSF	130 NSF - 150 NSF	250 NSF	650 NSF	110 NSF - 120 NSF	
A	271 NSF	(H) 298 NSF	148 NSF	354 NSF	642 NSF	127 NSF	
B	263 NSF	(L) 182 NSF	(L) 111 NSF	(H) 416 NSF	(L) 544 NSF	(L) 94 NSF	
C	256 NSF	256 NSF					
D	256 NSF						
E	(H) 298 NSF	272 NSF	128 NSF	332 NSF	580 NSF	119 NSF	
F	(L) 250 NSF		121 NSF	268 NSF	(H) 673 NSF	(H) 137 NSF	
G	276 NSF	284 NSF	123 NSF	259 NSF	641 NSF	116 NSF	
H	280 NSF	252 NSF	(H) 129 NSF	282 NSF	597 NSF	132 NSF	
I	323 NSF		122 NSF	(L) 134 NSF	618 NSF	123 NSF	

*Health Care Advisory Board

SPACE EFFICIENCY - COST EFFICIENCY					
Project	Nursing Units		Emergency Center		Notes
	DGSF/Patient Bed	Clinical Support NSF/Bed	DGSF/Treatment Bay	Clinical Support NSF/Treatment Bay	
Range	544 SF - 2868 SF	441 SF - 983 SF	86 SF - 968 SF	20 SF - 336 SF	
A	697 SF		224 SF		
B	2132 SF		(H) 968 SF		
C	(H) 2868 SF	690 SF	736 SF	(H) 336 SF	
D	1602 SF	748 SF	625 SF	222 SF	
E	898 SF	(H) 983 SF	240 SF	(L) 20 SF	
F	(L) 544 SF	(L) 441 SF	(L) 86 SF	35 SF	
G	678 SF	707 SF	169 SF	51 SF	
H	800 SF	691 SF	283 SF	122 SF	

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* Descriptions of projects from Space Efficiency Table

Project A

Total Square Footage: 656,000
 Location: Southeast Michigan
 Number of Floors: 7
 New Construction: 100 %
 Renovation: 0%
 Patient Beds w/in Project: 432 Private & Semi

Project B

Total Square Footage: 387,500
 Location: Southeast Michigan
 Number of Floors: 6
 New Construction: 100 %
 Renovation: 0%
 Patient Beds w/in Project: 118 Private

Project C

Total Square Footage: 234,200
 Location: Southeast Michigan
 Number of Floors: 5
 New Construction: 100 %
 Renovation: 0%
 Patient Beds w/in Project: 36 Private

Project D

Total Square Footage: 514,000
 Location: Southeast Michigan
 Number of Floors: 6
 New Construction: 100 %

Renovation: 0%
 Patient Beds w/in Project: 215 Private

Project E

Total Square Footage: 144,545
 Location: Ishpeming / Michigan Upper Peninsula
 Number of Floors: 1
 New Construction: 100 %
 Renovation: 0%
 Patient Beds w/in Project: 25 Private

Project F

Total Square Footage: 125,900
 Location: Monroe / Southeast Michigan
 Number of Floors: 2
 New Construction: 100 %
 Renovation: 0%
 Patient Beds w/in Project: 12 Private

Project G

Total Square Footage: 191,262
 Location: Trenton / Southeast Michigan
 Number of Floors: 5
 New Construction: 90 %
 Renovation: 10%
 Patient Beds w/in Project: 114 Private

Project H

Total Square Footage: 161,471
 Location: Livonia / Southeast Michigan
 Number of Floors: 4
 New Construction: 900 %
 Renovation: 10%
 Patient Beds w/in Project: 80 Private

** Descriptions of projects from Patient Care Space Sizes Table

Project A – West Bloomfield / Southeast Michigan

Project B – Commerce Township / Southeast Michigan

Project C – Ann Arbor/Southeast Michigan

Project D – Detroit/ Southeast Michigan

Project E – Ishpeming / Michigan Upper Peninsula

Project F – Monroe/ Southeast Michigan

Project G - Trenton / Southeast Michigan

Project H - Livonia / Southeast Michigan

Project I - Troy/ Southeast Michigan

STUDY TO SOLUTIONS

A Research Initiative by Hobbs+Black Associates, Inc. for the use and knowledge of healthcare providers. For more information on this subject or other Hobbs+Black Study to Solutions publications please contact Sue Stevanovic at 734.663.4189 or sstevanovic@hobbs-black.com

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