



THE FUTURE OF COLLABORATION: EXPLORING INTEGRATED PROJECT DELIVERY (IPD)

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Integrated Project Delivery (IPD) is on the rise, breaking down barriers found in many typical construction projects. Hallmarked by open communication in a shared space dubbed as the 'Big Room,' this delivery method unites all project stakeholders from start to finish. The collaborative framework champions shared risks, rewards, and a cohesive project vision, often accelerating construction timelines.

The popular method encompasses:

- Team collaboration from early design through to completion;
- A unified vision for all stakeholders;
- Shared financial risks and rewards based on agreed-to project outcomes;
- Fast-tracked communication in the Big Room;
- Fiscal transparency;
- Enhanced innovations through teamwork; and

- Streamlined, consensus-based decision making focused on "best for project" outcomes.

Next-level collaboration

IPD has a great reputation for integrating the actual end user in a project's early design stages. On RJC Engineers' firehall IPD projects, there was always a firefighter in the Big Room. For The City of Burnaby's RCMP facility, there was always a constable present. In Burnaby's Rowan Childcare project, a childcare consultant was involved.

These end users were there to represent and share their experience about what works best. They were engaged from start to finish, supporting the entire validation process through to the design procurement. These projects give end users a new space where they can work and/or live, drastically changing their everyday lives. As such, being able to

access their feedback on IPD projects is an invaluable tool for understanding holistic community needs.

The collaborative nature of IPD also drives healthy competition. When you have a room of seasoned professionals drawing on white boards and detailing high-level coordination, personal interests are stripped away. The Big Room encourages lots of challenging conversations and debates that would not normally happen in a traditional project. Shared risks and rewards mean that everyone wins when the team wins together.

The rise of IPD

Western Canada's IPD surge stems from municipalities. At their core, municipal governments need to be accountable and transparent to their voters. IPD supports this goal by its definition, making near 100 per cent cost certainty

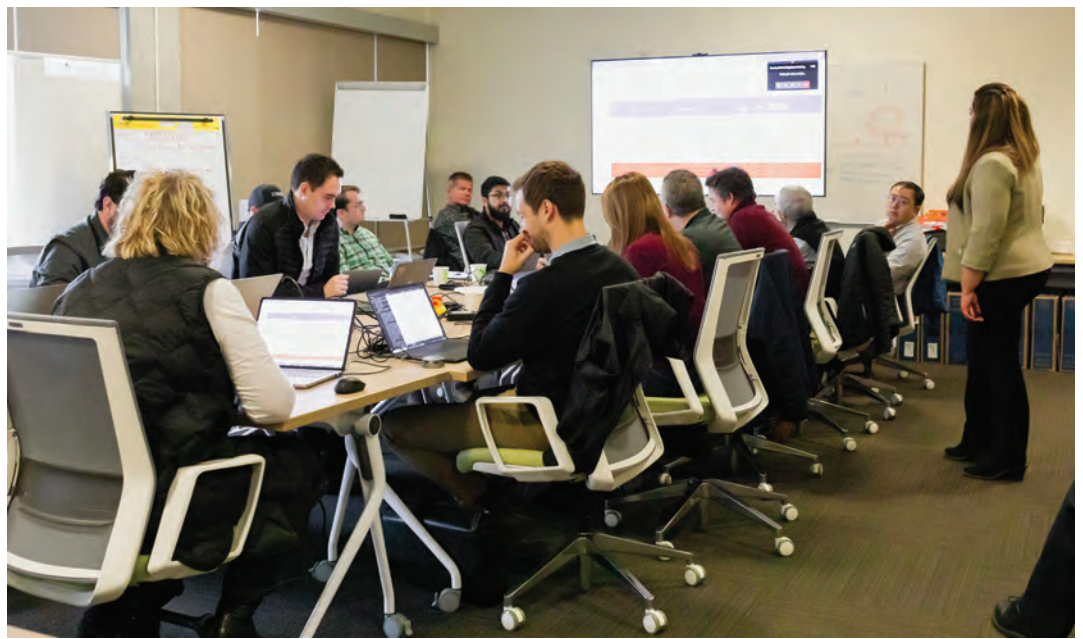


possible. When you have all project contractors, engineers, architects, and sub-trades together from day one, everything is thrown on the table. Instead of budgeting to the design, the team mindset rallies around designing to a budget. The project's key players communicate to make big decisions about what the building needs most and how much it will cost. As a result, municipal leaders can foster trust with their communities by sharing financial reports that have as few variables as possible.

In a non-IPD project, by contrast, simply choosing the lowest bid doesn't prove value. Unprecedented project challenges, such as construction changes and schedule delays, aren't uncommon and they can drive up costs. Adding to this, traditional delivery methods often mean relying on cost consultants and financial experts for pricing estimates. This is less accurate than going directly to the stakeholders responsible for designing and building the project firsthand. When contractors pivot plans, municipalities can ultimately end up losing the trust of their voters.

CASE STUDIES IN IPD EXCELLENCE

As a leader in structural engineering, RJC Engineers is a prime example



of IPD's potential for western Canada and beyond. Through projects like the Vernon Active Living Centre and St. Patrick's Community School in Red Deer, RJC Engineers has demonstrated how IPD can create innovative spaces where people go to connect.

Here are three substantial IPD projects worth mentioning.

Vernon Active Living Centre, British Columbia

Vernon's much-anticipated Active Living Centre (ALC) will breathe new life into the local community with a fun, family-friendly centre for all demographics. With a budget upwards of \$120 million, this project is creating a monumental facility that boasts an impressive natatorium with three pools, a fitness centre, double gymnasium, tracks, and eight multipurpose activity rooms.

Designed to be net zero ready, ALC's roof is built for future solar panels. Mass timber, a low embodied carbon material, will also be used throughout the natatorium.

On top of these ambitious design goals, the ALC needs to be open by September 2026. At the outset, The City of Vernon identified delivering on schedule as a top priority. They rounded up the best experts they could find, paid for team travel costs, and shared this goal in a Big Room setting.

When designers and builders first got together to map out a timeline, they carved out a need for three years

of work. However, to meet the target opening, they had to speed up by six months. The team quickly shifted gears and worked backwards, starting with a target date and sequencing all events to make this goal possible. Collaborating in a Big Room allowed the team to identify how they could work in parallel, solving timeline challenges by tackling key deliverables simultaneously. Once the group got together and realized meeting a 30-month time frame was feasible, all the other pieces fell into place.

Fire Halls 4 & 8 for the City of Burnaby, British Columbia

With a fast-growing community, The City of Burnaby saw a need to build two new fire halls and improve public safety in emergencies. A sought-after IPD team was sourced to design and create Fire Hall 4 & 8. Valued at \$50 million, this project involved replacing a two-storey, 15,000-square-foot structure with three drive-through bays. These fire halls are seismically designed to survive disasters, while featuring low-carbon heating and operations.

The City wanted to be engaged in every stage of this project, ensuring it was delivered on budget and on time. It's no surprise that IPD was selected. City officials were thrilled to have a seat in the Big Room where they got to see how all the contractors and consultants work together, contributing to the decision making.

ABOVE LEFT

Vernon's Active Living Centre was a success in part because of its IPD approach.

ABOVE INSET

When everyone is at the table collaboration takes centre stage. For example, when working on The City of Burnaby's RCMP facility, there was always a constable present. Photos courtesy of RJC Engineers.



a six-to-nine-month pushback, even though the completion target was immovable. The IPD team was resilient and continued meeting monthly to come up with a lean plan of attack in case funding came though that month.

Communicating with the right people can solve a lot of problems. When brainstorming how to make up for lost time, the team realized the constraint was in the installation of the timber framing. The framers on the project only had enough certified crane operators to run two crews at a time. While working together in the Big Room, the idea of adding a third work crew came up. The framers were unable to accommodate this due to a shortage of safety crews and crane operators – two areas the project’s general contractor was equipped to cover. This collaboration accelerated timber erection from six to four months, allowing the team to successfully meet the project deadline despite major delays.

IPD should be your next step

At its heart, IPD is about breaking down barriers. The framework is built on shared risks, shared rewards, and a unified project vision, setting the stage for unbounded efficiency and innovation. To learn more, visit <https://bit.ly/3UFLdwS>. ●

Jeff Rabinovitch brings exceptional project management skills to his projects. His team-focused approach has led him to being the structural lead for numerous Integrated Project Delivery (IPD) projects in Alberta. He is also LEED Accredited Professional, who brings forward thoughtful sustainable approaches to his work.

Respected for his collaborative and proactive work style, Pat Elischer continuously leads projects to success. Pat provides cost-effective and often innovative structural schemes during the preliminary design stage, and prompt service and creative solutions during the design and construction stages. He continuously thinks of the economic impact of structural design decisions, a trait appreciated by contractors and clients alike.

When it was time to move beyond planning, the fire hall construction ran very smoothly. The number of on-site issues and setbacks was so low that the project’s schedule ended up being accelerated. This snowballing effect is a common trend on many IPD feats. The Big Room setting is conducive to coming up with tight sets of drawings that streamline construction efforts because of their high attention to detail and coordination.

Student residence at Red Deer Polytechnic, Alberta

Red Deer Polytechnic’s student residence is more than an average dorm house. This five-storey, 62,000-square-foot building minimizes the college’s carbon footprint, while providing students with an up-scale living space.

For this IPD project, sustainability was identified as a key priority in the

early planning stages, aligning with the Red Deer Polytechnic Alternative Energy Initiative. The residence was designed to include 545 electricity-generating solar panels, strategically placed on the building’s south side, which is known for getting more sun. These new panels also give students a chance to learn about solar power firsthand in their Alternative Energy Lab.

The mass-timber project is made with 100 per cent local wood, locally harvested and locally milled. Not only does this reduce the building’s embodied carbon, but it lowers transportation costs and supports local economies.

Another top priority identified in the Big Room was staying on budget. When a funding delay came up along the way, the team was forced to halt a lot of its progress as they waited for an update from the government, one of the project’s partial funders. This resulted in

TOP

The Red Deer Polytechnic student residence was an IPD project that had sustainability as its key priority. The building included 545 electricity-generating solar panels and all the wood for the mass-timber project was locally harvested and milled.

BOTTOM

The Red Deer Polytechnic student residence provides students with an up-scale living space.