DESIGN BUILD: A CARIBBEAN MODEL
A paper delivered on 20 March 2008 by Brian Lewis at the Caribbean Public Procurement Conference Hyatt Hotel Trinidad.

I begin this presentation by recalling that the construction industry represents the world's largest industry, and one with the greatest impact on human health and happiness – it provides employment and support for countless families - in this respect it ought to be thought of in terms of its contribution to human development.

This splendid Hyatt Hotel recently completed here in Port of Spain has been procured by the design-build method. Even though many of us have not been involved in this project we must acknowledge that this is a case where design-build has delivered a good product. However, I humbly submit, that we must also consider its success in terms of its contribution to national and human development.

My objective, in the very short time allotted to me, is to stimulate dialogue on the subject of design-build with particular emphasis on its relevance for use within the Caribbean. To achieve this I will begin with an outline of design-build and the traditional methods of project delivery followed by a review of the drivers for change to design-build, and then continue with a brief review of international and Caribbean trends. Key issues of design-build will be highlighted in a SWOT analysis and I will conclude with a few recommendations.

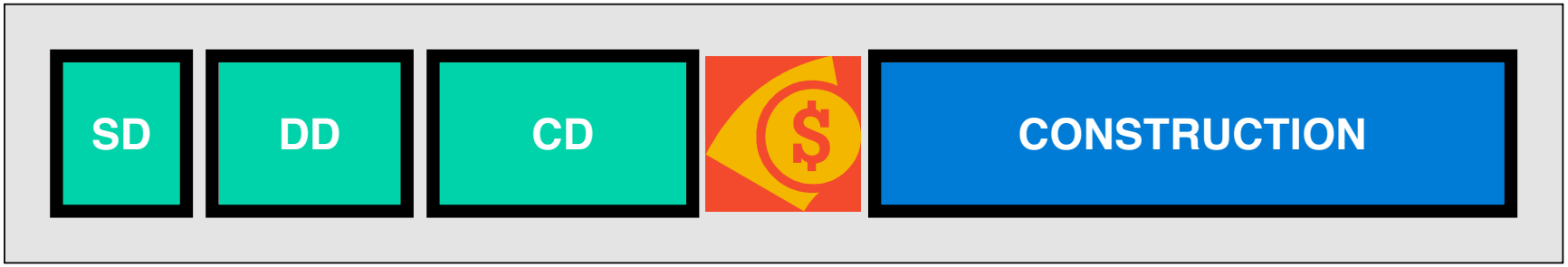
Design-Bid-Build
So let's begin with a brief description of the traditional design-bid-build method. The traditional design-bid-build method is well established and has been in existence in the Caribbean for most on the twentieth century. Typical traditional design-bid-build has three prime players:

- The owner,
- The designer and,
- The builder.

There are two separate contracts:

- One for the owner and designer, and
- The other for the owner and builder.

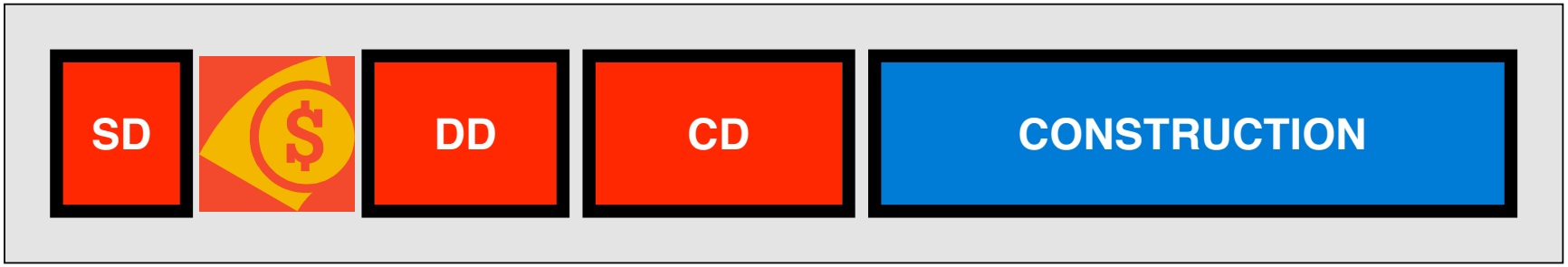
The builder is usually selected based on a competitive bidding process.



Design-bid-build relies on a segregated approach to project delivery where a group of specialist professionals design and tender the project competitively and a contract is then awarded to a general contractor. Over the years this procurement method has been developed to a high level of transparency. The design professionals have a fiduciary relationship with the client and strive to achieve high professional design standards while the contractor acts as a vendor whose objective is to build efficiently and thus maximize profits. These two groups then have quite different and opposing objectives that sometimes, though not always, result in conflict. Clients do not want conflict – they just want a well-designed and well-built project that is good value for money and delivered within time and budget. Most clients these days are in a tremendous hurry and are therefore looking for ways and means to shorten the project delivery process. In the design-bid build approach each stage is usually completed before the next stage can begin and this has led to many procurement variations, including design-build.

Design-Build

Design-build is characterized by one contract: the owner and design-build entity.



Design-build is a single legal entity that is responsible for the entire building process: both design and construction. The design-build entity has a vendor relationship with the client in which the design professionals are now employed within or by the design-builder and have no fiduciary relationship with the client. In design-build oversight of the construction by an independent professional is sometimes omitted but this can be risky allowing the design-build entity to cut corners.

Current Wind Of Change:

Now let's look at why design-build is gaining in popularity as a procurement method both here and wider abroad. The Government of Trinidad and Tobago is now promoting design-build as the preferred method of project delivery. We can also expect this policy to be followed by most government agencies, certainly in Trinidad and is also likely to be emulated throughout the Caribbean. Mind you, it is important to appreciate the fact that the decision to use design-build as a procurement method has not been debated nor discussed with key stakeholders within the construction industry.

The forces of change away from the traditional procurement method within the international community are mainly based on four factors.

- The need for accelerating the delivery of projects,
- The increased complexity of projects,
- The need for greater certainty in terms of delivery and cost, and
- The need for changes that result in less conflict, greater responsibility and less red tape.

Although design-build can meet these objectives it is important to appreciate that there are some disadvantages in this method and that the jury is by no means out. At the 2007 AIA/RIBA Design-Build Conference in London Chris Wilkinson RIBA put his position like this "*design-build is clearly flawed and does nothing for architecture. We as architects are putting the environment together, which is something worth caring about".* On the other hand Harold Adams AIA felt in contrast that "*project delivery and speed can sometimes trump design. The GSA loves design-build and is moving almost exclusively to that process"*

International Trends

Now let's look at a few international trends. In the United States, design-build is growing rapidly; in fact, about 50 percent of all U.S. construction dollars are spent on design-build projects[1]. **I**n the UK design-build is gaining in popularity although there are concerns about the resulting perception of reduced control over design standards[2]. The Canadian Public Works & Government Services have developed a fairly sophisticated phased approach to design-build competitions[3]. In the Caribbean, information on design-build is scarce. In Jamaica the use of design-build methodology is not widespread and is promoted primarily by a few large contractors utilizing proprietary systems. My information is that the Jamaican government is promoting design-build but there has not been any serious debate or consultation on the topic. I have less information at hand for Barbados but I gather that design-build is used for some civil engineering utility projects. Information is scarce for other Caribbean islands but I rather suspect that the trends are clear. In Trinidad the government has recently sanctioned design-build as the preferred procurement method to be followed by statutory agencies. Major projects have been recently completed or are in progress – to name a few: the Prime Minister's Residence and Diplomatic Centre, The Cultural Centres in Port Of Spain and San Fernando, The Waterfront and the Rapid Rail Projects. These are huge projects in which there will be limited local professional input at a time when many local professional and contracting firms have significant in-house or joint-venture capacity that have and continue to be bypassed in most cases in favor of large foreign-based design-build contractors.

SWOT Analysis of Design-Build

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[1] Walker lee evey, HDIA president, AIA/RIBA Conference in London 2007 "*in the United States, design-build is growing rapidly; in fact, about 50 percent of all U.S. construction dollars are spent on design-build projects. He spoke about the reconstruction of the Pentagon after its destruction on September 11, 2001, by terrorist attack. He reported that just prior to the attack: the wedge of the Pentagon had just been renovated by the traditional method. In the reconstruction design-build was used. This was a perfect opportunity to study the comparison of two methods. The design-build version saved US$241M and was completed in one year instead of three"*

[2] Mike Hussy – Land Securities Developers, AIA/RIBA Conference in London 2007 "*design integrity is important to the UK owner. Contractor's risk margins are too high. A contract is an allocation of risk. Relationships drive value and success. The key to their work is to design well, to the highest possible standard. There is a 'model-shift' in that design is now valued"*

[3] Randy Dhar, AIA/RIBA Conference in London 2007. *"Canada's Public Works & Government Services is running design-build competitions using a two-stage process. In the first phase, design-build teams are short-listed based on qualifications only, with no consideration of price. In phase two. The teams submit designs and costs. The team that represents the best value to the owner is the one selected. That may not be the lowest price team, but the one that* overall presents the best cost and quality combination. In Canada a major issue is the payment of a stipend to the unsuccessful proposers. It is very costly to prepare a design in a competition sufficient for the contractor to give a firm price

The idea of an executive SWOT analysis of the design-build method is really to identify the key issues relevant to the Caribbean. Let's begin with a brief review of strengths.

Strengths:

shorter project schedules: due to the overlapping of design and construction activities that normally would run sequentially in the traditional method.

less conflict: between contractors and design professionals that can cause delays, costs and stress.

single-source-responsibility: the client just deals with the design-builder.

Weaknesses:

structure of the construction industry: There are very few Caribbean owned design-build entities with experience. Furthermore the majority of design professional firms are small and segregated and very few, if any, have design-build experience. It is therefore entirely unreasonable to expect an entire construction industry to shift from one procurement culture to another without notice or any consultation on the issues involved.

finance issues: Design-build implies added financial risk and higher prices. Contingencies on traditional design-bid-build are normally in the vicinity of 6 percent increase to the order 15 percent in design-build since designs are not complete when the contract sum is agreed.

conflict of interest: In most cases the designer is reduced to a subcontractor to the design-build entity. In the Caribbean, professionals are not accustomed to working for contractors so that design-build will be a cultural challenge for Caribbean construction. This is a fundamental point and one that demonstrates the essential need for professional oversight of design-build projects.

Threats:

managing risk: Design-build poses some serious risk management issues. Bonding will pose a significant obstacle for any newly emerging design-build entity. Certainly design professionals have no experience of bonding and will be hard-placed to qualify to provide bonds, especially on major projects. It is interesting to note that the American Institute of Architects design-build contract documents do not require bonding. Professional indemnity insurance does not cover the added risk of design-build type contracts nor are contractors particularly happy to indemnify design professionals. The consequence of this situation has led to the development of additional project insurance that is taken out for the specific project as a direct added cost of the project.

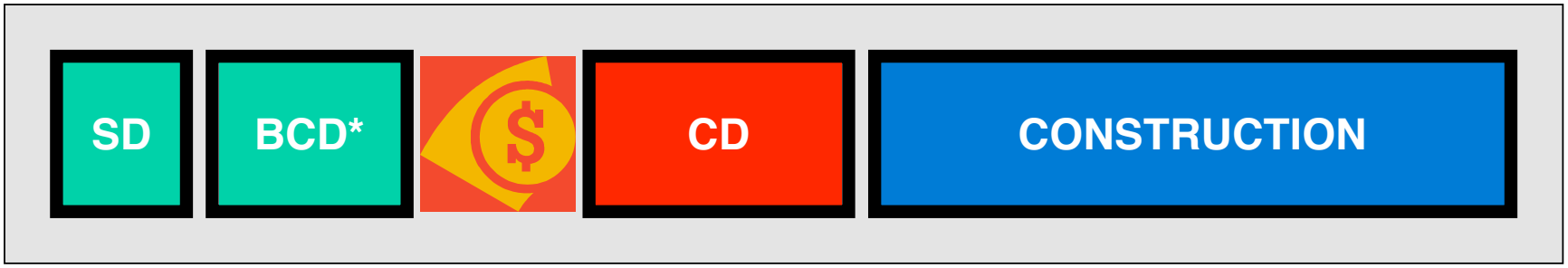
competition and stipends: A serious threat to introducing design-build within the Caribbean is the selection process that is counter-productive to efficient use of human resources. When faced with limited professional resources in an overheated economy it is wasteful to require numerous teams of design professionals to provide separate designs for each design-builder to make a design-build offer. One option, though not ideal, is a two-stage process to pre-qualify say two or three design-build firms who will compete but where the unsuccessful bidder is paid a stipend – this approach is well developed in Canada but it is an added cost and is not efficient.

Opportunities:

integrated practice: With few exceptions, design professionals still operate as independent firms each offering separate architectural, engineering and quantity surveying services. One of the essential steps in achieving a more sophisticated and harmonious design environment is the trend towards Integrated Practice. Building Information Modeling and Virtual Design and Construction software now offer

new opportunities for increasing design efficiency, better design coordination, reduced error and waste in the construction industry. Integrated Practice is a useful prerequisite for design-build entities.

Bridging: One of the variations of design-build is what is known as the Bridging Method. Bridging is a two-part process in which the first part involves design professionals and client in the traditional form to develop the design that meets the client's needs. The second stage involves competitive tendering for design builders to complete the construction documents and construction preferably under the supervision and watchful eye of the client's design professionals. In my opinion this option is better matched to the existing structure of Caribbean design professionals and contracting firms.



Response:
So the question for us today and in the months ahead is how should we, as design and construction stakeholders, respond to the challenge of design-build being posed by Caribbean governments?

- Should we resist?
- Should we ignore?
- Or should we embrace the challenge?

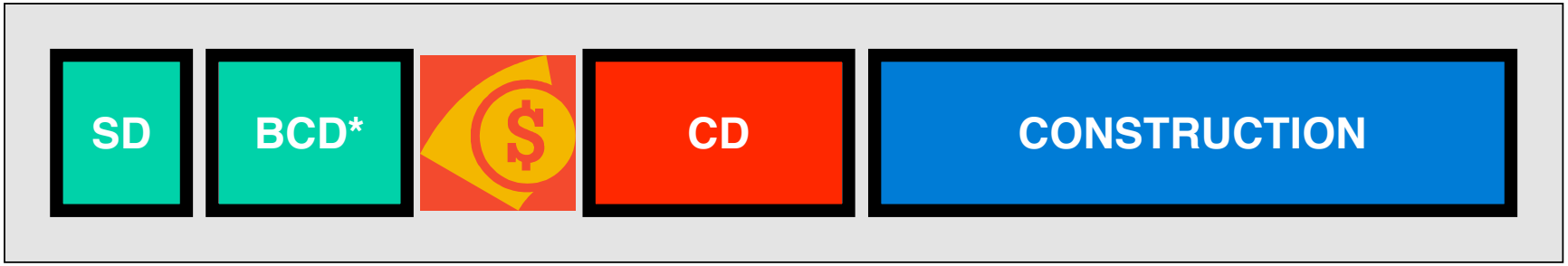
I respectively suggest that we embrace the challenge so as to ensure that best practices are used for design-build to maximize the benefit for human development of Caribbean citizens.

Conclusion + Recommendations
I would like to end this presentation with a few enduring thoughts and recommendations of my own for you to consider:

Integrated Practice: Professional firms can start working together using BIM software to establish more efficient integrated practices they will be better placed to take part in the design-build process.

Professional Alignments: Design professionals will need to consider whether they want to do 'up-front design' for the client or be the 'back-end' professional of record working for the design-build entity. Novation of the design team to the design-build entity is not generally thought to be the ideal arrangement.

Bridging: Urge government agencies to use the bridging format rather than classic design-build format since it is more closely aligned with Caribbean practice and national development.



Human Development Objectives: In the words of Dr. Keith Rowley *"the country must focus on developing it's human resources*[4]*"* Caribbean governments need to carefully consider the role of the construction industry as a catalyst for the human development of it's citizens. We need to ask ourselves if development is merely a question of erecting huge building projects and then justifying the use of foreign-based design-build firms as the solution to delivery in the shortest time and lowest first cost. We need to redefine development that our construction industry is capable of delivering and we need to strengthen the capacity of the industry to deliver a realistic level of development in an orderly process using relevant best practices and standards.

Efficient Agency Management: Caribbean governments need to ensure that their own intellectual infrastructure and management processes are in place to deliver effective project delivery and procurement. There is little point in using design-build without efficient management structures, including the statutory approvals process.

Dialogue and Consultation: Probably the most important recommendation I would like to make is the need for greater dialogue and consultation between stakeholders including relevant government agencies. I suggest that the construction industry may need to adopt a more proactive role to stimulate this sort of exchange in a non-confrontational forum.

I would like to end by thanking the Caribbean Procurement Institute for organizing this conference and for granting me the opportunity to speak with you on this important topic. I do hope that my presentation will stimulate some dialogue and discussion on the topic and encourage us to find the most appropriate procurement processes for development within the Caribbean.

[4] The Guardian 21 February 2008