

INTRODUCTION TO:
**INTEGRATED
PROJECT DELIVERY**

Craig Hawkins, CxA
VP of Commissioning Operations



IPD-Session Overview

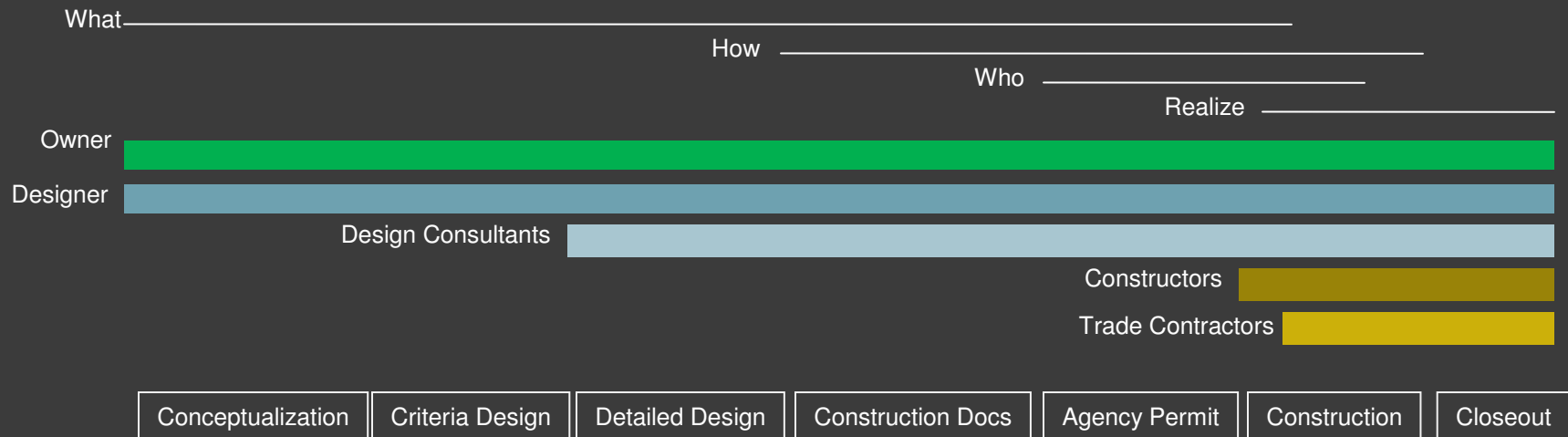
- ◉ Definition
- ◉ IPD versus Traditional Project Delivery
- ◉ IPD: Built on Collaboration/Team Structure
- ◉ IPD Success: Realized through Measured Results
- ◉ Similarities to Existing Methods
- ◉ Challenges to IPD
- ◉ Evolution is All About Change (and that's a good thing)
- ◉ How Cx Can Help in Moving Towards IPD
- ◉ The AIA IPD Guidebook
- ◉ Final Thoughts
- ◉ Q & A

Definition of IPD

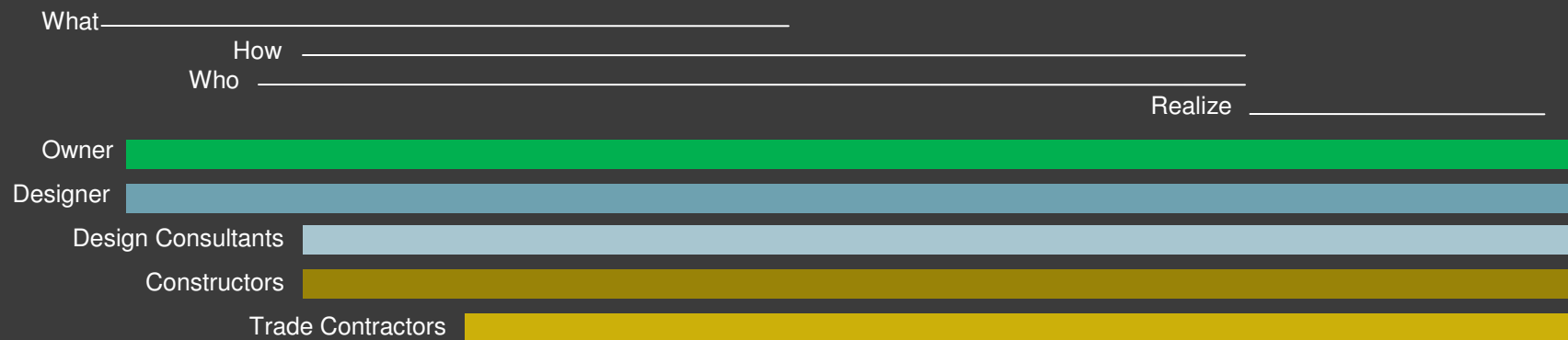
- Integrated Project Delivery (IPD) is a project delivery approach that integrates people, systems, business structures, and practices into a process that collaboratively harnesses the talents and insights of all participants to optimize project results, increase value to the owner, reduce waste, and maximize efficiency through all phases of design, fabrication, and construction.
- IPD projects are uniquely distinguished by highly effective collaboration among the owner, prime designers, and the prime contractor, commencing at early design and continuing through to project handover.

Timelines: IPD vs Typical

Typical Delivery Method



Integrated Project Delivery



Major Decision Time Period

Minor Decision Time

Terms: IPD vs Typical

Traditional Project Delivery Method	Term	Integrated Project Delivery Method
Fragmented, assembled on “just-as-needed” basis, strongly hierarchical, top-controlled	Teams	An integrated team entity composed of key project stakeholders, assembled early in the process, open, collaborative.
Linear, distinct, segregated; knowledge gathered “just-as-needed”; information hoarded in silos of knowledge and expertise	Process	Concurrent and multi-level; early contributions of knowledge and expertise; information openly shared; stakeholder trust and respect
Individually managed, transferred to greatest extent possible	Risk	Collectively managed, appropriately shared
Individually pursued: minimum effort for maximum return; (usually) on first cost basis	Compensation / Reward	Team success tied to project success; value based
Paper based, 2-dimensional, analog, poorly coordinated	Communications / Technologies	Digitally based, virtual; Building Information Modeling (3, 4 and 5 dimensional)
Encourage unilateral effort; allocate and transfer risk; no sharing	Agreements	Encourage, foster, promote and support multi-level open sharing and collaboration; risk sharing

Envisioning a New World

Where....

- ⦿ ...Facility managers, end users, contractors and suppliers are all involved at the START of the design process.
- ⦿ ...Process are outcome-driven and decisions are not made solely on first-cost basis.
- ⦿ ...All communications throughout the process are clear, concise, open, transparent, and trusting.
- ⦿ ...Designers fully understand the ramifications of their decisions at the time the decisions are made.
- ⦿ ...Risk and reward are value-based and appropriately balanced among all team members over the life of a project.
- ⦿ ...The industry delivers a higher quality and sustainable built environment.

This can all be achieved through IPD, This is the future, and the future is NOW!

Positive Value

- ◎ Look at the LEED® system for a model of how a project can benefit from early team involvement. IPD provides positive value propositions for:
 - Owner
 - Allows Owners to balance project options to meet their functional and fiscal needs early.
 - OPR is a working document, not an afterthought.
 - Constructor
 - Contractors are allowed to contribute their expertise early on resulting in greater project quality, fewer change orders and faster project delivery.
 - Visualizing construction sequencing while in the design phase improves cost control and budget management.
 - Designer
 - Having input from the contractors can benefit the designers in making better informed decisions which results in improved project quality and systems performance.

Built on Collaboration/Team

- IPD is built on collaboration which is based on trust. This encourages parties to focus on outcome instead of individual goals. **Traditional delivery systems rely on adverse and antagonistic relationships that are a plague to our industry.** Instead, IPD follows principles of:
 - Mutual Respect and Trust
 - Mutual Benefit and Reward
 - Collaborative Innovation and Decision Making
 - Early Involvement of Key Participants
 - Early Goal Definition
 - Intensified Planning
 - Open Communication
 - Appropriate Technologies
 - Organization and Leadership

Success Realized through Measured Results

- ◎ Project Cost
 - Value Engineering is replaced with Estimated Budgeting with incentives to beat target price via collaborative effort.
- ◎ Project Schedule
 - Major benefit of IPD is reduced construction time due to extensive team planning during low cost design phase.
- ◎ Project Quality
 - Increased team coordination reduces errors typical of “silo” information models.
- ◎ Operational Performance
 - Performance criteria is established early on in the decision making process with incentive opportunities based on actual performance demonstrated at closeout.
- ◎ Sustainability
 - Metrics for achieving aggressive lifecycle goals can be set early in the design process.

Similarities to Other Delivery Methods

- ◎ CMc (Construction Manager at Risk)
 - Well suited to IPD because construction ideas and delivery goals are brought into the picture early in the design process.
- ◎ Design-Build
 - Single point of responsibility for both design and construction activities makes DB an excellent candidate for IPD.
 - Self-selected teams provide greater chance of cooperation which equates to improved process.

Polar Opposite of DBB

- ◎ Design-Bid-Build (DBB) Project Delivery
 - Without a doubt, the most popular and prevalent delivery method used today.
 - Owner hires designers
 - Design based on “similar” projects
 - Selected contractor based on lowest cost, and only after all design work is completed
 - Project designed with little, if any, input from parties constructing, maintaining and using facility.
 - Due to it's rigid system where the contractor is not brought in until after all decision making is done, DBB does not lend itself to the IPD process.

Challenges to IPD

⦿ Team Dispute Resolution

- IPD based on collaboration, but issues may still arise. If IPD participants fall back into “hunkering” to protect self-interests, then IPD fails. Internal disputes settled by project’s “decision-making body” which makes unanimous decisions based on best interest of the project.

⦿ Compensation

- In IPD, individual financial success relies on project success, so participants natural instinct is to protect and improve it’s own financial interests which results in project benefit.

⦿ Building Information Modeling (BIM)

- Digital, three-dimensional model linked to a project information database. The BIM can live on after construction to assist in occupancy issues such as space planning changes, long-term energy monitoring, maintenance issues and remodeling. However, BIM is an evolving technology and is not consistently used in the industry.

Evolution is All About Change

“People seek change, but do not want to be changed”

Peter Senge, “The Fifth Discipline: The Art & Practice of the Learning Organization” 1990

- ⦿ Changes in technologies are allowing for greater and greater advances in efficiencies and accuracy.
- ⦿ Changes in the design and construction process are not keeping pace with technologies.
- ⦿ IPD requires not only a change in process, but a cultural change in the mindsets of:
 - Owners
 - Architects
 - Engineers
 - Contractors
 - Facility End-Users

While change is never easy, it is achievable.

How Cx Can Help in Moving Towards Integration

- Today's Commissioning Industry is poised to assist in moving the Design/Construct Industry towards successful implementation of IPD due to:
 - Independent, 3rd Party viewpoint of Cx
 - Emphasis on early involvement by all
 - Existing support of collaborative effort by all
 - Focus on use and maintenance early on
 - Setting metrics for success

The AIA's IPD Guideline

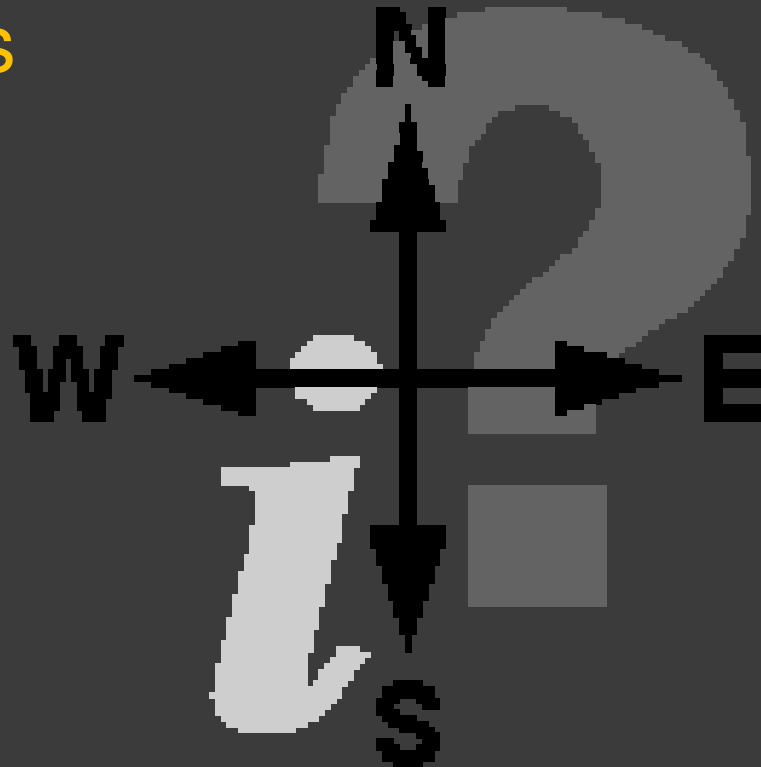
- ◎ <http://www.aia.org/contractdocs/AIAS077630>
- ◎ The Integrated Project Delivery Guide, jointly developed by the AIA's Documents Committee and AIA California Council, is offered as a tool to assist owners, designers and builders to move toward integrated models and improved design, construction and operations processes. The goal of the Guide is to identify the characteristics of IPD and to provide specific information and guidance on how to utilize IPD methods to achieve enhanced design, construction and operations processes.
- ◎ The Guide begins with introductory material about the principles of IPD and points of consideration in a generic sense, moves through a study of implementation of IPD and culminates with discussion of application of general IPD principles within the specific framework of common delivery models used in the marketplace today.

Final Thoughts

- ◎ IPD is perfectly suited to the marriage of Baby-Boomers and the X/Y Generation:
 - Baby Boomers:
 - Experienced
 - Hands-on knowledge based
 - Vision of End-Product
 - Generation X/Y:
 - New Technologies based
 - More willing to try new ideas
 - No fear of “Risk versus Reward”

Thank You

- Questions



Craig Hawkins, CxA
VP of Commissioning Operations

