ONTARIO INFRASTRUCTURE AND
LANDS CORPORATION

Value for Money Assessment

Davenport Diamond Rail Grade Separation Project

August 2019

Infrastructure Ontario

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I. EXECUTIVE SUMMARY

This report provides a summary of the procurement process for the Davenport Diamond Rail Grade Separation project and demonstrates how value for money was achieved by delivering the project using Infrastructure Ontario's (IO) Public-Private Partnership (P3) approach.

➤ Infrastructure Ontario

IO is a Crown agency owned by the Province of Ontario that provides a wide range of services to support the Ontario government's initiatives to modernize and maximize the value of public infrastructure and realty. Projects delivered by IO are guided by five key principles: transparency, accountability, value for money, public ownership and control, and public interest are paramount.

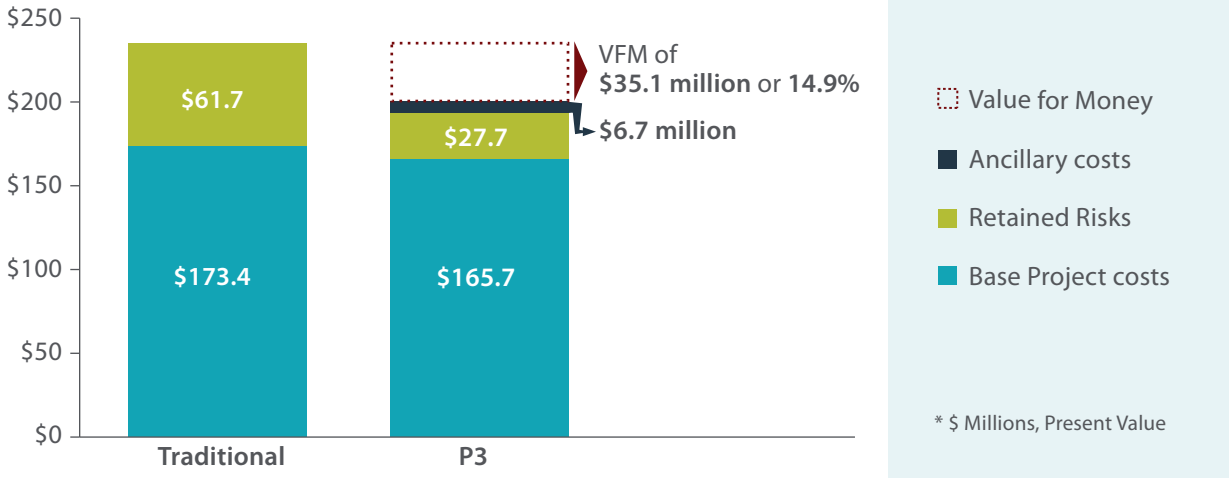
➤ P3s in Ontario

IO delivers large public infrastructure projects using a P3 project delivery model. The model brings together private and public sector expertise in a unique structure that transfers to the private sector partner the risk of project cost increases and scheduling delays typically associated with traditional project delivery. The goal of the P3 approach is to deliver a project on time and on budget and to provide real cost savings for the public sector.

All projects with a cost greater than $100 million are screened for their suitability in being delivered as a P3 project. The decision to proceed is based on both qualitative considerations (e.g., size and complexity of the project) and a quantitative assessment. The quantitative assessment, called Value for Money (VFM), is used to assess whether the P3 delivery model will achieve greater value to the public compared to a traditional public sector delivery model. VFM compares the estimated total project costs of delivering public infrastructure using P3 relative to the traditional delivery model.

➤ Achieving Value for Money

The VFM assessment of the Davenport Diamond Rail Grade Separation project indicates an estimated cost savings of $35.1 million or 14.9 percent (in present value terms) by using the P3 approach compared to traditional delivery.



I. EXECUTIVE SUMMARY

External Review

As part of the procurement process and VFM assessment, two external parties were retained by IO:

- Ernst & Young was retained to complete the VFM assessment; and,
- BDO Canada acted as the Fairness Monitor for the project.

II. PROJECT HIGHLIGHTS

➤ Davenport Diamond Rail Grade Separation Project

Courtesy of Metrolinx/Graham Commuter Rail Solutions

Purpose	To deliver the Davenport Diamond project, an integral component of Metrolinx's long-term plan for GO Expansion – an integrated transportation network in the Greater Toronto and Hamilton Area.
Project Owner	Metrolinx
Private Partner	Graham Commuter Rail Solutions (GCRS)
Location	Toronto
Project Type	Design-Build-Finance (DBF)
Infrastructure Type	Transit
Contract Value	$175 million (nominal/including inflation)
Construction Period	2019 to 2023
Length of Project Agreement	4 years
Estimated Value for Money (Present Value)	$35.1 million or 14.9 percent

➤ Background

The Province announced the GO Expansion program in 2014, which will provide faster and more frequent service across the GO rail network. GO Expansion is a transformative initiative that will change the GO rail network from being a commuter-focused rail service into an all-day, two-way regional transit service that will provide new transit options across the Greater Toronto and Hamilton Area (GTHA).

➤ Objectives

Work on the Davenport Diamond along the Barrie GO corridor, is part of a larger, system-wide plan to improve overall GO Transit service, including the delivery of the Province's GO Expansion program.

II. PROJECT HIGHLIGHTS

Key objectives include:

- Increase urban transit capacity
- Manage congestion
- Seamless customer experience
- Minimize disruption during construction
- Design excellence
- Deliver on time, on budget
- Public ownership

GO Expansion will provide faster and more frequent service on the rail network:

- Trains running every 15 minutes or better, all day and in both directions, within the most heavily travelled sections of the network
- Four times the number of trips outside of weekday rush-hour periods, including evenings and weekends
- Twice the number of trips during weekday rush-hour periods

➤ Project Scope

The scope of work includes:

- Construction of a rail grade separation structure (elevated guideway), to eliminate the at-grade rail crossing of the GO Barrie Line (North-South) and the CP Rail North Toronto subdivision corridor (East-West), to accommodate the planned increases in GO Rail services;
- Erection of retaining walls forming the approaches of the grade separation structure topped with noise reduction walls to minimize impacts on the community;
- Construction of a temporary diversion track to enable construction of a new two-track elevated guideway;
- Modification of an existing at-grade crossing at Wallace Avenue to become a road under rail grade separation;
- Replacement of Bloor Street West Bridge; and
- Construction in an active rail corridor with limited access points and staging and coordination with the Barrie Rail Corridor Expansion Grading project.

The project agreement with GCRS contains their requirements to:

- Design and Construct – lead the design and construction of the Davenport Diamond for completion in Spring 2023;
- Finance – secure sufficient financing to finance the construction and capital costs over the term of the project;
- Third-Party Certification – obtain a third-party independent certification that the system is built to the requirements of the Province as outlined in the project agreement.

➤ Economic Benefits & Job Creation

The project is generating economic stimulus by creating and supporting jobs. At the peak of construction, GCRS estimates that 150 workers will be on the site daily, with opportunities for subcontractors as the project progresses.

III. ACHIEVING VALUE FOR MONEY

Value for money assessment for the Davenport Diamond project demonstrates a project costs savings of: **$35.1 million or 14.9%**

The VFM assessment methodology is outlined in *Assessing Value for Money – An Updated Guide to Infrastructure Ontario's Methodology*, which can be found at www.infrastructureontario.ca.

Value for Money Concept

The VFM compares the estimated total risk adjusted project costs, expressed in dollars measured at the same point in time, of delivering the same infrastructure project under two delivery models: the traditional Design, Bid Build (DBB) model and the P3 model.

MODEL # 1:
Traditional DBB Delivery (PSC)

Estimated costs to the public sector of delivering an infrastructure project using a traditional procurement delivery model. Total risk-adjusted costs are known as the Public Sector Comparator or PSC Costs.

MODEL # 2:
P3 Delivery

Estimated costs to the public sector of delivering the same project to the identical specifications using the P3 delivery model. Total risk-adjusted costs are known as P3 Costs.

Value for Money $ = PSC Costs - P3 Costs *or* **Value for Money % =** $\frac{\textit{(PSC Costs - P3 Costs)}}{\textit{PSC Cost Costs}}$

The difference between the total estimated PSC costs and the total estimated P3 costs is referred to as VFM. Positive VFM is demonstrated when the cost of delivery under P3 is less than PSC.

Calculating Value for Money – Inputs & Assumptions

The VFM is assessed and refined throughout the entire procurement process to reflect updated information and GCRS's actual bid costs. All costs and risks in this report are expressed in present value terms and have been discounted back to present terms.

The VFM assessment relies on a number of inputs and assumptions, including:

1. Base Project Costs
   - 1.1. Adjusted Base Costs (design, construction)
   - 1.2. Financing Costs
2. P3 Ancillary Costs
3. Retained Risks

III. ACHIEVING VALUE FOR MONEY

1. Base Project Costs

1.1. Calculation of Base Costs

Traditional Delivery Model (PSC)		AFP Delivery Model	
Base Costs adjusted for:	($)	Base Costs adjusted for:	($)
Innovation Factor	N/A	Innovation Factor	to Construction Costs
Adjusted Base Costs	**Base Costs ($) +/- Adjustments**	**Adjusted Base Costs**	**Base Costs ($) +/- Adjustments**
Estimated Savings / (Costs) in Base Costs under the P3 Model			PSC – P3

Base costs include design and construction costs. In the estimation of base costs, IO relies on external cost consultants to estimate the costs of the project. This becomes the starting point for both the PSC and P3 models. These costs are then adjusted for:

- An innovation factor – the VFM methodology includes an innovation factor which recognizes that the base cost of the P3 model will be lower than the PSC model as a result of:
  - the use of performance based specifications in P3 projects allow contractors to consider innovative and alternative ways to deliver a project, such that project costs are lower as compared to a traditional delivery which uses more prescriptive specifications; and,
  - increased competitive environment on P3 projects which have resulted in cost reductions.

1.2. Financing Costs

Traditional Delivery Model (PSC)		P3 Delivery Model	
Financing Costs	Public sector notional financing costs	**Financing Costs**	Private sector financing costs
Estimated Savings / (Costs) from Financing under the P3 Model			PSC – P3

One of the common elements of the P3 model is the use of private finance for some or all of the project period. Under the traditional delivery model, the public sector makes progress payments throughout construction. Whereas under the P3 model, the government pays a portion of construction costs during construction as interim payments and/or pays the entire amount at the end of the construction period. Financing costs are reflected as follows:

- Traditional Delivery Model or PSC - the public sector notionally incurs an “opportunity cost” for having paid earlier as compared to the P3 model. The notional public sector financing cost is calculated at the current Provincial cost of borrowing or weighted average cost of capital. This cost is also is reflected in the discount rate used to assess and compare the project costs.

- P3 Delivery Model – the private sector party borrows at private financing rates to pay for the project costs during construction and carries that financing until fully repaid by the public sector. This private sector financing cost is ultimately passed through to the public sector as a cost and reflected in the P3 model

2. P3 Ancillary Costs

Traditional Delivery Model (PSC)		P3 Delivery Model	
P3 Ancillary Costs	N/A	P3 Ancillary Costs	P3 costs
Estimated Savings / (Costs) from Financing under the P3 Model			PSC – P3

There are significant costs associated with the planning and delivery of a large complex project. The VFM methodology quantifies the incremental ancillary costs arising under the P3 delivery model only. Ancillary costs typically incurred include legal, capital markets, fairness, transaction, and the cost of IO services

3. Retained Risks

Traditional Delivery Model (PSC)		P3 Delivery Model	
Retained Risks	PSC costs	Retained Risks	P3 costs
Estimated Savings / (Costs) from Retained Risks under the P3 Model			PSC – P3

The concepts of risk transfer and mitigation are key to understanding the overall VFM assessment. To estimate and compare the total cost of delivering a project under the traditional delivery model versus the P3 model, the risks borne by the public sector, which are called "retained risks," are identified and quantified. Details on how retained risks are identified and quantified are in *Assessing Value for Money – An Updated Guide to Infrastructure Ontario's Methodology*, which can be found at www.infrastructureontario.ca

Project risks are defined as potential adverse events that may have a direct impact on project costs. To the extent that the public sector retains these risks under both delivery models, they are included in the estimated cost under the PSC and P3 model as "retained risks". Risks retained under the P3 model are lower than risks retained by the public sector under the PSC model. This reflects the transfer of certain project risks from the public sector to the private sector and the appropriate allocation of risk between the public and private sectors based on the party best able to manage, mitigate, and/or eliminate the project risk.

As a result of a comprehensive risk assessment, the following are examples of key project risks that have been transferred or mitigated under the project agreement to Graham Commuter Rail Solutions:

- Project Schedule – risk of a longer construction period and resulting in a higher total program cost.
- Scope Changes During Construction (directed by owner) – risk that the scope of work is changed by the owner during the construction.
- Due Diligence (by the owner in preparation of tender in RFP) – risk that an insufficient level of due diligence is undertaken and communicated to the proponents resulting in reduced tolerance to risk and higher bid price.

III. ACHIEVING VALUE FOR MONEY

- Quality Management – risk associated with meeting design standards and codes as they relate to long-term asset performance.

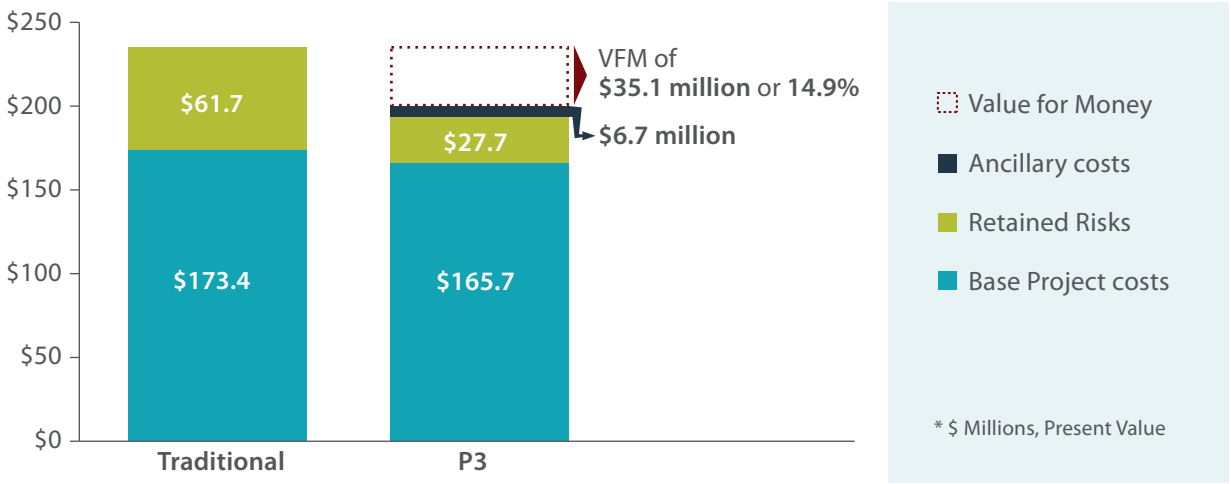
Value for Money Results

The VFM assessment of the Davenport Diamond project indicates an estimated cost savings of $35.1 or 14.9 percent by using the P3 approach compared to traditional delivery.

Traditional Delivery Model (PSC)	$ Millions, Present Value
I. Base Project Costs (Adjusted Base Costs + Financing)	$173.4
II. P3 Ancillary Costs	N/A
III. Retained Risks	$61.7
Total	**$235.1**

P3 Delivery Model	$ Millions, Present Value
I. Base Project Costs (Adjusted Base Costs + Financing)	$165.7
II. P3 Ancillary Costs	$6.7
III. Retained Risks	$27.7
Total	**$200.0**

Estimated Value for Money (cost difference)	$35.1
Estimated Percentage Savings	14.9%



External Review

Ernst & Young completed the VFM assessment for the project. Their assessment demonstrates projected cost savings of 14.9 percent by delivering the project using the P3 model versus what it would have cost to deliver the project using a traditional delivery model (see letter on page 14).

BDO Canada acted as the Fairness Monitor for the project. They reviewed and monitored the communications, evaluations and decision-making processes associated with the project, ensuring the fairness, equity, objectivity, transparency and adequate documentation of the process. BDO Canada certified that these principles were maintained throughout the procurement process (see letter on page 15)

IV. PROJECT AGREEMENT

➤ Highlights of the Project Agreement

The Project Agreement signed between IO, Metrolinx and Graham Commuter Rail Solutions defines the obligations and risks of all parties involved. Key highlights that pertain to the construction terms are below:

- Contract Price Certainty – A $175 million fixed-price contract (includes inflation at contractually determined rate) to design, build and finance the Davenport Diamond project. Any extra costs incurred as a result of a schedule overrun caused by the contractor will not be paid by the Province.
- Scheduling, Project Completion and Delays – GCRS has agreed to a substantial completion date of Spring 2023. The schedule can be modified in limited circumstances in accordance with the project agreement. A sizeable payment will be made by the Province at substantial completion, providing further incentive for GCRS to complete construction on time.
- Site conditions and contamination – GCRS is responsible for managing and where required, remediating any contamination at the site. This includes contamination that was disclosed or reasonably anticipated from site condition reports, or that is caused by GCRS or any of its parties.
- Construction Financing – GCRS is required to finance the construction of the project and is responsible for any additional financing costs if there is a delay reaching substantial completion of the project.
- Commission and Facility Readiness – GCRS must achieve a prescribed level of commissioning at substantial completion within the agreed-to schedule.

V. COMPETITIVE SELECTION PROCESS

The procurement process for the Davenport Diamond project, from RFQ to Financial Close, took 23 months to complete.

After concluding a fair and competitive procurement process, Metrolinx and IO entered into a project agreement with GCRS to design, build and finance the project.

➤ Procurement Process

i. Request for Qualifications | August 17, 2017

- Metrolinx and IO issued a request for qualifications (RFQ) to solicit interested parties to design, build and finance the project.
- On October 5, 2017, the RFQ period closed and the Sponsors received statements of qualifications from five teams.
- RFQ submissions were evaluated by IO and Metrolinx. High standards were set to ensure the pre-qualified consortia exceeded the technical and financial standards required for this complex and large project. The evaluation process resulted in three proponents being pre-qualified

Davenport Construction Partners

- Applicant Lead: Dragados Canada, Inc., Bot Infrastructure Ltd.
- Construction Team: Dragados Canada, Inc., Bot Infrastructure Ltd., Black & McDonald
- Design Team: COWI North American Ltd. (Design Lead), IBI Group Professional Services (Canada) Inc., Dan Brown and Associates PC, Wood Environment & Infrastructure Solutions.
- Financial Advisor: ACS Infrastructure Canada Inc., National Bank Financial Inc.

Graham Commuter Rail Solutions

- Applicant Lead: Graham Capital Partners LP, Graham Construction and Engineering LP
- Construction Team: Graham Construction and Engineering LP
- Design Team: LEA Consulting Ltd. (Design Lead), exp Services Inc., International Bridge Technologies, Brown & Storey Architects Inc.
- Financial Advisor: Graham Capital Partners LP

Steelhead

- Applicant Lead: Dufferin Construction Company (a division of CRH Canada Group Inc.), Aecon Infrastructure Management Inc. (a subsidiary of Aecon Group Inc.)
- Construction Team: Dufferin Construction Company and Aecon Infrastructure Management Inc.
- Design Team: Mott MacDonald Canada Limited (Design Lead), DTAH, Pedelta, Golder Associates Ltd., R.J. Burnside & Associates Limited
- Financial Advisor: Bank of Nova Scotia

V. COMPETITIVE SELECTION PROCESS

ii. Request for Proposals | February 28, 2018

- A request for proposals (RFP) was issued to the pre-qualified proponents, setting out the bid process and proposed project agreement for the project.
- The proponents spent over a year to prepare high-quality, competitive submissions.

iii. Proposal Submission | April 2, 2019

- The RFP period closed on April 2. All proponents submitted bids on time.
- April-June: bids were evaluated using criteria as set out in the RFP by an Evaluation Committee comprised of subject matter experts from IO, Metrolinx and technical consultants enlisted by the Sponsors. The extensive evaluation process resulted in Graham Commuter Rail Solutions receiving the highest score.
- On May 23, 2019, the 'first-ranked proponent' – also referred to as the First Negotiations Proponent – Graham Commuter Rail Solutions, was then notified of their standing.

iv. Preferred Proponent Notification | June 17, 2019

- After successful negotiations GCRS was selected as the preferred proponent. They best demonstrated the ability to meet the specifications outlined in the RFP, including technical requirements, construction schedule, price and financial backing.

v. Commercial and Financial Close | July 25, 2019

- A Project Agreement (contract) was executed between Graham Commuter Rail Solutions, Metrolinx and IO on July 25, 2019.

➤ Design and Construction Phase

vi. Construction Phase | 2019-2023

- The design phase began July 25, 2019, with construction to commence in February 2020 and will be carried out in accordance with the project agreement and the builder's schedule as approved by the Sponsors.
- During the construction period, the builder's construction costs will be funded through their own equity, bond and lending arrangements, which will be paid in monthly installments based on the construction program set out by GCRS.
- Project construction will be overseen by Metrolinx with IO providing contract management oversight.

vii. Payment

- GCRS will receive substantial completion payment expected in Spring 2023.

VI. CONCLUSION

This report provides a project overview and summary of the procurement process for the Davenport Diamond Rail Grade Separation project, and demonstrates that a VFM of $35.1 million or 14.9 percent will be achieved by using the P3 approach compared to traditional delivery.

Going forward, IO, Metrolinx and GCRS will continue to work together to ensure the successful delivery of the Davenport Diamond project.

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Building a better working world

Mr. Nadim Chami
Manager, Transaction Finance
Infrastructure Ontario
777 Bay Street, 9th Floor
Toronto, ON M5G 2C8

12 August 2019

Dear Mr. Chami:

Re: Value for Money Project Methodology – Design Build Finance/Build Finance Bundle – Regional Express Rail – Davenport Diamond

Ernst & Young Orenda Corporate Finance ("EYOCF") has prepared a Value for Money ("VFM") assessment for the Regional Express Rail Davenport Diamond Project (the "Project"). The analysis was prepared for Infrastructure Ontario ("IO") and the Project using the IO VFM analytical framework, which is generally consistent with approaches used in other jurisdictions.

The VFM assessment is based on a comparison of the total project costs of the Project under:

1. The traditional delivery approach, as reflected in the Public Sector Comparator ("PSC") model; and
2. The Alternative Financing and Procurement ("AFP") model estimation of the total project costs, as reflected in the Proponent's submitted financial model executed at financial close.

The VFM assessment as noted above was prepared using the following information (collectively the "Information"):

i. A Risk Matrix developed for IO by MMM Group Limited and adjusted to reflect project specific risks; and

ii. Construction cost estimates provided by the Proponent's submitted financial model. Other VFM model assumptions as provided by IO (innovation factor, transaction advisor, discount rate).

The cost information and underlying assumptions were not independently audited or verified for accuracy or completeness.

Based on our understanding of IO's VFM methodology, we can confirm that the Information has been appropriately used in the VFM model. The results of the VFM assessment demonstrate an estimated VFM cost savings of 14.9% by using the AFP approach to deliver the Project in comparison to using the traditional delivery approach.

Yours sincerely,

Ernst & Young Orenda Corporate Finance Inc.

ERNST & YOUNG ORENDA CORPORATE FINANCE INC.

Request for Proposals (RFP #17-209)

Design-Build-Finance

Regional Express Rail

Davenport Diamond Rail Grade Separation Project For

Metrolinx and

Infrastructure Ontario

Summary Fairness Monitor Report

Project:	**Regional Express Rail - Davenport Diamond Rail Grade Separation Project**
Report Stage:	**Request for Proposal (RFP) Report**
Date of submission:	**May 22, 2019**
Submitted to:	**Infrastructure Ontario – Vice President, Procurement**

INTRODUCTION

BDO Canada LLP (BDO) was engaged by Infrastructure Ontario and Lands Corporation (IO) as a Fairness Monitor to observe the Request for Proposals (RFP # 17-209) process of the Design-Build-Finance Regional Express Rail – Davenport Diamond Rail Grade Separation Project.

PROJECT BACKGROUND

The objective of the Davenport Diamond Rail Grade Separation Project is to eliminate the at-grade crossing of the GO Newmarket subdivision and CP North Toronto subdivision with a rail over rail elevated guideway. This rail overpass structure is necessary to facilitate Metrolinx's Regional Express Rail Program for two-way, 15 minute service. The Davenport Diamond Rail Grade Separation Project includes the construction of a green space, amenities, new and improved east/west connections and a new pedestrian ramp at Dupont Street.

RFP Open Period

The RFP Open Period began when IO posted RFP 17-209 on e-Builder on February 28, 2018.

RFP EVALUATION PHASE

IO received three (3) Proposals by the technical and financial closing dates and times stated in the RFP. The Sponsors and their Representatives evaluated the Proposal Submissions in accordance with the RFP evaluation criteria:

- Step 1 – Compliance of Technical Submissions
- Step 2 – Review of the Technical Proposal Submission Form
- Step 3 – Review and Scoring of the Technical Submissions
- Step 4 – Review of the Financial Proposal Submission Form
- Step 5 – Compliance of the Financial Submissions
- Step 6 – Review and Scoring of the Financial Submissions
- Step 7 – Establishing a Final Proposal Score
- Step 8 – Ranking the Proponents

It is our professional opinion that the Request for Proposals (RFP # 17-209) process of the Design-Build-Finance, Regional Express Rail – Davenport Diamond Rail Grade Separation Project that we observed, was carried out in a fair, open and transparent manner.

_____

Ian Brennan, CSCMP, Fairness Monitor

Infrastructure Ontario

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Infrastructure Ontario