

Collaborative contracting in North American infrastructure

The big questions that
leaders are asking
2021

North American infrastructure has been impacted by costly changes and delays on complex projects

Q. Is this happening to other projects besides mine?

Yes. From coast to coast across North America, across all sectors and geographies, public-sector project owners (Owners) are experiencing pervasive cost overruns, schedule delays and high-profile contractual disputes. Procurement processes that yield strong competition, attractive pricing and promising quality commitments from private-sector contracting partners (Contractors) can become tense, distracting and adversarial situations during delivery.

For Owners, negative publicity around unexpected project costs and delays can undermine public confidence and impact political support for new projects. For Contractors, many large players have absorbed significant financial losses and become highly selective in their pursuit of new work. And with large, new federal infrastructure spending under serious consideration in both the US and Canada, strategic questions at the CEO level are surfacing with respect to project appetite, readiness, affordability and budgeting for new regionally significant programs.

Q. Have I missed a fundamental shift in project delivery? Are today's projects that much harder than they used to be?

The big risks haven't changed, but the underlying projects have become much larger and more complex. Economic prosperity across North America, and the related growth of urban and suburban populations, places increased demand on public infrastructure and makes its expansion more challenging. Sixty years ago, there was plenty of room for neighborhoods, utility lines, parks, roadways and transit lines. Today's infrastructure projects must both maintain existing services and expand them within increasingly constrained spaces and schedules, including the need to secure approvals from numerous third-party stakeholders.

Additionally, through the growth of the fixed-price design-build and public-private-partnership (P3) contracting models, North American projects (and the associated financial risks) have become larger than ever before, with multiple complex scopes bundled together – often including the supply of integrated technologies and challenging interfaces between new and legacy assets.

Just a decade ago, for both Owners and Contractors, a \$1 billion construction project was a huge undertaking and only for the most seasoned industry veterans. The last 10 years have seen an exponential increase in projects of this size and above. The consequences of project failure now routinely include major reputational risk and potential bankruptcy for Contractors and their supply chain.

Q. Is my next project ready to bid? How do I make strategic plans to avoid more of the same?

In this paper, we frame the factors that may have contributed to the current difficulties in the North American infrastructure market, and we explore one long-running issue that unites both Owners and Contractors – specifically, often a shared disappointment and frustration with the outcomes and inherent incentives within current procurement models.

Seeking more predictable results, a less adversarial delivery experience and better overall value, we now see a growing appetite from all market participants, including Owners, to explore the merits and pitfalls of more collaborative methods.

Q. How do I make good business decisions on this topic?

It can help to develop a strategic framework to compare your full suite of options, pull together recommended leading practices and then assess how relevant it all is to your situation.

This paper aims to provide perspectives on such a framework. We look at the commercial characteristics of the suite of "collaborative contracting" delivery models and compare them to the "competitive hard-bid contracting" models that tend to dominate the public market (see descriptions for these definitions below). We then cite current examples of collaborative contracting models in North America and highlight barriers that can prevent adoption of these models. We also provide some perspectives on the critical success factors for Owners to evaluate if these models are able to protect the public interest and drive value for taxpayer dollars.



The following definitions are used throughout the paper:

Collaborative contracting

- ▶ Collaborative contracting refers to construction contract models that provide for the benefit of early contractor involvement (**ECI**). ECI is premised around the belief that, in certain circumstances, the early engagement of a Contractor to collaborate with the Owner during the preconstruction phase will benefit the technical and commercial planning of the project. ECI informs the ultimate submittal by a Contractor of a committed price and schedule proposal before final design and construction. The Contractor is initially selected through largely non-price criteria, with the ultimate price, scope and final contract terms intended to be negotiated to a mutually acceptable outcome.
- ▶ For this paper, the suite of ECI models range from the well-known construction manager at risk (**CMAR**) and construction manager-general contractor (**CM-GC**) approaches, through to the growing interest in progressive design-build (**P-DB**), predevelopment agreement (**PDA**) or progressive P3, delivery partner (**DP**), integrated project delivery (**IPD**) and alliance frameworks.

Competitive hard-bid contracting

- ▶ This contracting model typically involves the Owner planning and scoping a large project without meaningful input from a Contractor. The Owner puts the project out to the market, gathering fixed price and/or schedule commitments from Contractors through a (typically) price-dominated competitive procurement process.
- ▶ Such models include: design-bid-build (**DBB**) or competitive sealed-bidding, design-build (**DB**), design-build-finance-maintain (**DBFM**), design-build-operate-maintain (**DBOM**), and design-build-finance-operate-maintain (**DBFOM**) or other forms of **P3**. Each of these models may include a form of low-bid or best-value selection criteria but require a fixed-price bid, primarily based on the Owner's contract terms and specifications.

Competitive hard-bid contracting has hit an inflection point over the last few years

Projects that are fortunate enough to clear the infrastructure minefield of securing political support, entitlements and approvals – as well as piecing together the necessary patchwork of affordable funding streams and completing a successful procurement process – can still face arduous challenges during final design and construction, with potential negative impacts for all involved.

One aspect under increasing scrutiny in recent years, particularly for larger, more complex projects, is the contractual delivery method and procurement model applied by government agencies.

Historically, competitive hard-bid contracting models have been the foundation of most public procurements. However, over the last decade, the increasing scale and scope complexity of capital projects and programs have greatly intensified the risk and reward from the “fixed price, date certain” nature of these models (and particularly, the downside financial risk exposure for a Contractor and its supply chain).

Until recently, industry had accommodated this, driven by an “Owner’s market,” often with intense competition from a pool of local and international Contractors and developers eager to expand and deploy their resources across North America.

The industry’s growth ambitions and related competition for large infrastructure projects were amplified by European austerity and falling construction volumes in the North American power market, and the oil and gas sector. Perennially low interest rates and the promise of additional returns through equity investments and bundled operations and maintenance (O&M) contracts on P3 projects also contributed to the boom.

This competitive landscape drove Contractors to bid low to win, with major project risks often being ignored, misunderstood or underbid, leaving Contractors striving to restore profitability through claims or change orders during the delivery phase.

Other factors compounding the situation include:

Inadequate project readiness – Owner teams continue to feel political pressures and stakeholder impatience. It may be deemed essential, for example, to advance critical projects when stakeholder support is evident and funding is accessible given looming deadlines, even if this results in Owners forging ahead without sufficient time for robust planning, scope definition and risk mitigation efforts. This may be an inconvenient truth in the project-planning cycle.

Infrastructure projects seem larger now than ever before – Owners have bundled project scopes and segments together, seeking economies of scale, project management efficiencies and the shifting of interface risks between packages over to Contractors. Contractors have often fueled this to reduce bid costs relative to the revenue/margin opportunity and narrow the competitive field.

However, in construction delivery, these megaprojects have experienced declining productivity and spiraling project management and oversight costs for Contractors. Among the many factors contributing to this is the sheer complexity and scale of concurrent work, along with widespread shortages of senior construction staff with the necessary experience in North America.

Price and schedule may be committed too early – DB and P3 models inherently require Contractors to submit fixed prices, with date-certain schedules, based on the Owner’s preliminary designs and output-based technical specifications/performance requirements.

The final engineering process to convert procurement-phase designs into hundreds (or thousands) of ready-for-construction drawing packages can become challenging for large-scale, multiyear projects, particularly where complex design reviews and third-party approvals are required after the price and schedule have been fixed.

In the rush to contract execution, project risks can become “allocated,” rather than mitigated or eliminated.

Both Contractors and Owners are reacting to recent market challenges

The manifestation of the above factors over recent years has seen numerous Contractors, and their underlying supply chains, face financial losses and a proliferation of high-profile disputes. As a result, some notable market participants have withdrawn from bidding on large-scale, competitive hard-bid contracting procurements altogether. Several other players have become highly selective, carefully participating only in procurements with established Owner and stakeholder relationships – and where they are fully confident of their own (and supply chain) resourcing availability.

Greater caution and fewer competitors led to higher prices, with inflated margins and contingencies, to account for past losses and a more conservative perception of project risk.

Many of the larger agencies are also weary from incessant change orders, claims or disputes, and adversarial relationships.

We are helping our public-sector clients react to this shift and capture lessons learned in the market in different ways, including:

- ▶ Considering measures to better mitigate or eliminate major risks prior to procurement, such as subsurface conditions, utility relocations and third-party relationships, to allow Contractors to better understand and predict project scope
- ▶ Splitting previously planned megaprojects into a program of more digestible packages, with the Owner managing interfaces and risks between packages
- ▶ Adopting a more collaborative approach to project planning and delivery, including harnessing collaborative contracting methods

The balance of this paper addresses the latter pathway, collaborative contracting. For the right projects in the right circumstances, collaborative methods may offer a realistic path to overcoming legacy infrastructure delivery challenges.



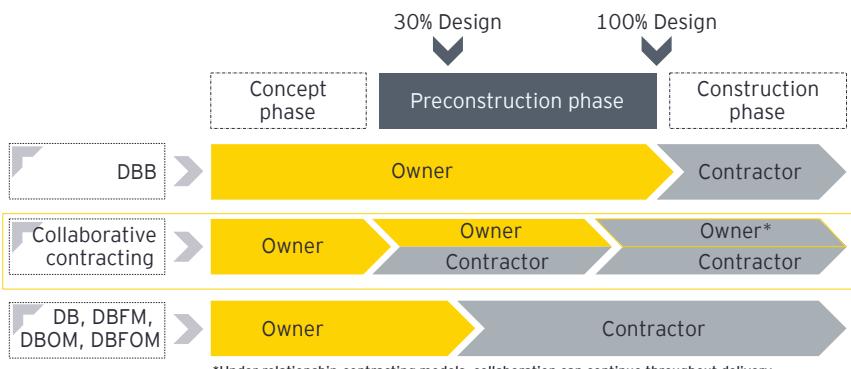
How might collaborative contracting be part of the solution?

At a global level, collaborative contracting is not a novel concept – it has been applied in various forms for decades. Various collaborative models are the dominant choice for many large private construction markets in North America, notably commercial real estate and oil and gas. For the purposes of this paper, we divide collaborative contracting into two key categories, two-stage contracting and relationship contracting:

Two-stage contracting models, such as CMAR, CM-GC, P-DB and PDA, where Contractors are appointed under a services arrangement during the concept or preconstruction phase of the project, to work collaboratively with the Owner in developing the design and de-risking the project in advance of a planned transition into a DB or Construction contract. These models are relatively familiar to the North American market (for example, CMAR in vertical construction and P-DB in the water sector).

Relationship-contracting models, such as IPDs, alliances or DPs, where risks are shared between Owner and Contractor(s), driving collaboration and risk-sharing mechanisms to achieve win-win outcomes and avoiding disputes and adversarial behavior linked to risk allocation. These models have seen relatively widespread use in Australia and the UK but are almost entirely new to North America.

Both of the above categories are aligned by the fundamental principle of ECI, where a Contractor is deliberately brought into a project by the Owner at an earlier stage of concept development (as shown below):



ECI is a valuable mechanism that can be harnessed to improve project outcomes, by receiving a Contractor's input in overall scoping of the project and managing and mitigating project risk and uncertainty. Early identification of cost and schedule challenges, analysis of potential design and scope adjustments, and careful consideration of the role of third-party stakeholders, all supported by open-book cost estimates and construction experience, can greatly help an Owner plan a complex project. If it works well, the ECI process should reduce guesswork to improve confidence and predictability for all parties.

The role of the Contractor in the early stages of a collaborative contracting model

1

Contractor selection is primarily qualifications-based (with some evaluation of financial parameters to the extent feasible). Owner's aim is to select the best Contractor with whom to team, ideally with clear commitments to an "A-Team" of senior personnel, and a full suite of previous experience in a collaborative development context.

2

Once the Contractor is appointed, it will work with the Owner and the design team to help shape, plan and de-risk the project. The Contractor leads or supports a variety of work streams, including design review, constructability review, cost estimating, alternatives analysis, scheduling, construction means and methods analysis, risk identification and regulatory compliance.

3

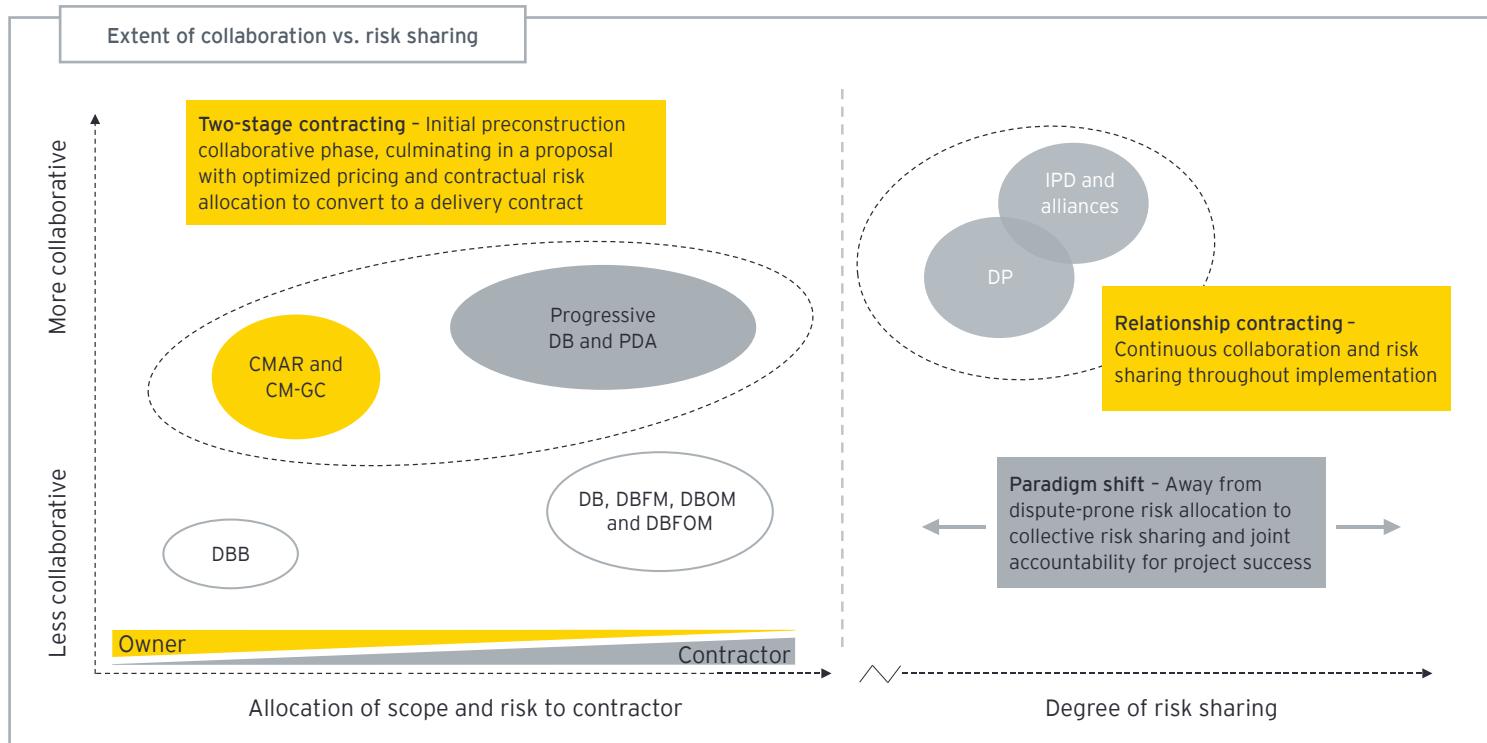
The Contractor develops a project cost estimate and construction schedule on an open-book basis, informing decision-making and value-engineering of critical cost and schedule drivers as well as risk issues.

4

This process culminates in the final design and/or start of construction work only if the Owner and Contractor agree on a contract for a committed or targeted price and schedule. Behaviors and trust are, therefore, critical components of the ECI process.

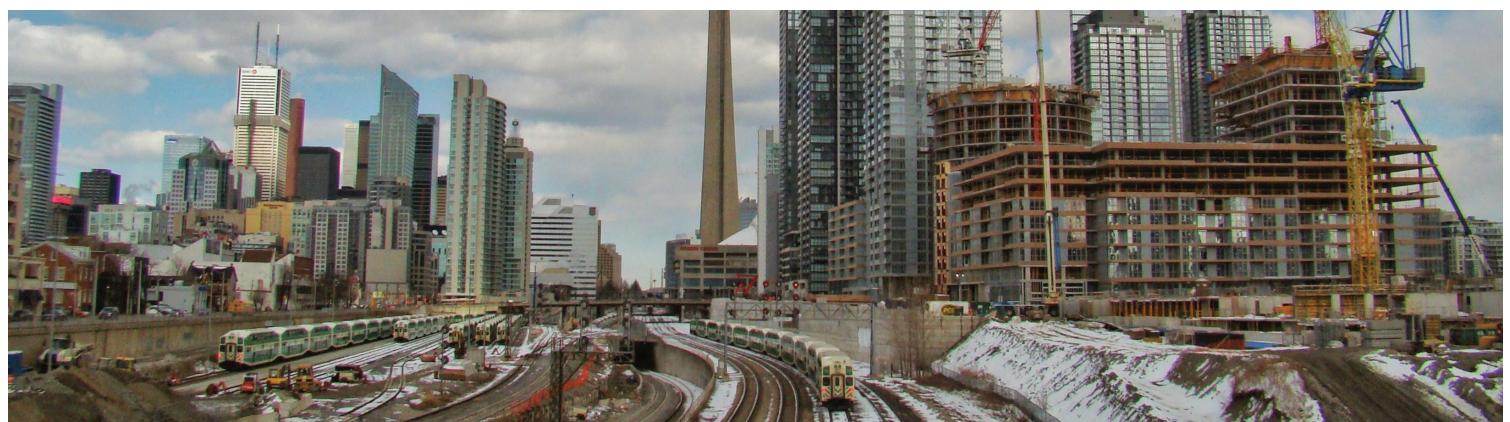
Risk sharing and allocation under collaborative contracting

There is a broad spectrum of contract models within the collaborative contracting umbrella. Below we highlight key alternatives, distinguished by the relative extent of collaboration as well as their approach to risk allocation.



The identified two-stage contracting models (i.e., CMAR and CM-GC; PDB and PDA) involve enhanced collaboration during the initial preconstruction phase, which can enable scope and risks to be better understood by both parties. The intent is that the preconstruction efforts feed into the design phase, thereby reducing the risk of scope changes during construction and minimizing contingencies.

For particularly complex and challenging projects, a transition point where scope is clearly definable and risk can be efficiently allocated may not be reached during design, and continuous collaboration and sharing of risks throughout delivery may be appropriate. The relationship contracting models (i.e., IPD, alliances and DP) cater to this, harnessing Owner-Contractor integration throughout project execution. They also leverage "painshare-and-gainshare" mechanisms linked to whole-life project outcomes and other measures of overall project success to align incentives.



Collaborative contracting models

	Two-stage contracting		Relationship contracting	
Model	CMAR and CM-GC	P-DB and PDA	DP	Alliance and IPD
Overview	<p>Owner appoints a design team and retains overall responsibility for design.</p> <p>Owner then appoints a construction manager (CM) to inform design and scope definition.</p> <p>The CM ultimately negotiates a guaranteed maximum price (GMP) proposal for construction.</p>	<p>Owner initially appoints an Owner's engineer to undertake concept-stage design.</p> <p>Owner then engages a Contractor or developer, with its own design team, to support development of the specification and ultimately develop and negotiate a DB contract and price.</p>	<p>DP integrates with the Owner team to provide management services and resources to deliver the project or program.</p> <p>DP supports Owner in procurement for work packages and is incentivized through a degree of risk sharing linked to key project outcomes.</p>	<p>Owner enters into a multiparty relationship contract with designers, Contractors and other non-owner participants, forming a virtual project delivery vehicle.</p> <p>Through this approach, all parties have collective responsibility for delivering the project.</p>
Collaboration and cost optimization	<p>CM collaborates with the design team, providing constructability input, open-book cost estimating and scheduling.</p>	<p>Contractor/developer and its design team collaborate with the Owner through providing constructability input, open-book cost estimating and scheduling.</p> <p>Close DB relationship can enhance designer efficiency and innovation.</p>	<p>DP is fully embedded into Owner team and highly incentivized through sharing mechanisms to collaborate, on an open-book basis, throughout project delivery to achieve value.</p>	<p>Collaboration is maximized through collective responsibility of Owner and Contractor for achieving key project outcomes. Painshare-and-gainshare regime incentivizes optimization of the project solution and associated cost, which is developed on an open-book basis.</p>
Risk allocation or sharing	<p>Design and scope risks are largely retained by Owner. Contractor is responsible for progressing construction and managing sub-trades.</p>	<p>Contractor assumes final design, and potentially O&M risk, and also potentially development-stage risks (e.g., permitting), which can drive better innovation.</p>	<p>Owner is the prime for work package contracts, but the DP shares risk through painshare-and-gainshare mechanisms.</p>	<p>Aggregate project risk is jointly managed and shared between Owner and non-owner participants throughout the design and construction.</p>

When applied, the above conceptual models are highly customized to best suit project-specific needs. There is no "one size fits all," and the model selected will depend upon a range of factors, including the project objectives, characteristics and risks.

Notably, in addition to project applications, the suite of relationship contracting models (i.e., DP, IPD and alliancing) are also readily applicable for large-scale programs of work involving multiple-constituent projects to be delivered by an Owner. The DP can augment the Owner team throughout program delivery and a program or framework alliance can be structured to cater for design, delivery and risk sharing over an extended program duration. Owners should, therefore, carefully consider the role of their own project management teams in assessing the preferred model to avoid duplication or inefficiency of overall resourcing during the planning phase.

The EY experience with collaborative contracting in North America

Countries around the world are taking a renewed look at the merits of collaborative contracting.

Across North America, from the long-standing use of CMAR in the vertical infrastructure space (including in aviation) and the use of the P-DB model in the US water sector, to the newer PDA models being seen in the US transportation space, the CM-GC model in US transit, and the introduction of alliances in the Canadian market, we are seeing a growing trend for the use of collaborative contracting models on complex public infrastructure projects.

Below we provide a range of examples where we have advised clients in the planning and implementation of collaborative contracting in the US and Canada:

I-495 and I-270 P3 Program Maryland, US



Ernst & Young Infrastructure Advisors, LLC is serving as financial and commercial advisor to the Maryland Department of Transportation (MDOT) on its \$10+ billion, 70-mile, price-managed lanes, I-495 and I-270 P3 Program. Phase 1 of this project is being delivered via a PDA.

MDOT will work in partnership with the Phase 1 developer during a predevelopment period to understand risks and to develop mitigation and management approaches before contractors are required to deliver committed fixed pricing for each section of Phase 1. Collaborative predevelopment activities will include feasibility studies, preliminary engineering, risk-mitigation strategies, investigation of construction methodologies and financing. MDOT believes that using the predevelopment period to work closely with the Phase 1 developer will be an effective strategy that will stimulate market participation in Phase 1 and enable innovative solutions and informed risk management.

MDOT recognizes the risk of value leakage during the open-book negotiation period. It evaluated several price anchors it required within the developer proposals to maximize value to the state.

Sepulveda Transit Corridor Project California, US



Ernst & Young Infrastructure Advisors, LLC is providing strategy and transaction advice to LA Metro for its \$6 - \$10+ billion Sepulveda Transit Corridor Project. The project will initially connect the San Fernando Valley to the Westside of Los Angeles via guideway and, ultimately, extend south to Los Angeles International Airport.

Following an evaluation of multiple, unsolicited proposals for the project, LA Metro chose to pursue a novel PDA implementation approach. The PDA will enable LA Metro to work in parallel with its environmental consultants and up to two PDA teams, selected through a competitive process, comprised of construction contractors, engineering firms and equity participants to provide a broad set of knowledgeable professionals to help drive technical innovation, schedule acceleration and to inform financial feasibility.

The two teams will independently develop technical concepts, providing information to LA Metro to support the environmental clearance process and selection of a locally preferred alternative. At this stage, it is expected that one of the teams may be selected to move forward with advanced design and, ultimately, project implementation through a right of first negotiation P3 agreement.

Metrolinx GO Transit Expansion Program Ontario, Canada



The Metrolinx GO expansion program seeks to achieve frequent two-way, all-day rail service on a substantial portion of its network to prepare for increased service levels to meet a 50% increase in demand by 2041. The capital cost is estimated at more than \$24 billion. It is being delivered in multiple tranches, including early works projects, the OnCorr Project to procure the on-corridor infrastructure and other components.

Initially competitive hard-bid models had been contemplated for key program packages. A DP model has now been selected to attract world-class program management capabilities to form a collaborative team with Metrolinx in order to align incentives and share risks.

This approach will build Metrolinx's program management capability and capacity through formation of an integrated program management team with the Program DP (PDP), sharing joint objectives and following collaborative principles. The model proposes to incentivize the PDP against joint goals and objectives to achieve the desired performance outcomes. Ernst & Young LLP has previously advised Metrolinx on the program and is currently pursuing involvement in the PDP implementation.

York University, Markham Centre Campus Student Housing Ontario, Canada



Ernst & Young LLP is serving as transaction and financial advisor to York University on the new Student Housing and Ancillary Services Building on the new Markham Centre Campus.

The building will provide services and amenities that will add to the York University student experience and campus environment, as well as strengthen the University's position as a preeminent post-secondary institution in the Markham Centre Campus area for all students. It will include more than 500 student residence beds with dedicated resident amenities, along with a large food services facility and athletics facility that will serve the entire York University community.

The project is being developed under a collaborative private developer model that will have the private developer design, construct, finance and maintain the building, while sharing responsibility with the York University for various operating functions, such as residence life programming.

LACC Expansion and Modernization P3 Project California, US



Ernst & Young Infrastructure Advisors, LLC is serving as financial advisor to the City of Los Angeles and helping assess the proposed \$1 billion expansion and modernization of the LA Convention Center (LACC). This availability-based P3 is being procured under an exclusive negotiating agreement (ENA) between the city and its preferred development partner.

A collaborative delivery model was used due to the development partner's role as current private operator of the LACC, its wide-ranging property interests and rights across the LACC campus, and the prospects for a wider redevelopment of land around LACC being catalyzed by the expansion project.

Over a two-year period, we have supported the city and its development partner through collaboration across a wide range of project feasibility issues, including schematic designs and scope definition, market-tested construction-cost estimates, funding and revenue projections, and commercial and technical terms for a P3 agreement.

VTA's BART to Silicon Valley Phase II Extension Project California, US



Ernst & Young Infrastructure Advisors, LLC is serving as strategic financial advisor to the Valley Transportation Authority (VTA) for the \$6.9 billion, six-mile extension of the Bay Area Rapid Transit (BART) system through downtown San Jose to Santa Clara. The project is planned to be delivered through four main construction packages with a large single-bore tunnel and trackwork contract to be procured using P-DB.

We have supported VTA throughout the project's planning and development, including advice on the multisource funding strategy comprising sales tax revenue, cap-and-trade funding, federal grants and station-area, value-capture financing. We are also supporting VTA's grant application for the Federal Transit Administration (FTA) Expedited Project Delivery (EPD) pilot program, a first in the US, supporting implementation of VTA's Transit Oriented Development program and conducting delivery model analyses and providing general strategic and commercial support, including assessing the merits of the design-build-finance P3 model to satisfy the EPD grant requirements.

Potential barriers to adoption of collaborative contracting

Contractor's perspective

► Long-lead time before commitment to construction contract

Executing final design and construction work is typically a Contractor's core business model and corporate purpose. Contractors may feel ECI requires them to "lock-in" senior resources for a long or uncertain period of preconstruction work. Contractors have to balance the competing demand for key resources on ECI work that is not always guaranteed to result in a construction contract vs. the full margin opportunity from active construction work.

► Comfort levels around open-book pricing

Contractors newer to the open-book concept may be concerned that it will result in Owners having the opportunity to challenge and reduce costs until virtually no margin is realized. They may also be concerned about the confidentiality and sensitivity of the commercial aspects of their price development.

► Owner commitment to the process

Outcomes from collaborative contracting are directly related to commitment to the process from all participants. Contractors will want to be confident that the Owner intends to take the project into final construction or at least to fully understand the project challenges (e.g., affordability, political support) that could prevent the final project moving forward. Equally, if the Owner doesn't demonstrate commitment to the process through building and allocating sufficient resources, implementing an accommodating governance framework and cultural changes, Contractors may be deterred from participating.

Owner's perspective

► Lack of experience

Owners are often reluctant to be first movers or to adopt approaches that are unfamiliar to them.

► Lack of precedent or established delivery framework

Collaborative contracting models are relatively new to the North American public infrastructure market. Precedent procurement materials and contracts might be perceived as needing a lot of work to sufficiently cater for the circumstances of individual jurisdictions or projects.

► Capacity, capability and culture

Owners may feel they do not have sufficient in-house capacity or capability or that the embedded organizational culture does not cater toward the process succeeding.

► Governance structure

Internal governance structures that limit the ability for delegation of authority may limit the effectiveness of collaborative contracting.

► Legislative constraints

Owners operate in varying legislative environments, which in some cases can limit the procurement models and approaches available to them and may prevent the adoption of collaborative contracting approaches.

► Strategic concerns and general skepticism over the public benefits of collaborative contracting models

Owners may have the strategic concerns highlighted on the next page related to political considerations, the viability of Owner off-ramps, and the quality of price/risk negotiations.

Common strategic concerns for public Owners

- ▶ **How do I prevent collaborative contracting from further compromising already fleeting stakeholder support for my project?**

Rapidly implementing a competitive process and executing a hard bid contract as soon as possible may well be preferable to a public Owner. The perception is this may help mitigate the risks of changing public priorities and diminished stakeholder support over time, even if this means funding a higher contingency to cover claims later.

Preconstruction and design costs during the ECI phase are to be funded directly by an Owner at risk, because the typical commitment of a multisource project funding plan won't be triggered until the full construction contract is let.

- ▶ **Are off-ramps even a practical option?**

The Owner might never use them in practice due to the time, cost and, possibly, the political capital expended during the ECI phase.

Delivery schedule impacts and political risks may be too great if the Owner needs to restart with another Contractor who will then need to inherit a design matured by others with all the inefficiency that entails.

- ▶ **Are the collaborative contracting price and risk allocation negotiations likely to improve value compared to a competitive hard bid?**

There may be concerns over whether the Owner's independent cost estimators and program management support are up to the task of negotiating with experienced Contractors.

Whether the overall negotiated price, scope and risk allocation are likely to end up in the best interests of the Owner, and whether the Owner's project team is better suited to receiving competitive hard bids vs. running complex negotiations, should be evaluated upfront. Owners will also need to consider their willingness, capability and flexibility to employ a new contract management approach that may be a large departure from "business as usual," with the goal of reducing tension and negative outcomes during delivery.

Any path to widespread adoption of collaborative contracting models may have to tackle these issues head-on



Driving value for money in collaborative contracting

Establishing value for money is a key challenge for both public and private sector Owners even under competitive hard-bid contracting models. A common concern of project Owners is that collaborative contracting can reduce competitiveness and value for money, as a result of selecting a Contractor team based largely on non-price criteria.

Tools that can help Owners to drive competitiveness and value for money for collaborative models may include one or more of the following:

1

Harness the initial competitive procurement process

While a fixed hard bid cannot be ascertained as part of the initial selection of the partner, the procurement can be structured to maintain a level of competitive tension.

One core element involves verifying Owner and Contractor alignment through the proposed compensation model, such as how the reimbursable cost approach will be applied and conducting establishment audits to validate the proposed approach prior to proponent selection.

Owners should seek to harness competition while it exists, competitively evaluating key financial parameters, such as unit rates, general conditions and management fees that will be fixed and applied throughout the project. Nonfinancial criteria, such as demonstrated success working in a similar context and commitment to dedicating the Contractor's "A-Team," can also be critical.

2

Open-book estimating and scheduling

Collaborative models generally involve open-book development of the project cost estimate, enabling more informed design development and Owner understanding of the genesis of costs and contingencies. Ideally, by the time the pricing proposal is submitted, there should be no surprises.

While specific self-perform capabilities can bring value (and should be assessed on a Contractor-specific basis), it can be advisable to have most scopes competitively procured through sub-contracts, rather than the work self-performed by the Contractor, to maintain incentive to build confidence and drive open-book competition for the Owner. Where subcontracts are competitively tendered, the Owner should be involved in the selection process.

3

Effective oversight with strong commercial support

The Owner should prepare its own rigorous cost estimate for the project prior to proceeding with the early procurement of a Contractor. The estimate is then used to reconcile against the price proposal submitted by the Contractor. This can be supported by benchmarking the underlying pricing rates to recent similar projects.

A well-advised Owner team typically engages an independent cost estimator (ICE) with industry backgrounds to benchmark and market test the build-up of the cost estimate and oversee any sub-trade competition in order to provide the Owner with confidence that the proposed pricing is fair and reasonable. Effective contract management systems and internal controls should also be established at the outset to safeguard compliance with the compensation model.

4

Evaluation of project outcomes against Owner goals

The Owner should identify its expected project outcomes in a statement that forms part of the contract prior to formally engaging a Contractor. This outlines the approved budget, time commitment, primary risks to the success of the investment, proposed ownership of risks, governance, proposed key result areas, key performance indicators and minimum outcomes. For example, alliance contracts typically develop a "value-for-money statement" that outlines expected project outcomes. Before committing to a final delivery phase, the Owner should assess whether the ECI process has met these required outcomes. And then during the delivery phase and post-completion, the Owner prepares a detailed report and captures any lessons learned that can be passed onto future projects.

Critical factors driving collaborative contracting outcomes

As industry momentum continues to proliferate the use of these models, the following critical factors should be considered:

Use it for the “right” projects

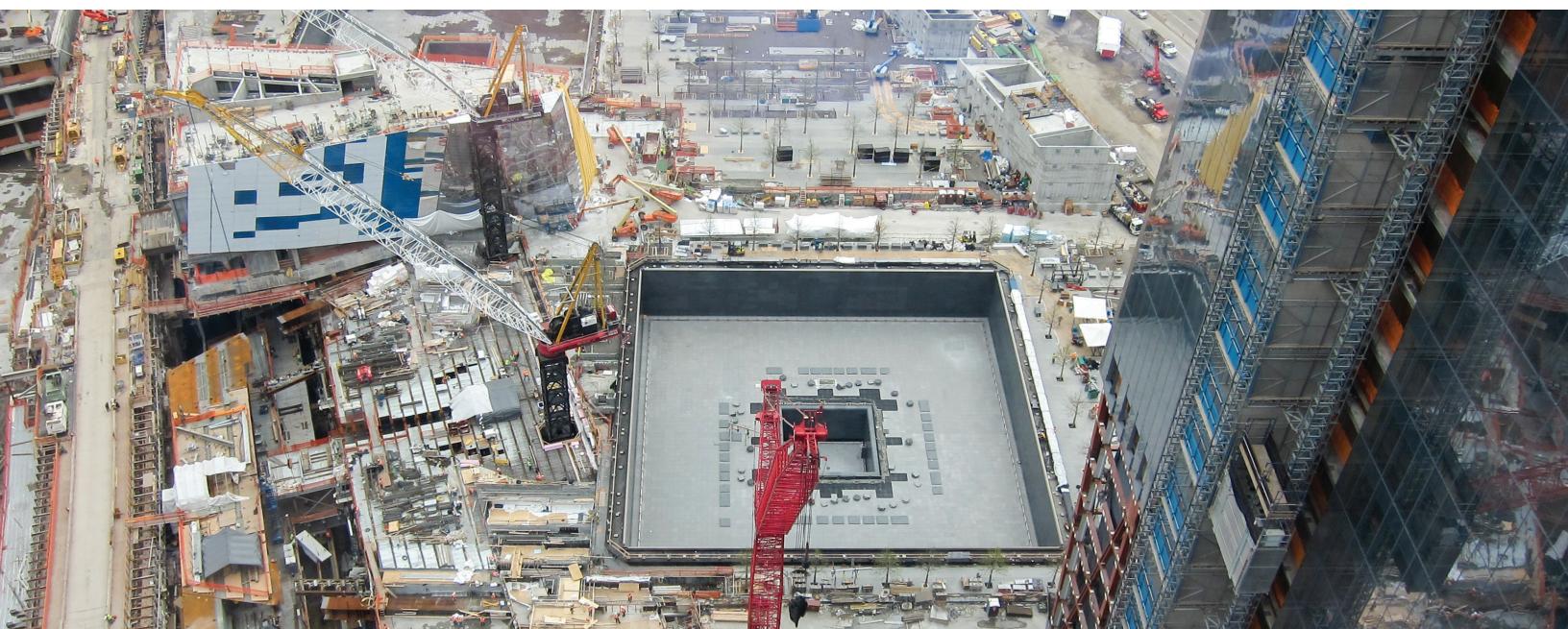
- ▶ While collaboration can enhance outcomes, when the barriers mentioned earlier have not been adequately addressed, trying to implement a collaborative contracting model can be very challenging. Owners should conduct a thorough procurement-options analysis, market-sounding exercise and organizational-readiness assessment before embarking.

Once selected, commit through investing in the right team and delivery framework

- ▶ Invest in experienced in-house and external resources, and empower the team through a suitable governance and organizational structure.
- ▶ Integrate suitable change-management processes to evolve the organizational culture to adapt to the new approach to delivery and truly enable effective collaboration.
- ▶ Tailor a process and commercial framework conducive to achieving value for money.

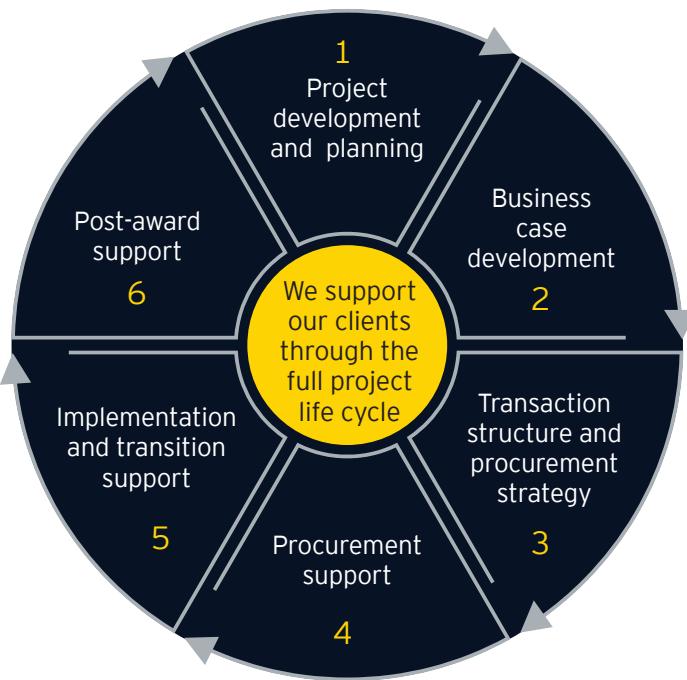
Set the right expectations including appropriate off-ramps

- ▶ Strive to align Owner and Contractor expectations as early as possible regarding scope and affordability, as well as deal-breaker scenarios, and allow for off-ramps in the process to pursue another delivery method, if relevant.
- ▶ Consider what portions of the price can be fixed or competed for up-front and the potential for early works contracts. In all circumstances, Owners should have their own independent view of project costs and overall economics.



How EY teams can help

EY teams support clients through the full infrastructure life cycle – from early planning and feasibility studies through to full procurement, closing and support during the delivery phase.



How EY teams can support you throughout your project planning and delivery process

► **Selecting the right model for the right project**

We use a tried-and-tested evaluation framework to tailor the assessment of potential contracting models to your project's singular objectives and specific needs. We can support you in selecting a contracting model on a basis that is clear, robust and defensible.

► **Tailoring the model to suit the project's needs**

We provide strategic advice and commercial knowledge on structuring the project's performance, payment frameworks and governance structure to align the interests of all contracted parties early on. We do this in conjunction with assessing market interest and supporting the development of a public agency's organizational readiness.

► **Support through the entire procurement process**

We offer lessons learned from numerous precedent projects and bring an exclusive multidisciplinary perspective across all procurement activities. Our procurement services range from ad hoc strategic support at the executive level to a wholesale transaction management function for all aspects of financial and commercial advisory services.

The team

To each engagement, we bring a committed team of senior personnel with domestic and international experience and an unrivalled suite of multidisciplinary skills.

The infrastructure professionals draw on financial and commercial experience as strategic consultants, senior government officials, developers, equity investors, engineers, investment bankers and rating agency analysts.



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