

THE IPD JOURNEY

OPTIMIZING THE TEAM FOR PROJECT SUCCESS

PROJECT OVERVIEW

PROJECT SUMMARY

Project, Location

TD Lego
77 Bloor Street West, Toronto

Target Price

Confidential

Delivery

September 2013 to May 2016

Project Team Execution Rating

90%

Project Model

Integrated Project Delivery (IPD)

Final Price

13% Below Target Price

Client Satisfaction Rating

96%

Project Team Trust Rating

94%

PROJECT TEAM



Brookfield
Global Integrated Solutions



HHAngus



MULVEY & BANANI
Consulting Engineers

EllisDon



**MODERN
NIAGARA**

SYMTECH

teknion

IPD ELEMENTS

- Extensive pre-planning with all levels of leadership
- An agreement between the partners not to litigate
- Transparency in scheduling, delivery and billing
- A shared pool of risk/reward to stimulate innovation
- 11 Floors of renovation
- Completed over 6 phases

The TD LEGO project at Toronto's 77 Bloor Street West, constructed in the Integrated Project Delivery (IPD) model, has prompted enthusiastic reviews from partners and ownership. Despite a six-month delay, the 220,000 square foot restack of 12 and half floors of banking space was completed on time for its April 2016 opening.

In an IPD project, savings are split among participants. That left 13 per cent of the target price to be divided between TD, builder EllisDon, consultants and contractors.

"I've done projects across the country and this was the number one project in my career."

Christine Penney

"I am so happy to hear there were others who enjoyed this project as much as I did," said Kevin Greene, TD's Vice President of Planning, Strategy and Innovation for Enterprise Real Estate. "Someone said to me: 'everyone in their lives should do one of these concepts.' I agree wholeheartedly."

Not only were the financials spectacular, tenant satisfaction in the process was sky-high. "This has been the best, most enjoyable job of my 33 years at TD," said Christine Penney, the bank's Premises Manager for Enterprise Real Estate. "We ended up with 1,200 happy TD employees. They are reaping the benefits of the new design, cleanliness and access to new technology they never had before. I'm very, very happy for them."

IPD morphed out of efficiency breakthroughs pioneered by auto giant Toyota. While technology has made processes more efficient, the construction industry has not managed a comparable leap in productivity. In this, the industry stands all but alone. Many see the culprit as the bid and spec system's cumbersome handling of risk.

- Owners say projects routinely run behind schedule as well as over budget and feel gouged when making scope changes.
- Contractors say clients want extras in and above the agreed-upon price and buy trouble by snapping up unrealistically low bids from the trades who then add in hidden extras.
- Tradespeople feel hampered by shifting scope demands, incomplete drawings and a lack of overall scheduling that sets them at odds with other disciplines.
- Architects feel perennially time-crunched and trapped by the shifting demands from every element of the project.



Said EllisDon's Joe Day: "Part of the reason productivity is not growing in construction is because we have a lot of people who have done things in a particular way for a long time. It's their habit. They have developed people and they have built their profitability through it."

"The lump sum approach is set up for conflict right off the bat," Day said. "It's not a partnership approach. It's an adversarial approach."

"Traditionally, every element of the business has been about covering your backside and protecting your own risk as opposed to thinking in a sort of master builder mentality," said HOK Senior Vice President Chris Browne. "In IPD you take advantage of the skills and expertise of all of the players in design, construction and building."

In an IPD project, participants aren't just chosen based on the lowest tendered price. Builders know all too well that those bids are laden with loopholes that will allow the successful bidder to siphon back losses.

"When we interviewed the subs and the consultants and other members of the team, there was really no discussion on what people cost," said Day. "What we talked a lot about was who could we trust, who is going to be willing to be a true partner? You didn't ask which firm had the best price. You asked which firm had the best people."

"Projects always have the same issues of unforeseen site conditions, authorities with jurisdiction having issues, design co-ordination issues, scope changes, time pressures, re-design," said Brookfield's Anthony Cho. "All these things add up and you generally end up 10 to 15 per cent higher than what the 'as-tendered' number is supposed to be."

IPD, conversely, is driven by what everyone says they want in the construction industry but so rarely gain: teamwork, transparency and incentive for innovation.

IPD's main feature is the ability to not only distribute risk among the partners and away from the owner but incentivize economies. If the job goes over target, the extra expense comes out of everyone's pocket, not just the client's. Greater autonomy is given to decision-makers onsite so improvements can be quickly implemented without waiting weeks for an answer from upper management.

"When you're busy, when you have a lot of floors, you need answers right away," said Symtech's Dimitri Vorvis. "We never had to wait for that."

Last Planner schedule boards in a shared site office reinforces the symphony of movements between the builders. Mechanical contractors know what elements the other trades need to complete their tasks. Likewise, billing costs are open for all to see.

IPD resembles the old system in one critical way; its main incentive is profit. The critical difference: under IPD, productivity makes more money for everyone.

Said Brookfield's Valerie Beare: "We did away with all the conventional management processes: how we manage change orders, how we got paid, how we transferred information. Instead it became a team approach."

"I think it was the hardest thing about this; learning new behaviours, creating new processes, learning to trust each other to a new degree."

Kevin Greene

"Once you understand the IPD concept and see the benefits, it's easy," said Mario Herce of Symtech Innovations, a Toronto-based electrical and communications company. "There is no confrontation. We co-operate. We communicate. It makes a world of difference."

In an IPD job, exhaustive consultations between stakeholders are held to find and solve problems before they hit the jobsite. Members share a common set of values, - integrity, and joy are two critical ones adopted by the TD Lego team -they strive to uphold through the job.

"Our favourite value of the bunch was joy," said Valerie Beare, Brookfield Global Integrated Solutions' Director of Client Services. "Everyone you talk to will say we definitely had a lot of joy on this job. The other value we stayed true to was learning. I think there were a lot of people who were converted to this process along the way."



“The best part of the session was when the facilitator asked, ‘What are your fears?’ Mine was, ‘Is this going to work?’” said TD’s Kevin Greene. “But hearing everybody’s fears and allowing people to voice them and then coming up with a valuestatement against fear was a great thing.”

“You are looking around the room at normal construction people who are used to going into meetings and getting into fights that slow down processes,” said Modern Niagara’s Paul Perry. “It was abundantly clear in that first meeting that this was not going down that road.”

IPD projects are typically front-loaded. With PIT, PMT and SMT levels present at the early sessions, the project takes on heavy expenses. That created doubt among participants inexperienced with the process.

“It costs a lot to have these people at the table,” said TD’s Beare. “We were really chewing through money and we were concerned how this was going to be successful.”

“We took our lumps in phases one and two,” said Rob Marcuzzi of Mulvey and Banani Engineering. “But by phase three, four and five, we had this thing down to a science. I was on the SMT and the PMT. My time dropped off from 40 hours a month to two hours a month by the end. It’s unbelievable how it turned out.”

Efficiencies were even discovered in the later stages of the project.

“The last few floors had the most efficiencies,” he said. “It was almost a linear scale from the first couple of floors to the last couple on how much more efficiently we could do the job.” The value of a common room on site, nicknamed ‘The Big Room’ was clear throughout the project.

The Big Room provided the forum necessary for the intensive discussions needed in a successful IPD.

“You didn’t come into work with the usual apprehensions about having a blow-up over a tough conversation,” said ED’s Kelly Slater. “We had the conversations we needed to have weeks before. No one was holding on to information and saying three weeks later, ‘by the way, this has to happen and it’s going to cost you \$20,000.’”

“I think the whole idea of the IPD is you challenge anything, whether it’s your discipline or not,” said Kevin O’Neill, Commercial Division Director of the mechanical engineering firm HH Angus. “We could challenge the furniture design or the blinds. The interior designer might throw up an idea on the HVAC. There’s never really a bad idea.”

Mistrust waned as the savings soared.

Existing mechanical elements, usually ripped out of each floor, were re-commissioned. “We saved a significant amount by building some of the existing duct work and pumping units into the system” said Modern Niagara Project Manager Ken Gilchrist.

“Being in that big room together we were able to hash things out and minimize a lot of uncertainties..”

Genny Rose

The original plans for LEGO included a small employee cafeteria at the furthest corner of every floor. Moving the cafeteria to a spot beside the mechanical riser sliced the routing expenses. Genny Rose remembers several team members pacing the building’s third floor, trying to decide where to put a barrier-free washroom.

Finally, someone said: ‘let’s just not do it there. Can we not go back to the client and say ‘if we just move this to another floor, we’ve lessened the potential issues we’re going to have?’

The change was quickly made. Soon, the culture between the disciplines had shifted from suspicion to trust.



“It’s simple,” said TD’s Christine Penney. “Check your ego at the door. Everyone comes to the table and works together for the greater good.”

Said HOK’s Chris Browne: “There really is a huge element of trust involved and that is so fundamentally different from the way we have been trained and conditioned in our industry.”

“I think it was a pretty sharp learning curve for everyone involved,” said Mulvey and Banani’s Marcuzzi. “If someone became a little defensive at a meeting, the conversation was always ‘hold on, hold on. Let’s not take that tone. Let’s figure this out together.’”

For IPD to work fully, there has to be give in standards, partners said.

“The team jelled and the ideas really started to flow when we got comfortable enough to say ‘we can meet the intent of the standard but we don’t have to meet the literal interpretation of the standard,’” said EllisDon’s Joe Day.

“Standards are great but when you are starting to work in IPD you want to find savings,” Teknion’s Michael Greer. “I would love to do a project where the standards are off to the side. There would be an emphasis on ‘this is the money we want to spend. We like the furniture but how can we do it differently. That would give us a whole different angle.’”

The success of IPD on a small-scale interior build has spurred questions about the optimum size for an IPD project. Because the expense of the early stages of the program is so formidable, the industry seems to saying a project needs a critical mass size to warrant IPD.

“IPD typically is being used on billion dollar projects, not \$25 million projects,” said Brookfield’s Anthony Cho.

But Valerie Beare said smaller jobs with repeatable elements also lend themselves to the IPD format.

“We didn’t save money because we found big savings in changing the standards. There really wasn’t anything there to change,” she said. “This worked because you had elements in the project that were repeatable. In this case we had 11 floors. The team could get more and more efficient as we went along.”

EllisDon’s Joe Day envisions a team of IPD all-stars servicing one client. “If you could do 20 projects where you have multiple, floors, you could roll through floor after floor. Then you could direct those savings to take on a greater volume of work.”

“I think the job has to be 20,000 square feet or larger,” said Symtech President and CEO Shawn Cohen.

That said, Cohen added, he would not be surprised to see IPD surge in popularity. “A lot of the larger contractors are feeling that the market is leaning toward this. People are ready to call it P-4.

Mulvey and Banani’s Marcuzzi doesn’t think IPD should be limited to large-scale projects. “I can’t see why IPD, with the right people, wouldn’t work on a project of any size,” he said.

“When you see people a month or two months into the project sitting around going over documents with a fine-toothed comb, coming up ways to be more efficient, you didn’t have to sell it... It sold itself.”

Joe Day

Said TD’s Kevin Greene: “It was a leap for our legal team but we were able to say: ‘we’ve been spending a lot of time transferring risk. This is exactly the same. It’s not transference in the usual way - a point-to-point transference - this is a group transference.’”

“More veteran employees have been imprinted with a traditional way of doing construction,” said Brookfield’s Anthony Cheng. “Sometimes, like they say, it’s hard to teach an old dog new tricks.”

Still, the bottom line is the bottom line. “To have a project come in on time, under budget and within the time frame is an achievement. And everybody made money” said Chris.

“As it stands right now, the goal of most projects isn’t their quick and efficient completion. However, with IPD, the integration of the team’s interests means everyone is focused on resolving issues instead of just managing them. This reduces the overall workload and that means faster results. When you shorten the time of a project dramatically, that has value too.”

Chris Browne

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