

Construction Industry Integrated Delivery System Interest Indicator Questionnaire

Construction Entity Background Information

1. General Contractor/ Construction Entity Name
2. Geographic Location of Corporate Headquarters
3. What region of the country are most of your construction projects? (Please Check all that apply)
4. Your company is known for specific projects that it provides to the construction industry. What do you consider your primary market focus to be? (Please Indicate all that apply to your organization)



Jacobs Engineering Group
Pasadena, CA

- International Europe, South Asia
- Northeast [MA (New England), CT, NY, NJ, PA, MD, DC, etc]
- Midwest [IL, IN, MN, MI, OH, WV, IA, WI, KY, etc]
- South [VA, NC, SC, GA, FL, TX, LA, MS, AL, OH, TN, etc]
- West [WA, CA, AZ, OR, CO, UT, ID, etc.]

- New Construction- Retail/ Commercial*
- New Construction- Federal-Public, Institutional, Gov't work*
- New Construction- Educational (K-12, Higher Learning)*
- New Construction- Convention/ Civic/ Cultural*
- New Construction- Healthcare*
- New Construction- Recreational/ Sports Facility*
- New Construction- Heavy Industrial (Shipping Depot(s)/ Power Plants/ Factories)*
- New Construction- Civil/ Infrastructure (FHA/ FAA/ FRA Work)*

Project Delivery Management

Project Delivery System(s) Summary

- (TD) - *Traditional Delivery Method consist of an Owner, A/E Professional and General Contractor. Arrangement follows a DBB – Design-Bid-Build Scenario. Owner entity holds separate contract with A/E Professional and General Contractor. Vertical information flow occurs between owner to separate entities without cross conversation between A/E and GC. Design Firm has the responsibility of selecting capable consultants, design oversee & production, cost estimate production, construction and specification documentation. When all items are completed general contractors are issued a complete set of project documents to bid, which typically results in the contract being awarded to the lowest bidder. Owner level of experience moderate to high.*
- (DB) - *Design Build consists of an Owner w/ master designer and Design-Build Firm. Master Designer will produce a set of preliminary prints which will serve as the core design and basic project requirements. A contract is held with the owner and a single firm entity with design and construction capacities. The Design Build firm utilizes in-house architecture department or hires design consultant to produce complete set of drawings and design*

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documents. *Guaranteed Maximum Price (GMP) is established based on finished documents, which is agreed to by owner. Design and Construction are housed in the same entity and provides for construction overlap. Owner level of experience minimal, level of project aggression is substantial.*

(MP) - *Multiple Prime Arrangement or Construction Management Agency Owner holds contracts with all prime contractors. Typically used for phase and fast-tracking construction. The role of the Construction Management firm is that of a consultant of risk reduction and sequencing. CM is not essential to this PDS. For arrangements which employ the use of a construction manager, the construction manager acts as the owners representative in coordination issues although no contract is held between the CM/ CMA the prime contractors and all design professions.*

(CMR)- *The Construction Manager @ Risk Delivery system is closely related to the Design Build Method with the three follow aspects:*

1. *Construction Manager is hired with the goal and responsibility of managing the construction project and subcontractor selection*
2. *Cross coordination between the construction manager and the design professional for provision of overlapping in design and construction phases, constructability review occurs during the design phase*
3. *Construction Manager assumes the responsibility for project estimates, cost controls “risk-management” and GMP.*

Integrated Delivery Systems-Design Build Operate Maintain (DBOM) = Design Build Operate (DBO)/ Build Operate Transfer (BOT) + Facilities Management and Maintenance Services

1. What Project Delivery Method PDM(s) has your company used in the past to complete construction projects? Please use the table below to indicate “split of delivery method” via percentage? *JE Quality Standard is to aim for 100%, Project performance ranges from 88 % - 93 % for BOT PDM(s)*

Percentage Split		Project Delivery Method	Level of Success with Project Delivery Method (All owner and company goals sustained through project)
60%	100%	Traditional (TD)/ Design Bid Build (DBB)	<input type="checkbox"/> 0%-20% <input type="checkbox"/> 20%-40% <input type="checkbox"/> 40%-60% <input type="checkbox"/> 60%-80% <input checked="" type="checkbox"/> 80%-100%
7%	100%	Design Build (DB)	<input type="checkbox"/> 0%-20% <input type="checkbox"/> 20%-40% <input type="checkbox"/> 40%-60% <input type="checkbox"/> 60%-80% <input checked="" type="checkbox"/> 80%-100%
8%	100%	Design Build Operate (DBO)/ Build Operate Transfer (BOT) <i>Integrated Delivery Method</i>	<input type="checkbox"/> 0%-20% <input type="checkbox"/> 20%-40% <input type="checkbox"/> 40%-60% <input type="checkbox"/> 60%-80% <input checked="" type="checkbox"/> 80%-100%
25%	100%	Multiple Prime (MP)/ CM Agency (CM)	<input type="checkbox"/> 0%-20% <input type="checkbox"/> 20%-40% <input type="checkbox"/> 40%-60% <input type="checkbox"/> 60%-80% <input checked="" type="checkbox"/> 80%-100%
0%	100%	Construction Manager @ Risk (CM@ Risk)	<input type="checkbox"/> 0%-20% <input type="checkbox"/> 20%-40% <input type="checkbox"/> 40%-60% <input type="checkbox"/> 60%-80% <input type="checkbox"/> 80%-100%
100%	8%	Integrated Delivery Method (DBOM)	<input checked="" type="checkbox"/> 0%-20% <input checked="" type="checkbox"/> 20%-40% <input checked="" type="checkbox"/> 40%-60% <input checked="" type="checkbox"/> 60%-80% <input checked="" type="checkbox"/> 80%-100%

2. What is your primary market focus and repetitive customer base?

Market Focus:

Market Focus is geared toward repetitive consumer base. JE isn't the typical construction entity. Primary projects stem from CM Agency/ Multiple Prime work where JE acts as both the main project consultant and manager.

Repetitive Customer Project Base: (i.e. Hospitals, Schools, Sports Facilities, etc.):

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(3) Cornerstones for the organization “Growth-Relationship-People”. 80% of business comes from 20 % of clients already served by JE. To reiterate, the relationship based business falls into the bulk categories of Corporate Commercial/ Federal Government/ Heavy Industry/ Hospitals and Schools.

3. Has your company ever completed Sports Recreational Facilities or Convention Centers? If so please indicate below.
Yes, JE served as one of the consultants and primary construction manager for the New Busch Stadium in St. Louis.
4. What are (3) of your companies highest profile projects that you have recently concluded? Please indicate (1) Project Type, (2) Project Size, (3) Project Cost, (4) Project Delivery Method and (5) Cost Analysis and Reporting Method.

Project Type/ Project Name	Project Size (SF)	\$ Project Cost	Project Delivery Method (PDM) /Contract Type	Cost Analysis and Reporting Method
<i>Hospital Care Facility/ University of Texas Ambulatory Care Facilities</i>	<i>1,170,000</i>	<i>\$ 347,000,000</i>	<i>CM@Risk</i>	<i>Electronic / Traditional Reporting</i>
<i>Aero-space Tech/ Spallation Neutron Source Space Facility</i>	<i>Classified</i>	<i>\$ 1,400,000,000</i>	<i>Design Consultative-Build Approach</i>	<i>Traditional Method</i>
<i>Infrastructure/ WMATA Blue Line Largo, MD Extension</i>	<i>3.1 Miles</i>	<i>\$ 215,000,000</i>	<i>Design-Build</i>	<i>Traditional Method</i>

5. What are (3) lessons learned from one of your high profile projects listed in the table above? *(Lessons pertaining to either owner/ contractor coordination/ payment application submittals or contract structures)*

Lesson/ Recommendation #1 (PM-Project Specific Information)

Information has to be obtained from project source: [Terri Muniz-terri.muniz@jacobs.com](mailto:Terri.Muniz-terri.muniz@jacobs.com)

Core Values + Multidomestic Business Modeling = Uniquely Superior Values. This should be the approach to take on every project, regardless of how large or small the client is. When referring to procurement methods and strategies be sure that every project participant is on the same page. The variety and reliable of services could make or break a relationship, not to mention a project. Some lessons learned on the University of Texas Ambulatory Care Center include:

- 1. Incorporating & Understanding PCI (Pre-cast Cement Institute) Standards and Certification Requirements*
- 2. Following up QA/ QC process to verify samples*
- 3. Determining at the Design Phase of project who will ultimately be responsible for final approval of pre-cast panels*
- 4. Determining at the Design Phase possible aesthetic substitutes permitted for final pre-cast panel evaluation*
- 5. Document all changes and acceptances*

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Lesson/ Recommendation #2 (PM-Project Specific Information)

Information has to be obtained from project source: Terri Muniz-terri.muniz@jacobs.com

- 1. Be careful with images and products produced by architects that may not have final material selection owner approval***
- 2. Quality control process on behalf of contractor and subcontractor / Multiple Material Checks***
- 3. Anticipate corrections via double checking mat'l data sheets and inviting testing agency to test mixture***

Lesson/ Recommendation #3 (PM-Project Specific)

Information has to be obtained from project source: Terri Muniz-terri.muniz@jacobs.com

Produce re-source loaded schedule even if owner doesn't specify a project timeline. This internal cost control can prove vital to project efficiency.

6. Based on "project autopsies" for the projects that you have completed what changes or complaints (if any) would you indicate in the selected Project Delivery Method (PDM)? *Please give an example of one of your projects.*

PDM used on one of your completed projects:

Information has to be obtained from project source: Terri Muniz-terri.muniz@jacobs.com

Complaints regarding selected PDM:

Contract and Design process wasn't thorough implemented due to old frame work. The problem exist when new concept for delivery systems are analyzed but are implemented with old paradigms. Ex: projects which use design build systems generate schedules which are faster than a designer is used to. Out dated submission processes for new delivery systems are detrimental to project performance. Ex. One high profile project requested a design build PDM only to issue design changes after method was finalized and during the construction phase. A traditional method may suited this project where a define scope is essential and a valid GMP or Lump Sum could be established.

Recommended PDM that should have been used:

Recommended PDM for example project Multiple Prime/ CII/ Scope well defined.

7. What additional services have any of your clients required or requested your organization assistance on beyond the scope of schedule, construction and coordination?

The effects of Hurricane Katrina have increased the cost and time associated with long-lead items. As the construction manager JE has used its resources to created "Centralized Procurement." Other foreseen client request are (1) Cost Delivery Liability (2)3D-4D CAD Modeling (3) Full Design (4) Program Services and (5) Business Value Assessment Modeling.

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Integrated Delivery Systems

1. How familiar is your organization with the concepts of integrated delivery systems such as 'Design Build Operate (DBO)' and 'Build Operate Transfer (BOT)'?

- No Interest
 Not Familiar (Interested in obtaining information)
 Limited Knowledge of Concepts (Interested in obtaining additional information)
 Actively seeking or requesting information (Interested in exploring the possibility of using Integrated Delivery Systems)
 Very Familiar (Have worked with integrated delivery systems before, first hand experience)

2. Has a client/ potential client ever requested your organization to utilize integrated delivery systems for a project? If so please describe the situation and arrangement.

The integrated delivery model is prominent overseas. Working in that market has spear-head "globalize thinking" in the construction industry. Financing arrangements have been made for projects in specific regions with payment resources other than conventional currency. Third world countries may need a structure/ building or infrastructure along with facilities management support and financing alternatives.

3. What questions/ concerns and issues would have to be resolved prior to your organization using integrated delivery systems? If your organization has utilized integrated delivery systems please list the issues and concerns you've had prior to pursuing projects which required this arrangement.

- ⚡ What relationship has to be established with client?*
- ⚡ What does client want?*
- ⚡ How can "builder" utilize existing capability to provide the product?*
- ⚡ Does a new market/ division have to be created to support desired revenue?*

4. For organizations which have used integrated delivery systems, what are some of the benefits to your organization for pursuing projects which require/ request or use this project delivery method?

Specialization in integrated delivery systems can lead to development of "niche" markets. Markets come and go. Projects support different delivery models.

*P3-Public Private Partnerships
"GSA"*

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One could possibly see a trend in the future where government work of a required size and use will require all construction entities interesting in pursuing the project to be familiar with alternative delivery modules and BOT systems. When done correctly, the market is very lucrative from a cost/ revenue/ financing standpoint.

Any information obtained during this interview will be used strictly and solely for the purpose of research. Any feedback is greatly appreciated. Thank you for taking time to participate in this interview.

*Sincerely,
Arnon L. Bazemore
PSU Architectural Engineering-Construction Management Student*

Please submit survey by date: February 7th (2/7/06)
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Terri Muniz, (Project Manager)