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VALUE FOR MONEY ASSESSMENT

HIGHWAY 407 EAST – PHASE 1 PROJECT



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September 19, 2012

Private and confidential

Martin Lavoie,
VP Project Finance
Infrastructure Ontario
777 Bay Street, 9th Floor
Toronto, ON, M5G 2C8
Canada

Dear Mr. Lavoie,

Subject: Financial Close Stage Value for Money Analysis – Highway 407 East Phase 1 Project

Deloitte & Touche LLP (“Deloitte” or “We”) has prepared the Value for Money (“VFM”) assessment for the Highway 407 East Phase 1 Project (“Project”) at the Financial Close Stage, in accordance with Infrastructure Ontario’s (“IO”) value for money assessment methodology outlined in *Assessing Value for Money: A Guide to Infrastructure Ontario’s Methodology*, which is consistent with approaches used in other jurisdictions.

The VFM assessment is based on a comparison of the net present costs (“NPC”) for the Project under:

1. The traditional delivery approach, as reflected in the Public Sector Comparator (“PSC”) model; and
2. The Alternative Finance and Procurement approach (“AFP”), as reflected in the Preferred Bid.

The VFM assessment was compiled using the following information (collectively the “Information”):

- i. A Risk Matrix originally developed for IO by Altus Group and amended and endorsed by MMM Group; and
- ii. Cost and other input assumptions developed by IO and its external advisors.

This VFM assessment demonstrates that the AFP approach will provide an estimated value savings of 18.5% (in comparison to the traditional delivery approach), using a 2.51% discount rate.

While we did not audit or attempt to independently verify the accuracy or completeness of the Information, we confirm, based on our familiarity with VFM methodologies in other jurisdictions and current market data, that IO’s VFM methodology is reasonable, yields a fair estimate of value for money and that the Information has been appropriately used in the VFM model.

Yours very truly,

A handwritten signature in cursive script that reads "Deloitte & Touche LLP".

Deloitte & Touche LLP



August 7th, 2012

Mr. Michael Inch
Vice President, Procurement
Infrastructure Ontario
777 Bay Street, 9th Floor
Toronto, Ontario M5G 2C8

Subject: Highway 407 East Phase 1 ("407E") Project RFP No. OPIC-10-56-1023

Dear Mr. Inch:

P1-Consulting acted as the Fairness Commissioner to review and monitor the communications, evaluations and decision-making processes that were associated with the procurement process for the **Highway 407 East Phase 1 ("407E") Project** in terms of ensuring fairness, equity, objectivity, transparency and adequate documentation of the evaluation process.

Highway 407 East Phase 1 project will extend approximately 22 kilometres eastward from Brock Road in Pickering to Harmony Road in Oshawa, and connect to Highway 401 with a 10-kilometre West Durham Link that will be located east of Lake Ridge Road and will include a five kilometre realignment of Highway 401.

In our role as Fairness Monitor, P1 Consulting made certain that the following steps were taken to ensure a fair and open process:

- Compliance with the requisite procurement policies and procedures and the laws of tendering for the acquisition of services relating to public sector procurement;
- Adherence to confidentiality of bids, as applicable, and the evaluation process;
- Objectivity and diligence during the procurement process in order to ensure that it was conducted in an open and transparent manner;
- Proper definition and use of evaluation procedures and assessment tools in order to ensure that the process was unbiased;
- Compliance of project participants with strict requirements of conflict of interest and confidentiality during the procurement and evaluation processes;
- Security of information;
- Prevention of any conflict of interest amongst evaluators on the selection committee;
- Oversight to provide a process where all Bidders were treated fairly.

The Fairness Monitor actively participated in the following steps in the process to ensure that fairness was maintained throughout:

P1 Consulting Inc.



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Mr. Michael Inch
August 7th, 2012
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- Project kick-off meeting
- Review session of the Draft RFQ and RFP Documents
- Commercially Confidential Meetings with the pre-qualified Bidders by interested Bidders
- Site and facility visits by the Proponents
- Review of the RFQ and RFP Addenda
- Review of evaluation process and guideline
- Proposal receipt, bid evaluation and selection of the Negotiation Proponents

The final step which we oversaw in the process was the selection of the Preferred Proponent. On May 24th, 2012 Infrastructure Ontario announced that **407E Development Group** had been selected as the Preferred Proponent for RFP No. OPIC-10-56-I023.

As the Fairness Monitor for the **Highway 407 East Phase 1 ("407E") Project**, we certify that, at the time at which this report was prepared, the principles of fairness, openness, consistency and transparency have, in our opinion, been maintained throughout procurement process. Furthermore, no issues emerged during the process, of which we were aware, that would impair the fairness of this initiative.

Yours truly,

A handwritten signature in blue ink, appearing to read "Panneton", is written over a faint, larger version of the same signature.

Louise Panneton
Lead Fairness Commissioner



Highway 407 East Phase 1 Project

Artist's rendering



Highlights of Highway 407 East Phase 1

- Highway 407 East will help to relieve congestion and support the efficient movement of goods and people through the eastern Greater Toronto Area and beyond.
- It will create opportunities for business, accommodating population and employment growth.
- It will improve transportation operations and provide an alternative emergency/detour route for Durham Region.
- Highway 407 East will be a tolled highway.
- It will be publicly owned and controlled.

Size	Highway 407 East Phase 1 <ul style="list-style-type: none"> • Will be extended by approximately 22 kilometres from Brock Road area in Pickering to Harmony Road in Oshawa • Includes the West Durham Link (WDL) east of Lake Ridge Road, which will serve as a 10 kilometre north-south freeway connecting Highway 407 East to Highway 401 • Comprises of: <ul style="list-style-type: none"> ◦ six lanes on Highway 407 East mainline from Brock Road area to West Durham Link and four lanes from the West Durham Link to Harmony Road ◦ four lanes on the West Durham Link ◦ 10 interchanges, including two freeway-to-freeway interchanges (at 407/WDL and 401/WDL) and 16 road crossings
Community benefits	<p>During construction, the project will help strengthen the economy, creating 900 construction jobs in the first phase alone.</p> <p>Community Value Plan features, including but not limited to the following:</p> <ul style="list-style-type: none"> • enhanced corridor landscaping; • gateway features and architecture structural details; • wildlife crossings; and • wetland restoration.

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Summary

The Highway 407 East Phase 1 project supports the Province of Ontario's long-term infrastructure plan to repair, rebuild and renew the province's roads and highways, bridges, public transit, schools and post secondary institutions, hospitals and courthouses in communities across Ontario.

Over the last six years, the Province has averaged \$10 billion in infrastructure investments per year. In June 2011, the Province launched its new long-term infrastructure plan – *Building Together*. The Province expects to continue significant investments in public infrastructure, and will begin by investing more than \$35 billion over the next three years.

Infrastructure Ontario plays a key role in procuring and delivering infrastructure projects, on behalf of the Province. When Infrastructure Ontario was created, its mandate included using an alternative financing and procurement (AFP) method to deliver large, complex infrastructure projects. In June 2011, the Province expanded Infrastructure Ontario's role to deliver projects of various sizes, including ones suitable for an AFP delivery model, as well as other delivery models.

Phase one of Highway 407 East will provide commuters with more efficient access to the Greater Toronto Area, relieve congested areas of Highway 401, Canada's busiest highway, and improve the movement of services and goods across Ontario.

Once complete, this project will increase the capacity of the overall transportation network in Durham, providing a highway network with connections to Highway 401 and Highway 35/115. It will also create opportunities for business, accommodate population and employment growth, and provide emergency detour routes for Durham Region.

The purpose of this report is to provide a summary of the project scope for the Highway 401 East Phase 1 project, the procurement process and the Project

Agreement, and to demonstrate how value for money was achieved by delivering the project through the AFP process.

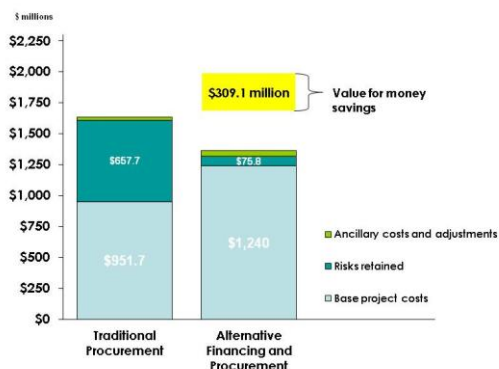
The value for money analysis refers to the process of developing and comparing the total project costs under two different delivery models expressed in dollar values measured at the same point in time.

Value for money is determined by directly comparing the cost estimates for the following two delivery models:

Model #1 Traditional project delivery (Public sector comparator)	Model #2 Alternative financing and procurement
Total project costs that would have been incurred by the public sector to deliver an infrastructure project under traditional procurement processes.	Total project costs incurred by the public sector to deliver the same infrastructure project with identical specifications using the AFP approach.

The cost difference between model #1 and model #2 is the estimated value for money for this project.

The value for money assessment of the Highway 407 East Phase 1 project demonstrates the AFP approach provides estimated cost savings of 18.5 per cent or \$309.1 million compared to a traditional delivery.



Deloitte & Touch LLP completed the value for money assessment of the Highway 407 East Phase 1 project. Their assessment demonstrates projected cost savings of 18.5 per cent by delivering the project using the AFP model in comparison to a traditional delivery model.

P1 Consulting acted as the Fairness Monitor for the procurement process. They reviewed and monitored the communications, evaluations and decision-making processes associated with the Highway 407 East Phase 1 project, ensuring the fairness, equity, objectivity, transparency and adequate documentation of the process. P1 Consulting certified that these principles were maintained throughout the procurement process (please see letter on pages 3 and 4).

Infrastructure Ontario will work with the Ministry of Transportation to deliver the Highway 407 East Phase 1 project, which will remain publicly owned and publicly controlled.

Project description

Background

Ontario's public infrastructure projects are guided by the five principles set out in the provincial government's *Building a Better Tomorrow Framework*, which include:

1. public interest is paramount;
2. value for money must be demonstrable;
3. appropriate public control and ownership must be preserved;
4. accountability must be maintained; and
5. all processes must be fair, transparent and efficient.

Infrastructure Ontario has the task of delivering the Highway 407 East Phase 1 project, on time and on budget. This project will be delivered using an Alternative Financing and Procurement (AFP) delivery model - a made-in-Ontario approach to project delivery. AFP brings private-sector expertise, ingenuity and rigour to the process of managing and renewing Ontario's public infrastructure while shifting risks associated with cost and schedule overruns away from the public sector.

The Highway 407 East Phase 1 project

Phase 1 of Highway 407 East project will extend approximately 22 kilometres eastward from Brock Road in Pickering to Harmony Road in Oshawa, and connect to Highway 401 with a 10-kilometre West Durham Link that will be located east of Lake Ridge Road and will include a five kilometre realignment of Highway 401.

Highway 407 East will be an important public asset that will increase the capacity of the overall transportation network in Durham Region, providing a highway network with connections to Highway 401 and eventually Highway 35/115.

Highway 407 East Phase 1 is proceeding under Infrastructure Ontario's design, build, finance, maintain (DBFM) model. This model transfers to the private sector the appropriate risks associated with designing, constructing and financing a complex project, such as the new highway.

While Highway 407 East Phase 1 will be a tolled highway, it will be owned and controlled by the Ontario government, which will also regulate and collect the tolls and ensure customer service objectives are met.

The project will generate economic growth for businesses and communities in Durham Region by creating jobs in design and construction.

Phase 1 of the project began in summer 2012 and will open to traffic by the end of 2015.

Project Scope – Phase one of Highway 407 East

- Will be extended by approximately 22 kilometres from Brock Road area in Pickering to Harmony Road in Oshawa
- Includes the West Durham Link (WDL) east of Lake Ridge Road, which will serve as a 10 kilometre north-south freeway connecting Highway 407 East to Highway 401
- Comprises of:
 - six lanes on Highway 407 East mainline from Brock Road area to West Durham Link and four lanes from the West Durham Link to Harmony Road
 - four lanes on the West Durham Link
 - 9 interchanges, including two freeway-to-freeway interchanges (at 407/WDL and 401/WDL) and 16 road crossings

Competitive selection process timeline

Infrastructure Ontario has entered into a Project Agreement with 407 East Development Group General Partnership (407EDG) to provide the Highway 407 East Phase 1 project. The procurement stages for the project were as follows:

June 9, 2010

Request for Qualifications

Infrastructure Ontario issued a request for qualifications (RFQ) for the Highway 407 East Phase 1 project. The following three teams were short-listed for the project:

407 East Development Group General Partnerships (407EDG)

- Cintra Infraestructuras S.A.
- SNC-Lavalin

407 East Development Partners

- OHL Concesiones S.L.
- Global Via Infraestructuras S.A.
- Forum Equity Partners Inc.
- Brookfield Financial Corporation
- Con-Drain Company Limited
- Coco Paving Inc.

407 GreenLink Partners

- Bilfinger Berger Project Investments
- Macquarie Group Limited
- AECON Group Inc.
- Fengate Capital Management Limited

April 28, 2011

Request for Proposals

A request for proposals (RFP) was issued to the short-listed bidders; this set out the bid process and proposed Project Agreements to deliver the project.

Proposal submission

The RFP period closed on November 8, 2011. Three bids were received by Infrastructure Ontario and the Ministry of Transportation. The bids were evaluated using the criteria set out in the RFP.

March 21, 2012

First ranked bidder notification

407EDG was selected as the first ranked proponent based on predetermined criteria, in accordance with the evaluation criteria set out in the RFP.

May 15 and May 18, 2012, respectively

Commercial close/Financial Close

A Project Agreement was executed by 407EDG and Infrastructure Ontario.

407EDG is a consortium between Cintra Infraestructuras S. A. and SNC-Lavalin.

Financing for the project was provided by BMO and Desjardins, who also acted as lenders and bond underwriters.

Summer 2012 – Late winter 2015

Design and Build Phase

The design and build phase will be carried out in accordance with the Project Agreement.

Following commercial / financial close, 407EDG continued to work with Infrastructure Ontario and MTO to finalize the design and ensure the necessary permits and approvals were in place to commence some advance works in June 2012.

Completion and payment

407EDG has committed to complete the project by the end of 2015.

The contract value of the project is approximately \$1 billion in today's dollars.

407EDG will not receive any payments from Ontario until the project reaches substantial completion. 407EDG will receive annual payments from the Province over a 30-year period. These payments cover design, construction, lifecycle repair and renewal of the highway for 30 years, as well as project financing. Over the 30-year life of the contract, when adjustments for anticipated inflation are made, the contract value is \$1.6 billion.

A copy of the Project Agreement will be posted to Infrastructure Ontario's website:
www.infrastructureontario.ca

Project Agreement

Legal and commercial structure

Infrastructure Ontario entered into a Project Agreement with 407 East Development Group General Partnership (407EDG). Under the terms of the Project Agreement, 407EDG will:

- design and build the highway;
- finance the design, construction and capital costs of the highway over the term of the project;
- obtain third-party independent certification that the highway is built in accordance with the Project Agreement;
- provide maintenance and life-cycle maintenance of the highway for the 30-year service period under pre-established maintenance performance standards set out in the Project Agreement; and
- ensure that, at the end of the contract term, the highway meets the conditions specified in the Project Agreement.

In the Project Agreement, 407EDG has committed to design and construct the project in 43 months. 407EDG will not receive any payments from the Province until substantial completion of the project is achieved. Since 407EDG starts to incur additional financing costs after the substantial completion date, it is highly motivated to meet the contractually required completion date and to remain on schedule. The province will begin to make monthly operation, maintenance and rehabilitation payments at this stage to 407EDG over the duration of the contract (a 30-year period). These payments will be based on performance requirements defined in the Project Agreement. Payments will cover the costs for construction of the highway, operations, maintenance, rehabilitation and project financing.

Highway 407 East will be publicly owned.

Maintenance and Operation

407EDG will ensure that all maintenance work on the highway:

- is in accordance with the Output Specifications

- meets agreed to schedule
- meets good industry practice
- allows the road to remain operational at all times; and
- is consistent with maintenance standards of Ministry Area Maintenance Contracts

407EDG will be penalized for road conditions that fall below minimum standards. Throughout the maintenance and operation phase, 407EDG is required to submit regular Asset Condition Reports to the Province.

Hand back requirements

- On expiry of the Project Agreement, 407EDG must ensure the highway is in the condition specified by the Project Agreement.
- Prior to the expiration of the Project Agreement, an independent inspector will assess the highway's condition to determine if the required standards will be met.
- If an inspection reveals that required standards have not been met, the cost to rectify conditions will be charged to 407EDG.

Design, build and completion risk

All construction projects have risks. Some project risks are retained in varying magnitude by the public sector. Examples of risks retained by the public sector under either the AFP or traditional model include changes in law, public sector initiated scope change, and force majeure (shared risk).

Under the AFP model, some key risks that would have been retained by the public sector in the traditional design build model are contractually transferred to 407EDG. On a traditional project, these risks and resource availabilities can lead to cost overruns and delays. Examples of risks transferred to the private sector under the AFP Project Agreement include:

Construction price certainty

407EDG payments may only be adjusted in very specific circumstances, agreed to in advance and in accordance with the detailed variation (or change order) procedures set out in the Project Agreement.

Scheduling, project completion and delays

407EDG has committed to design and construct the project in 43 months.

The construction schedule can only be modified in very limited circumstances, in accordance with the Project Agreement. 407EDG will receive a substantial completion payment once the project has been certified as substantially complete by an independent certifier. Over the contract term, 407EDG will receive monthly payments for operation, maintenance and rehabilitation of phase 1 of Highway 407 East.

Costs associated with delays that are the responsibility of 407EDG must be paid by it.

Site conditions

Under the Project Agreement, 407EDG accepted the site and site conditions and will not be entitled to make claims for those site conditions that were disclosed in or could have been reasonably anticipated from baseline environmental, archaeological and species-at-risk reports, or that are caused by 407EDG or any of its related parties.

Development approvals

407EDG is responsible for applying, obtaining, maintaining, renewing and complying with all development approvals and permits.

Construction financing

407EDG is required to finance the design and the construction of the project until completion of construction. 407EDG will be responsible for all increased financing costs should it be responsible for any delays in achieving substantial completion of project. This shifts significant financial risk to 407EDG in the case of late delivery.

Commissioning

407EDG must achieve a prescribed level of commissioning of the highway at substantial completion and must co-ordinate the commissioning activity within the agreed-upon construction schedule. This ensures that the Province will receive a functional

highway at the time payments to 407EDG begin. 407EDG will work closely with the Province to facilitate the transition phase of the highway.

Activity protocols

407EDG and the Province have established a schedule for project submittals taking into account the time for review needed by Infrastructure Ontario's compliance advisor.

This protocol mitigates against 407EDG alleging delay as a result of an inability to receive responses in a timely manner in the course of the work.

Change order protocol

In addition to the variation procedure set out in the project documents, Infrastructure Ontario's protocols set out the principles for any changes to the project work/scope during the construction period, including:

- requiring approval and processing of change orders
- specifying the limited criteria under which change orders will be processed and applied
- timely notification of change orders to Infrastructure Ontario
- approval by Infrastructure Ontario for owner-initiated scope changes
- approval by Infrastructure Ontario for any change orders which exceed pre-determined thresholds
- approval by Infrastructure Ontario when the cumulative impact of the change orders exceeds a pre-determined threshold.

In addition to the transfer of key risks (outlined on pages 11 to 12) to 407EDG under the project documents, the financing arrangement entered into between 407EDG and its lenders ensures that the project is subject to additional oversight, which may include:

- an independent budget review by a third-party cost consultant
- monthly reporting and project monitoring by a third-party cost consultant
- the requirement that prior approval be secured for any changes made to the project budget in excess of a pre-determined threshold

Achieving value for money

For the Highway 407 East Phase 1 project Deloitte & Touche LLP's value for money assessment demonstrates the AFP approach provides a projected cost savings of 18.5 per cent, or \$309.1 million compared to the traditional procurement approach.

Deloitte & Touche LLP was engaged by Infrastructure Ontario to independently assess whether – and, if so, the extent to which – value for money will be achieved by delivering this project using the AFP method. Their assessment was based on the value for money assessment methodology outlined in *Assessing Value for Money: A Guide to Infrastructure Ontario's Methodology*, which can be found at www.infrastructureontario.ca. The approach was developed in accordance with best practices used internationally and in other Canadian provinces, and was designed to ensure a conservative, accurate and transparent assessment. Please refer to the letter from Deloitte & Touche LLP.

Value for money concept

The goal of the AFP approach is to deliver a project on time and on budget and to provide real cost savings for the public sector.

The value for money analysis compares the total estimated costs, expressed in today's dollars and measured at the same point in time, of delivering the same infrastructure project under two delivery models - the traditional delivery model (public sector comparator or "PSC") and the AFP model.

Model #1 Traditional project delivery (Public sector comparator)	Model #2 Alternative financing and procurement
Total project costs that would have been incurred by the public sector to deliver an infrastructure project under traditional procurement processes.	Total project costs incurred by the public sector to deliver the same infrastructure project with identical specifications using the AFP approach.

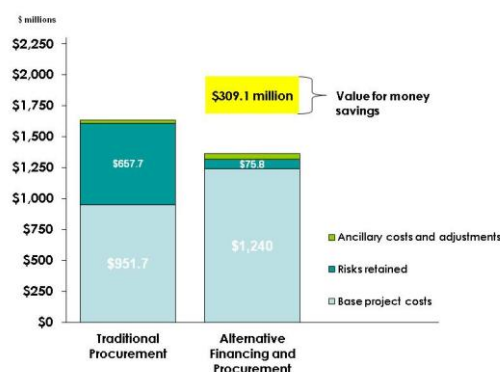
The cost difference between model #1 and model #2 is referred to as the value for money. If the total cost to deliver a project under the AFP approach (model #2) is less than the total cost to deliver a project under the traditional delivery approach (model #1), there is said to be positive value for money. The value for money assessment is completed to determine which project delivery method provides the greatest level of cost savings to the public sector.

The cost components in the VFM analysis include only the portions of the project costs that are being delivered using AFP.

The value for money assessment is developed by obtaining detailed project information and input from multiple stakeholders, including internal and external experts in project management and transportation project management.

Components of the total project costs under each delivery model are illustrated below:

The value for money assessment of the Highway 407 East Phase 1 project demonstrates the AFP approach provides estimated cost savings of 18.5 per cent or \$309.1 million in comparison to traditional delivery.



It is important to keep in mind that Infrastructure Ontario's value for money calculation methodology does not attempt to quantify a broad range of qualitative benefits that may result from using the AFP

delivery approach. For example, using the AFP approach will result most likely in a project being delivered on time and on budget. The benefits of having a project delivered on time cannot always be accurately quantified.

These qualitative benefits, while not expressly quantified in this value for money analysis, are additional benefits of the AFP approach that should be acknowledged.

Value for money analysis

The goal of the AFP approach is to deliver a project on time and on budget and to provide real cost savings for the public sector.

The value for money analysis compares the total estimated costs, expressed in future dollars and measured at the same point in time, of delivering the same infrastructure project under two delivery models: the traditional delivery model (public sector comparator or "PSC") and the AFP model.

It is Infrastructure Ontario's policy to use the current public sector rate of borrowing for this purpose to ensure a conservative and transparent analysis. For more information on how project costs are time-valued and the value for money methodology, please refer to *Assessing Value for Money: A Guide to Infrastructure Ontario's Methodology*, which is available online at www.infrastructureontario.ca.

Base costs

Base project costs are taken from the price of the contract signed with 407EDG and include all construction and financing costs. The base costs between AFP and the traditional delivery model mainly differ as follows:

Under the AFP model, the private party charges an additional premium as compensation for the risks that the public sector transfers to them under the AFP project documents and as compensation for the cost of financing the project using its own capital. In the case of traditional delivery, the private party risk premium is not included in the

base costs as the public sector retains these risks and does not require private sector financing.

In the case of the AFP model, the base costs are extracted from the price agreed among the parties under the Project Agreement. For the Highway 407 East Phase 1 project, these were \$1.24 billion.

If the traditional model had been used for the Highway 407 East Phase 1 project, base costs are estimated to be \$951.7 million.

Risks retained

Historically, on traditional projects, the public sector had to bear costs that go beyond a project's base costs as contingencies were put in place to respond to risks (or unexpected events).

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, they are included in the estimated project cost.

The concept of risk transfer and mitigation is key to understanding the overall value for money assessment. To estimate and compare the total cost of delivering a project under the traditional delivery versus the AFP method, the risks borne by the public sector (which are called "retained risks") should be identified and accurately quantified.

Comprehensive risk assessment not only allows for a fulsome value for money analysis, but also helps Infrastructure Ontario and the public sector sponsors to determine the party best able to manage, mitigate and/or eliminate the project risks and to appropriately allocate those risks under the project documents.

Under the traditional delivery method, the risks retained by the public sector are significant. As discussed on pages 11 to 12, the following are examples of risks retained by the public sector under the traditional delivery method that have been transferred under the Project Agreement to 407EDG:

- *Design and build coordination/completion:* Under the AFP approach, the vendor is responsible for

design and build activities to ensure that the solution is built in full accordance with the output based specifications in the Project Agreement. The vendors are responsible for inconsistencies, conflicts, interferences or gaps in the design and build submittals.

- *Scheduling, project completion and delays:* Under the AFP approach, 407EDG has agreed that it will complete the Highway 407 East Phase 1 project for a fixed date and at a pre-determined price. Therefore, any extra cost (financing or otherwise) incurred as a result of a schedule overrun caused by 407EDG will not be paid by the Province; this agreement motivates 407EDG to maintain the project's schedule. Further oversight includes increased upfront due diligence and project management controls imposed by 407EDG and its lenders.

Other examples of risk transfer include:

- design compliance with the output specifications;
- design and build price certainty;
- design responsibility;
- infrastructure responsibility;
- build period financing;
- schedule contingency;
- coordination of equipment procurement installation; and
- deployment of solution.

Infrastructure Ontario retained Altus Group to develop a template for assessing the project risks (later amended and endorsed by MMM Group) that the public sector relinquishes under AFP compared to the traditional approach. Using data from actual projects as well as its own knowledge base, the firm established a risk profile under both approaches for transportation projects.

It is this risk matrix that has been used for validating the risk allocation for the specific conditions of the Highway 407 East Phase 1 project.

Using the AFP model reduces these results to the public sector. For example, had this project been delivered

using the traditional approach, design risks that arise would be carried out through a series of change orders issued during construction of the Highway 407 East Phase 1 project. Using the AFP approach, such change orders would be minimal and result in cost avoidance to the public sector.

The risk transfer provisions in the project documents result in overall cost savings as these transferred risks will either be better managed or completely mitigated by 407EDG.

A detailed risk analysis of the Highway 407 East Phase 1 project concluded that the average value of project risks retained by the public sector under traditional delivery is \$657.7 million. The analysis also concluded that the average value of project risks retained by the public sector under the AFP delivery model decreases to \$75.8 million. This is a risk transfer of \$581.9 million for Ontario taxpayers.

Ancillary costs and adjustments

There are significant ancillary costs associated with the planning and delivery of a large complex project that vary depending on the project delivery method.

For example, there are costs related to each of the following:

- *Owner soft costs:* These are essentially fees to manage the entire project.
- *Transaction costs:* These are costs associated with delivering a project and consist of legal, fairness and transaction advisory fees. Under the AFP approach, these fees will also include Infrastructure Ontario costs.
- *Technical advisory and cost consultant fees* are also incurred to ensure the Highway 407 East Phase 1 project are being designed and built according to the output specifications. The ancillary costs are quantified and added to both models for the value for money comparison assessment. Transaction costs are likely to be higher under AFP given the greater degree of upfront due diligence. The ancillary costs for the Highway 407 East Phase 1 project under the traditional delivery method are estimated to be

\$24.3 million as compared to \$49.3 million under the AFP approach.

For a detailed explanation of ancillary costs, please refer to *Assessing Value for Money: A Guide to Infrastructure Ontario's Methodology*, which is available online at www.infrastructureontario.ca

Calculating value for money

The analysis completed by Deloitte & Touche LLP concludes that the additional costs associated with the AFP model are more than offset by the benefits which include: a much more rigorous upfront due diligence process, reduced risk to the public sector, controls imposed by the private sector to mitigate the risk that has been transferred to them, and Infrastructure Ontario's standardized AFP procurement process.

Once all the cost components and adjustments are determined, the aggregate costs associated with each delivery model (i.e., traditional delivery and AFP) are calculated, and expressed in Canadian dollars, as at financial close. In the case of the Highway 407 East Phase 1 project, the estimated traditional delivery cost (i.e. PSC) is \$1.67 billion as compared to \$1.37 billion under the AFP delivery approach.

The positive difference of \$309.1 million or 18.5 per cent represents the estimated value for money by using the AFP delivery approach in comparison to the traditional delivery model.