



## “Integrated Project Delivery”

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### Objective

I’ve been talking about Integrated Project Delivery (IPD) for years now, recognizing that owners and the industry are looking for new ways to deliver projects more efficiently and effectively.

Building Information Modelling is emerging as a tool that fosters a more collaborative approach to building design and construction. Many believe that this is the catalyst that will lead us to move to an integrated, collaborative approach.

For the past several years the American Institute of Architects (AIA) has been working with the Construction Users Roundtable (CURT) and the Associated General Contractors of America (AGC) to advance knowledge about the integrated approach in the U.S.

I’ve been watching closely.

This b.note will:

- help you understand why owners and the industry are looking for a better delivery model
- outline some of the characteristics of Integrated Project Delivery
- describe some of the ways the integrated approach improves project outcomes
- discuss how you might begin to build all of this into your business strategy

### Why Are Owners Looking for New Ways to Procure Their Projects?

At the risk of oversimplification, owners are increasingly disappointed with project outcomes when ‘traditional’ delivery models like ‘design-bid-build’ are used.

- lack of certainty about project cost from the outset, and cost overruns at the end
- similarly, a lack of certainty about project schedule resulting in project delays and schedule overruns
- lack of accountability on the part of consultants, contractors and others involved in the project - *finger-pointing* when problems arise, essentially making it the owner’s problem
- less-than-optimal project outcomes - projects that don’t meet their expectations for meeting program requirements, quality, performance, operation and maintenance, etc.
- adversarial relationships between those involved in the project
- excessive resources, which owners end up paying for, invested by consultants and contractors in building up a defence instead of optimizing project outcomes
- a general sense that they are paying more than they need to, and that the process takes longer than it should

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#### Risk

Their disenchantment with 'traditional' delivery models has led to owners attempting to transfer risks for things like schedule and cost to the consultants and contractors through their contracts by including liquidated damages and penalty clauses.

This trend to transfer risk has grown to include many other risks that have traditionally been the owner's, like:

- Project Financing
- Responsibilities/liabilities of the Owner's consultants
- Accuracy of site information
- User/owner changes
- Changes in law, codes
- "Fitness for purpose" - does the completed infrastructure asset properly fulfil the need for it?
- Maintenance
- Subsoil and other unforeseeable conditions such as existing building conditions
- Environmental liabilities
- Operational and performance issues including energy-related
- Risks related to innovation - Owners seek "innovation" but bring in their lawyers when problems arise

#### Meantime, the Industry is also Looking for New Ways to Deliver Projects

The industry is not anxious to take on these "owner" risks, especially when they can't be measured, and thus can't be priced.

But there's much more. Numerous studies in the U.K. and the U.S. have identified significant opportunities to improve the way we design and deliver infrastructure. For example, studies demonstrate that:

- 30% to over 50% of the energy and resources we invest in design and construction is wasted - for example, consider just one element of a project:
  - owner engages design consultant
  - consultant produces numerous possible solutions, reviews with users
  - consultant redesigns
  - consultant reviews with owner
  - consultant redesigns and produces estimates
  - estimates are over-budget so consultant redesigns
  - project is put out to bid, comes in over budget
  - consultant and contractor "reverse engineer" in the attempt to find savings

There must be a better way!

- the industry continues to underperform - data from the U.S., and Canada won't be any different, shows that non-farm productivity in the economy has undergone HUGE improvements over the past 40 or 50 years, while productivity in design and construction has actually reduced!
- partly as a result of poor productivity, profitability in this sector has always been low
  - average profitability of a general contractor in Canada, before taxes, is said to be 1 to 3% (based on construction values)
  - consultants who can achieve 10% (based on professional fees) are thought to be doing very well

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- both of these compare poorly with profitability in other industries

#### The Basics About Integrated Project Delivery

"Integrated Project Delivery" is based on assembling a team consisting of the key players on a project - owner, users, operators, designers, constructors, facilities management, specialist consultants.

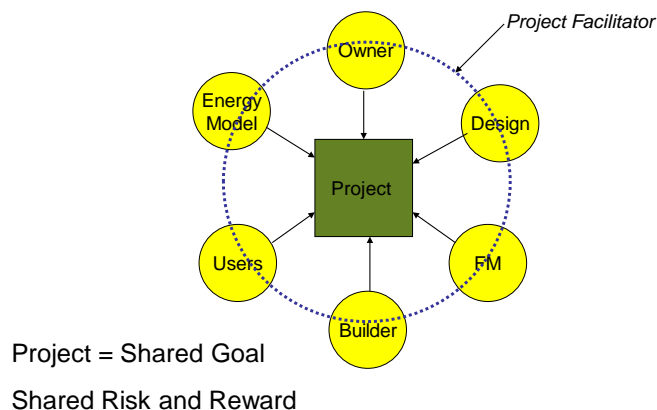
That team commits to work together ... collaborate ... to achieve the best project outcomes, and they adopt as their mutual objective exactly that ... the very best project they can collectively create.

In many cases a specialist is engaged to facilitate the project - to act as the "orchestra leader" and foster collaboration among the team participants.

Members of the team agree to share risk ... and importantly, reward. In many cases they establish a framework where the service providers put some of their profit, perhaps some overhead costs, at risk. The parties agree on a series of performance targets or "key performance indicators". Let's use construction cost as an example. If the team is successful in meeting the project budget, the service providers are paid what was agreed upon. They get their profits and all of their costs. If they bring the project in under budget, the owner shares some of the savings with the service providers under a pre-agreed formula. On the other hand, if the project goes over budget, some of the amount that the services providers put at risk is retained by the owner, again based on a pre-agreed formula.

The members of the team sign a multi-party contract under which they agree they will not sue each other. They all have "skin in the game". The contract contains other provisions to support collaboration such as:

- mandatory participation by decision-makers of each team member at project meetings starting at the outset of the project
- joint development and adoption of project goals and objectives, including financial, schedule, performance, risk/reward formulae and metrics
- commitment to open book fiscal transparency
- mandatory collective decision-making requiring consensus, often unanimity
- co-location of team members for the duration of the project



## **Advantages of Integrated Project Delivery**

- optimizes project outcomes because the entire team is focused on creating the very best results
- brings key members of the team together from the very outset of the project, providing critical input into decisions that will have major impact on project outcomes
- encourages "buy-in" from users, operators because they have input from the outset
- because all key project participants, including users, operators, facilities managers, etc. are involved from the outset in decision-making, minimizes changes as the project unfolds ... it's far easier and cheaper to make changes in the design stages than when the project is under construction, and helps minimize delays in the project schedule
- experience in sustainable design clearly indicates that an integrated, collaborative approach to design and construction is essential to maximize sustainability in a project
- experience indicates that the integrated, collaborative approach to project delivery is an effective method of minimizing and managing project risk when compared to 'traditional', often adversarial delivery approaches
- the integrated approach, especially when it is facilitated using tools like BIM, results in great improvements in coordination, avoiding the problems which too often arise during construction - problems that can be very expensive to correct
- the potential for shared reward leads to improved project outcomes ... participants in IPD projects often state that it was 'the best project of their career'
- the money and energy that is too often invested in building a defence, and in adversarial interactions is instead invested in the project and shared within the collaborative team

## **How Integrated Project Delivery Can Be Part of Your Business Strategy**

Start thinking about how you can foster and lead a more collaborative "team" approach to projects. While public owners may believe they are prevented from adopting IPD because of procurement rules and policies, private owners do not face those challenges.

The makeup of the team is a critical element in IPD given all of those participants will enter a relationship that relies heavily on trust and commitment. Start thinking about how you could put a team together to approach owners with a project delivery approach that is going to result in improved project outcomes.

Do some research into the growing number of case studies of successful IDP projects, and into multi-party contracts. While I am not aware of any in Canada, there are a number of sources in the U.S. that can provide some guidance.

Experience also indicates that while a full IPD model based on multi-party contracts delivers optimum results, there is also evidence that adopting key principles of IPD can improve projects, and the experience of designing and building them, even without the multi-party contracts.

In the words of one of Canada's leading construction lawyers, "It's not a question of IF we will move to IPD, it's a question of WHEN." Begin to prepare now and lead the vanguard rather than playing 'catch up'.

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#### **Related Concepts**

Some have suggested that "Public Private Partnerships" (P3s - AFPs in Ontario) are a form of integrated project delivery. A key difference is that the "team" typically does not include the public owner, which contracts with a private sector consortium to design, build, finance and in many cases maintain the infrastructure for a period of 25 to 35 or more years. The very complex contracts which govern the relationship between the owner and the consortium attempt to, among other things, identify every possible risk in advance and set out how it will be managed and by whom. The relationship between owner and consortium is adversarial from the outset of the project.

Further, most who are familiar with P3s will suggest that it is this long-term maintenance component of the relationship that attracts the private sector team and delivers potentially the greatest value to the owner. That maintenance component is not typically seen as a feature in integrated project delivery contracts.

#### **Resources**

"Rethinking Construction" the seminal U.K. report that studied the construction industry and recommended, among other things, the adoption of a more collaborative, less adversarial approach to project design and construction.  
[www.architecture.com/Files/RIBAHoldings/PolicyAndInternationalRelations/Policy/PublicAffairs/RethinkingConstruction.pdf](http://www.architecture.com/Files/RIBAHoldings/PolicyAndInternationalRelations/Policy/PublicAffairs/RethinkingConstruction.pdf)

Lean Construction Institute, featuring comprehensive information, resources and links.  
<http://www.leanconstruction.org/>

P3 for You and Me - Article, Canadian Architect - Author, Brian Watkinson  
[www.canadianarchitect.com/issues/story.aspx?aid=1000221446](http://www.canadianarchitect.com/issues/story.aspx?aid=1000221446)

Understanding P3s in Canada, Report by Association of Canadian Engineering Companies, 2010  
Principal Author, Brian Watkinson  
[http://www.acec.ca/en/docs/services/acec\\_P3\\_report.pdf](http://www.acec.ca/en/docs/services/acec_P3_report.pdf)

American Institute of Architects, Integrated Practice/Integrated Project Delivery  
<http://www.aia.org/about/initiatives/AIAS078435?dvid=&recspec=AIAS078435>

Associated General Contractors of America - Project Delivery  
[http://www.agc.org/cs/industry\\_topics/project\\_delivery](http://www.agc.org/cs/industry_topics/project_delivery)

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