Region of Waterloo
Transportation and Environmental Services
Rapid Transit
Finance Department
Procurement and Supply Services
Financial Services and Development Financing

To: Chair Jim Wideman and Members of the Planning and Works Committee

Date: March 4, 2014

File Code: A02-30

Subject: Stage 1 Light Rail Transit Project: Selection of a Design-Build-Finance-Operate-Maintain Consortium

Recommendation:

That the Regional Municipality of Waterloo (hereinafter called “the Region”):

1. Receive the results of Request for Proposal No. 2012-01 - Stage 1 Light Rail Transit (LRT) Project: Selection of a “Design-Build-Finance-Operate-Maintain Consortium”, as described in this report with the results obtained using Infrastructure Ontario procurement best practices including an independent Fairness Monitor;

2. Approve the selection of GrandLinq as the Preferred Proponent to design, build, finance, operate and maintain the Stage 1 LRT Project;

3. Approve a Project Agreement between the Region and the single purpose legal entity to be established by GrandLinq to undertake the Stage 1 LRT Project, in accordance with the following:
a. Construction of the Stage 1 LRT Project at a cost of $583,296,727.01, plus HST, to be paid through construction period payments of $452,054,963.43 plus HST and payment of GrandLinq’s long term debt and equity at a cost of $11,013,651 annually, plus HST, for 30 years following Substantial Completion, subject to final interest rate adjustments at the time of Financial Close;

b. Operation of the LRT system for a period of 10 years following Substantial Completion, with renewals for successive 5 year terms, to a maximum of 30 years, at a cost of $4,036,013 per year, plus HST, subject to annual inflation adjustment;

c. Maintenance of the LRT system for a period of 30 years following Substantial Completion at a cost of $4,530,064 per year, plus HST, subject to annual inflation adjustment;

d. Life Cycle rehabilitation of the LRT system for a period of 30 years following Substantial Completion at a total cost of $263,120,208, plus HST, to be paid in varying annual amounts averaging $8.77 million per year, subject to annual inflation adjustment;

e. Insurance for the LRT system for a period of 30 years following Substantial Completion at a cost of $1,700,000 per year, plus applicable taxes, subject to annual inflation and rating adjustment;

4. Delegate to the Regional Chief Administrative Officer the authority to finalize and execute the Project Agreement and associated ancillary agreements, and to execute documents and certificates in accordance with the terms and conditions of the Project Agreement on behalf of The Regional Municipality of Waterloo for the Stage 1 LRT Project and to do all things as may be necessary or required to give effect to the above-described resolutions, with the foregoing authority to be subject to the terms and conditions described in Report E-14-032/F-14-019;

5. Authorize and direct the Regional Clerk and the Chief Financial Officer to sign certificates and any other documents and to do all things as may be necessary or required to give effect to the above-described resolutions, subject to the terms and conditions described in Report E-14-032/F-14-019.

**Summary:**

The Region of Waterloo has been working on the development of a rapid transit system for more than 10 years. Rapid Transit is a key element of the Region’s Growth Management Strategy. It will help to limit urban sprawl, protect sensitive environmental areas and farmland, ease traffic congestion and provide greater transportation choice for the Region’s residents as our population grows by approximately 200,000 people over the next 20 years.
In June, 2011, Regional Council approved Light Rail Transit (LRT) from Waterloo to Cambridge as the preferred rapid transit solution for the Region. Council also approved constructing LRT in stages, to best match technology with projected ridership and development, and to ensure the project could be built affordably. Stage 1 includes LRT from north Waterloo to south Kitchener, and adapted Bus Rapid Transit from south Kitchener to downtown Cambridge (Galt). Also in 2011, Council approved a capital budget of $818 million for the project, and a funding strategy (based on net property tax increases of 0.7% per year for 7 years) to fund the operating, maintenance and financing costs of the system.

In February, 2012, Regional Council approved developing the project through a Design-Build-Finance-Operate-Maintain (DBFOM) approach with a private-sector partner. This approach was selected because it provided the best balance of Regional control and ownership, while transferring appropriate risks to the private sector, and taking advantage of private sector innovation. It also provided the greatest assurance of completing the project on time and within budget.

In March, 2013, the Region identified a short-list of 3 DBFOM teams, and issued a request for proposals (RFP) to these 3 teams. In December, 2013, the Region received proposals from the 3 short-listed teams. Since mid-December, Regional staff and the Region’s technical, financial and legal advisors, supported by Infrastructure Ontario, have undertaken a comprehensive review of the 3 proposals. The entire procurement and evaluation process has been monitored by P1 Consulting (the “Fairness Monitor”), to ensure it was conducted in a fair, objective and transparent manner.

The 3 proposals were evaluated on a range of technical and financial criteria. Technical submissions were evaluated based on six technical criteria (project management, civil design, system design, construction, maintenance and rehabilitation, and operations). Financial submissions were evaluated on the basis of net present value and the quality of each team’s financing plan. Each submission was technically and financially compliant. The highest overall score, as well as the lowest overall cost (lowest net present value) was achieved by the GrandLinq team.

Highlights of the GrandLinq proposal include the following:

- The capital cost of the LRT project in GrandLinq’s proposal is consistent with the Region’s capital cost estimate, and can be accommodated within the project capital budget of $818 million.

- GrandLinq’s projected operating, maintenance, life-cycle and financing costs can all be accommodated within the Region’s approved funding strategy.

- Based on the GrandLinq proposal, the Rapid Transit project remains on-time, on-budget and the costs remain affordable based on the Region’s funding strategy.
The GrandLinq team brings world-class expertise in the development of light rail transit systems to the implementation of ION. Key members of the GrandLinq team include: Plenary (one of Canada’s largest dedicated Public-Private Partnership (P3) developers, Meridiam (a major international infrastructure investor), Aecon (Canada’s largest publicly traded construction company), Kiewit (one of the largest construction, mining and engineering organizations operating in North America), and Keolis (a world leading public transport operator).

Report:

1. Background

The Region of Waterloo continues to plan for significant population and employment growth over the next two decades. The Provincial Growth Plan for the Greater Golden Horseshoe forecasts the Region's population will increase to 729,000 people by 2031 and that employment will increase to 366,000 by 2031. This is an increase from today of nearly 200,000 people and 80,000 jobs.

To provide for the projected growth, the Region will have to either continue its pattern of outward growth or encourage greater intensification in existing developed areas. High-quality rapid transit has been identified as a crucial component in managing growth, facilitating intensification and minimizing/reducing future “urban sprawl.” A high-quality rapid transit system is vital for the Region to evolve into a more compact urban form, helping to prevent sprawl and protect sensitive environmental landscapes and high quality farmlands from urban encroachment. The rapid transit system being considered in the Region has the multiple goals of providing transportation choice, meeting future transportation needs, and building a viable, vibrant and sustainable community.

If the Region continues with current trends of auto use, the road network will need to expand by at least 500 additional lane-kilometres of traffic by 2031. As development spreads outward and congestion grows on the major arterial roads, further road construction will become necessary, including impractical road widenings through mature neighbourhoods. Without rapid transit, the road expansion costs including property would be in the range of $1.4 to $1.5 billion. On top of the high cost, this road expansion would seriously threaten the quality of life in much of the community. Building a rapid transit system and increasing transit ridership will reduce the amount of road construction required by approximately 40% and reduce road expansion costs by $400 to $500 million.

Regional Council approved the technology, route, stations, staging and funding for Stage 1 of the Region’s Rapid Transit (RT) project in June 2011. Stage 1 includes 19 km of Light Rail Transit (LRT) from Conestoga Mall to Fairview Park Mall and 17 km of adapted Bus Rapid Transit (aBRT) from Fairview Park Mall to the Ainslie Street Terminal.

In February 2012, Council approved a Design-Build-Finance-Operate-Maintain (DBFOM) procurement and delivery model for the LRT portion of the RT project. As part of their deliberations, Council directed staff to review options that would allow the Region to take advantage of operations by a private contractor without losing significant
flexibility for future system expansion. In September 2012, Council approved an initial term of 10 years for the operations component of the project, with up to four renewal options (each for five years) to be exercised at the discretion of the Region.

In October 2012, Regional staff issued a Request for Qualifications (RFQ) and received seven submissions. In February 2013 Council approved three pre-qualified teams, being GrandLinq, Kitchener Waterloo Cambridge Transit Partners and TriCity Transit System to proceed to the Request for Proposal (RFP) stage. Each consortium’s prime team members are listed in Appendix A to this report.

2. Request for Proposal

2.1 Procurement Documents

On June 6, 2013, Request for Proposal No. 2012-01 was issued to the three pre-qualified teams. Included in the RFP was a draft Project Agreement (PA) and the Project Specific Output Specifications (PSOS). The PA includes a series of interconnected legal agreements and schedules that provide the commercial terms and forms of contract to be executed between the Region, the Preferred Proponent (i.e. the team chosen by Regional Council to proceed with the project) and other project parties (e.g. the Lender’s Agent). The PA articulates the responsibilities and obligations of the parties. The PSOS sets out all of the Region’s design, technical quality, operations and maintenance requirements and standards. The PSOS defines the project scope and objectives which are essential to the enabling of private sector innovation, and acts as the source document for design evaluation and technical compliance.

The Region retained Infrastructure Ontario (IO) to act as the “Procurement Lead,” providing advice and assistance to the Region throughout the procurement process. P1 Consulting was engaged to act as a “Fairness Monitor” to ensure the procurement process was conducted with an established process, that the process was followed and there was no bias.

2.2 RFP Process

Regional Council established a Steering Committee for the procurement process that included Regional Councillors Jim Wideman, Sean Strickland, Tom Galloway and Claudette Millar and Regional staff (Mike Murray – CAO, Craig Dyer – CFO, Rob Horne – Commissioner, Planning, Housing and Community Services, Debra Arnold – Regional Solicitor, and Thomas Schmidt – Commissioner, Transportation and Environmental Services).

With the release of the RFP in June 2013, the three pre-qualified teams began to prepare their submissions. A series of commercially confidential meetings took place with each team between July and November. These meetings allowed the teams to ask questions and seek clarification relating to all aspects of the project, and helped ensure a common understanding of the project. The Region’s service specifications set out in the PSOS were refined throughout the procurement process to ensure that the resulting system would fully meet the Region’s needs. The PA itself was reviewed and refined for clarity and reissued at certain points in the process. On December 16, 2013 the Region
received proposals from each of the teams. Technical submissions were received at Regional offices at 50 Queen Street in Kitchener, while the financial submissions were received at Infrastructure Ontario offices in Toronto.

Proposals from the teams are irrevocable and remain in effect and open for acceptance for 180 days after submission close (June 13, 2014), or until financial close (currently targeted for April 25, 2014), whichever occurs first.

2.3 RFP Evaluation

An Evaluation Framework to govern the review of the proposals was developed by the Region and its consultants. This framework was described in detail in Report E-14-027/F-14-016 dated February 11, 2014 which is attached as Appendix B to this report.

The objectives of this Evaluation Framework were to:

• Ensure that the evaluation process is open, fair, transparent and applied consistently, free of conflicts of interest, and treated confidentially;
• Define the authority, decision making process and reporting structure relating to the evaluation of the RFP responses while ensuring an appropriate separation of roles and responsibilities related to approvals, conflict of interest determination, fairness oversight, due diligence, overall co-ordination, and scoring;
• Provide multiple levels of due diligence to confirm that all material facts have been considered in determining the Preferred Proponent;
• Provide direction to participants by describing the methodology that is used to evaluate proposals by outlining timing requirements and defining key actions;
• Ensure that the evaluation process is conducted in a secure environment;
• Ensure that an appropriate document control process is applied to create a record of the evaluation process that will support the determination of the Preferred Proponent;
• Align the evaluation process with best practices and industry expectations; and
• Provide evaluation oversight and a process to select the most qualified team.

In accordance with the established Evaluation Framework, the submissions were reviewed to ensure compliance with mandatory requirements and completeness of the proposals. All bids were compliant, complete and met the mandatory requirements.

Evaluation teams established by the Region, involving numerous Regional staff and the Region’s technical and financial advisors, then assessed the Technical and Financial submissions. In order to maintain fairness and integrity in the process, separate Technical and Financial evaluation teams were established, and the evaluations were conducted in different locations. The technical submission review was based out of 50 Queen Street in Kitchener, while the financial submissions were stored and evaluated at Infrastructure Ontario (IO) offices in Toronto. The technical team had no knowledge of the financial submissions, evaluation process or results, and vice versa to ensure that the evaluators were completely objective and unbiased.

Each technical submission was evaluated by Regional staff and numerous consultants based on how well it met the mandatory requirements outlined in the PSOS and the
Technical Submission Requirements. Each submission was required to achieve a minimum score of 70% in each of the technical components noted above.

Each financial submission was evaluated by a team from the Region, Deloitte and IO. Each submission had the following two mandatory components:

1. Net Present Value (NPV): a financial model was designed by the Region and its consultants to calculate the NPV of each proposal including capital, financing, long-term operations, maintenance and lifecycle costs. Staff and the Region’s consultants performed detailed due diligence analysis of the financial model and NPV calculations provided by the bidders. The lowest NPV was awarded the maximum available points (450) for this portion of the evaluation. Thirty (30) points were deducted from the 450 point maximum for every percentage point by which the next bidder exceeded the lowest NPV.

2. Financial Plan: The balance of the financial score (maximum 50 points) relates to the quality of the proposed financial plan. The proposals were assessed based on the achievability and robustness of the financing plan, stability of financial structure, level of support from lenders and performance security provided by prime team members, etc. A minimum score of sixty percent (60%) was required. Each team achieved at least the minimum score.

As Council had previously set the budget and funding envelope in 2011, the Region established an Affordability Cap as a threshold for bidders to measure their costs against. The Affordability Cap indicated the funding available and the interplay between the costs for which the Region has responsibility (principal and interest, other works, land, project office, traction power and other utilities) and the costs for which the bidder has responsibility (construction costs – with debt and equity, operations, maintenance and lifecycle/rehabilitation). This test was set to create competitive tension and encourage bidders to propose affordable solutions for the Region and provide maximum scope for the available funding.

The results of the technical and financial evaluations were then presented separately to and confirmed by the Evaluation Committee comprised of the CAO, CFO, Commissioner of Transportation and Environmental Services, Commissioner of Planning, Housing and Community Services, and the Regional Solicitor. The evaluation results were then presented to the Rapid Transit Steering Committee.

2.4 RFP Evaluation Results

Each submission met the minimum 70% score in each of the technical components. All of the teams were technically compliant with the Region’s requirements and the overall technical scores were within a very narrow range. The highest overall score, as well as the lowest overall cost (lowest NPV), was achieved by the GrandLinq team. The GrandLinq bid met the Affordability Cap. Based on the completed evaluation process, staff recommends that Committee and Council approve the selection of GrandLinq as the Preferred Proponent to design, build, finance, operate and maintain the Stage 1 LRT Project.
3. The GrandLinq Submission

3.1 Project Team

GrandLinq is a specialized consortium with an effective project governance structure, facilitated through the inclusion of equity investors in all phases of the project. Their equity investment in GrandLinq allows them to adopt a holistic, long-term approach to the development of the Project. This financial interest of team members also ensures that they collaborate to deliver the project successfully from start to end and not just focus on their particular role. The Prime Team Members include:

- Plenary – One of Canada's largest dedicated Public-Private Partnership (P3) developers, with 13 projects successfully closed in Canada, 9 of which are in operations.

- Meridiam – A major international infrastructure investor, with 26 successfully closed transactions in Europe and North America, including a number of rail projects.

- Aecon – Canada's largest publicly traded construction company that will be fulfilling the design and construction obligations alongside Kiewit.

- Kiewit – One of the largest construction, mining and engineering organizations operating in North America and Australia, and will be fulfilling the design and construction obligations alongside Aecon.

- Keolis – A world leading public transport operator, established in 14 countries on four continents, and will be fulfilling the operations, maintenance and rehabilitation obligations.

These companies will form a joint venture not only to design and build the project, but to also operate and maintain the system to ensure the availability of its service for 30 years. Additional background information relating to the GrandLinq team can be found in Appendix C.

3.2 Technical Highlights

Civil and System Design

GrandLinq has presented a guideway design solution that effectively integrates the structural, civil, alignment, trackwork, systems and landscape elements. They will deliver all fixed facilities comprising of 16 station stops, 13 Traction Power Substations and the Operations and Maintenance Storage Facility. Further engineering refinements will continue through detailed design.

- Station Stops - The approach to station stops establishes consistent and recognizable architecture that delivers quality, comfort and flexibility for future
extensions. The overall design of the station stops places strong emphasis on connections and integration with the surrounding communities and future development. Passenger safety, convenience, capacity and accessibility are also key principles required in the design. In addition, stops will employ treatments tailored to their location in order to integrate well with the surroundings.

- **Operations and Maintenance Storage Facility (OMSF)** - The OMSF design provides for the required maintenance and operating procedures for the LRT system. The design delivers an efficient work environment that ensures proper traffic access, materials handling and workflow. The OMSF site design takes into account initial requirements but will also accommodate expansion for future vehicle storage. The OMSF building design will also achieve LEED Silver Certification.

**Construction Methodology and Project Schedule**

- **Aecon and Kiewit** are industry leaders in the road and rail construction sectors and are fully capable of delivering a comprehensive and high-quality solution for the Project.

- **Construction** - The proposed construction methodology and schedule is focused on having the system in operation as early as possible while minimizing traffic impacts during construction. The sections of work are strategically planned and scheduled to avoid disrupting major events and festivals. These are also planned so as to avoid working concurrently on major routes in the Cities of Kitchener and Waterloo. GrandLinq will ensure that suitable, safe, convenient, free and accessible short term parking is available to the local Community within each of the individual stages of work. Access to garbage/trash collection and removal, recycle, yard waste pickup and transportation will be provided at all times. GrandLinq will provide adequate and secure pedestrian access for each stage of the construction, and ensure proper protection to adjacent structures are in place prior to commencing the work on any of the operations.

- **Schedule** - The construction schedule retains some flexibility to minimize the risk of delays and facilitating schedule recovery as needed. A Critical Path Method is adopted by GrandLinq that will provide valuable insight into construction progress and will identify the need for recovery strategies in the event of unforeseen delays. The schedule provides defined and measurable activities and milestones for managing and reporting on the progress of the Work from preliminary design to revenue service, and is the means for measuring the progress of the Work against the Schedule of Values of the Work through a resource loaded schedule.

- **Construction/ Operation System Safety** - The health and safety of the public, as well as the protection of property and the environment are key priorities during construction, operations, maintenance and service of the Project. The safety of employees, contractors and other authorized personnel onsite during construction will be covered by the Construction Safety Plan, which will include safe working
practices. All construction areas will be secured to prevent unauthorized entry. Appropriate safety program(s) will be developed by GrandLinq to protect work areas from inadvertent or unauthorized entry and to ensure that the public, motorists, businesses and the surrounding community are protected from the construction.

Operations and Maintenance

GrandLinq will have full responsibility for the operations and maintenance of the system in accordance with Region established performance requirements (including safety and customer service) and agreed upon schedules.

Operations - The operating approach proposed by GrandLinq is passenger focused and is based on performance and reliability. This approach complements the key guiding principle of Zero Harm, which places safety for passengers, employees and the public at the forefront. The passenger-focused culture will ensure that the needs of transit users are recognized at every level of the organization, and be the catalyst by which operational activities are developed and implemented. This aligns with the Region’s commitment to deliver safe, timely and reliable service for all passengers.

- Maintenance – GrandLinq’s maintenance and rehabilitation approach focuses on System service availability and, ultimately, the System User. This approach will support the Region’s objective of increasing transit ridership, by creating a positive association of transit as a convenient alternative choice to the car. GrandLinq’s maintenance and rehabilitation approach will minimize disruption to System operations and System Users, while maximizing asset value and life. To achieve their goal, GrandLinq will be responsible for the required custodial, preventative, and corrective maintenance for the entire System.

3.3 Financial Plan Highlights

GrandLinq has proposed a strong financial structure with a well planned bond distribution plan and significantly advanced documents including: Term Sheet, Commitment letter, Drop Down Agreements and Interface Agreements.

Financial structure – GrandLinq has created a partnership which includes the financial partners (Plenary and Meridiam) each with a 35% interest and the construction and operations partners (Keolis, Aecon and Kiewit) each with a 10% interest. If one team member from the financial partners or construction and operations partners does not contribute its share, the others have agreed to assume the difference. With each team member having a financial interest in the project from construction to operations and maintenance they are all motivated to deliver the optimal project that best meets the needs of the Region during all phases of the Project and not just the individual portions they are responsible for. This results in an alignment of short and long term interests of the consortium members.

Debt and Equity Financing

- Construction financing (short term) – the Project Agreement requires GrandLinq to
fund the first 22.5% of the design-build (construction) costs and only after this threshold has been reached will the Region make monthly milestone payments withholding 15% until substantial completion is achieved. To fund the construction costs, GrandLinq has arranged short-term construction financing through Alberta Treasury Branches, which is well experienced in P3 financing.

- Long term debt and equity – the 22.5% of construction costs initially funded by GrandLinq will be paid by the Region during the 30-year term, which is one of the anchoring principles of P3 projects. The majority (80%) of GrandLinq’s financing will be provided through issuance of long term bonds that are underwritten by CIBC World Markets. The balance (20%) will be provided by equity contributions from the five partners, which will also be repaid by the Region during the 30-year term. CIBC World Markets is well experienced at underwriting and arranging bond issuances in the P3 market and has provided a commitment letter to arrange the bond financing for the project.

Letters of Credit/Parent Company Guarantees

Both the consortium contractors (Keolis, Aecon and Kiewit) and the financial partners (Plenary and Meridiam) will provide equity financing to the project at time of Financial Close via Letter of Credit. In addition, the contractor partners are each obligated to “back-stop” or guarantee each other in the unlikely event that one contractor is unable to fund their portion of equity. This provision and guarantee is also required of the financial partners.

In addition, as part of the performance security package, Letters of Credit will be provided during construction by the general contractors Aecon and Kiewit, which will be released in full on the second anniversary of construction completion. A Letter of Credit will be provided by the operating partner Keolis with an amount equal to 6 months of the annual operating, maintenance and lifecycle costs and this Letter will be replaced annually during the term of the Project.

Parental Company Guarantees to meet any liquidated damages resulting from delays to construction are provided in an amount equal to 40% of the construction contract price. Also, a Parental Company Guarantee is provided by the operating partner during operations and maintenance with a maximum aggregate liability amount equal to 30 months of the operations and maintenance fees.

The financial structure, including debt and equity financing from the consortium, is repaid by the Region over the project term. These payments are subject to the Performance Monitoring regime, which applies deductions for poor performance. In extreme cases the entire payment amount could be deducted. The Performance Monitoring regime includes monitoring of: Operations including schedule and trips performance to defined service levels, Maintenance including alignment of GrandLinq’s maintenance activities with vehicle safety standards and performance indicators to ensure that the service will meet the Region’s standards on quality. Failure to meet the standards results in deductions from the monthly payments which can put the equity and debt at risk, thereby ensuring due diligence on the part of lenders and all partners in
the consortium.

4. **Value for Money Update**

As the Region’s financial advisor on the LRT project, Deloitte previously completed a Value for Money (VFM) analysis in the spring of 2013 which was presented to Council on May 22, 2013 prior to the release of the RFP. This May 22, 2013 report noted that the costs used to develop the assessment were based on those provided by the Region’s advisor, and that the VFM would be updated at a subsequent date with the results from the recommended Preferred Proponent (GrandLinq). Deloitte has provided this revised report based on the GrandLinq submission which has yielded a VFM result of 12.1% as compared to 12.3% in the May 22, 2013 VFM report (Deloitte has noted that this difference is statistically insignificant). The VFM result of 12.1% is well within an expected range of 5% to 15%.

A VFM analysis compares all design, construction, financing, operating and maintenance costs of a project using a traditional contract delivery approach (Design-Bid-Build) against a DBFOM contract delivery approach. This comparison includes:

- The difference between the cost of Regional long term financing and private financing; and
- The costs to the Region for the Risk that it retains.

In general terms, a VFM is a form of cost-benefit analysis which ensures that all costs, including those related to risk, are included to create an “apples-to-apples” comparison.

A 12.1% VFM result on the Region’s LRT project means that given the comparison of all costs of the DBFOM contract model (i.e. including the incremental private financing costs) against the benefits of the high amount of risk that is transferred to the private sector partner, the use of the DBFOM model will cost 12.1% less than the traditional approach, once all risks are considered.

5. **Fairness Monitor Findings**

P1 Consulting was hired as the Fairness Monitor on this project. Their role consisted of:

- Participation in all stages of the procurement process
- Review of the procurement documentation (e.g. RFQ, RFP, addenda)
- Observation of all communication with Proponents, both written and verbal (e.g. attending all Commercially Confidential Meetings, reviewing all Requests for Information and Requests for Clarification)
- Observation of bid receipt, opening, and evaluation,
- Review and assessment conflict of interest assessments,
- Addressing matters related to fairness as required,
- Attend scoring consensus meetings and validate evaluation results, and
- Provide guidance and advice to the Rapid Transit Steering Committee, Rapid Transit Senior Management Team, and Rapid Transit Evaluation Committee.
All of the above was undertaken in order to ensure that the procurement process was conducted, fairly, openly and in a transparent manner. P1 Consulting has certified:

1. That the procurement process was clearly established in the implementation guidelines (RFQ, RFP and Evaluation Framework).
2. That the evaluation process and criteria described in the procurement documents were applied consistently and equitably.
3. That evaluators demonstrated diligence in their responsibilities, that they were able to support their individual evaluation assessments and that they held no bias for or against any of the three Proponents.
4. Conflict of Interest and Confidentiality were treated with the highest regard throughout the process. Attestation of no Conflict of Interest was reconfirmed by those participating in the evaluation stage of the process. There were no unresolved issues at the RFP stage of the procurement.
5. For the DBFOM RFP (No.2012-01), issued by Waterloo Region, P1 Consulting certified that the principles of openness, fairness, consistency and transparency have been properly established and maintained throughout the entire process.

Correspondence from P1 Consulting is attached as Appendix E.

6. **Infrastructure Ontario’s Role**

Infrastructure Ontario was engaged by the Region as the Procurement Lead through Report E-12-082. The scope of IO’s work to date includes:

- Providing the Region with financial advice, analysis, oversight and guidance throughout the entire procurement process;
- Conducting comprehensive and detailed due diligence at various project stages including pre-transaction, during the RFP open period, during evaluations and prior to financial close;
- Ensuring that the financing solution is viable with minimal risk;
- Working with the Region’s legal counsel and external counsel to customize documents for the project;
- Overseeing drafting the RFQ, RFP, Output Specifications, Project Agreement and any addenda;
- Managing preparation of responses to requests for information/clarifications from proponents;
- Participating in Commercially Confidential Meetings with proponents;
- Assisting Regional staff with the management of and responses to Requests for Information during the RFP open period;
- Assisting with completeness reviews on RFQ and RFP bid submissions;
- Participating in evaluation consensus meetings.

IO has worked closely with the Region and its advisors to ensure that procurement best practices have been followed throughout the procurement phase of this project.
7. Next Steps

7.1 Commercial Close

Commercial Close is the term used to describe the execution of the finalized Project Agreement and ancillary agreements.

GrandLinq is required to provide a Letter of Credit to the Region in the amount of $20 million no later than three business days after notification from the Region that it is the Preferred Proponent. Such notification would occur on March 20, 2014 subject to Council approval. This Letter of Credit will secure GrandLinq’s obligations to achieve Commercial Close, execute the Project Agreement and provide the Region with any technical and financial information required for the Region to complete its due diligence. GrandLinq must provide a timetable to achieve the Financial Close milestone dates within 5 days of being advised that it is the Preferred Proponent. The Letter of Credit is used as an incentive for the Preferred Proponent to close the deal in the absence of bid tension, which falls away once such notification occurs.

Approximately two weeks before Commercial Close, GrandLinq and CIBC World Markets will begin the marketing of GrandLinq’s long term debt, in the approximate amount of $110 million. This financing will be priced on the date of Commercial Close, which is expected to be on or about April 22, 2014. At that point, the PA will be executed, with the exception of final pricing information which will be completed during the final rate set call, thereby achieving Commercial Close.

It is noted that GrandLinq is comprised of a group of corporate “team members” as described in Appendix A to this Report and has not yet completed the governmental registration to create the legal entity that will sign the Project Agreement and ancillary agreements with the Region. Once this is completed, the precise name of GrandLinq’s legal entity will be inserted in these finalized documents for execution.

The Project Agreement will be in accordance with the Region’s Request for Proposals 2012-01, subject to finalization of matters with GrandLinq including clarifications pertaining to technical matters, inclusion of certain extracts from its Proposal, finalization of certain scheduling matters, and other non-material revisions. In order to facilitate this finalization and execution of the Project Agreement and the numerous ancillary agreements including agreements required pursuant to Schedules to the Project Agreement (e.g. Independent Certifier Agreement, the Lenders’ Direct Agreement and the Insurance Trust Agreement) and other documents contemplated by the terms and conditions of the Project Agreement such as notices and certificates pertaining to implementation of the Project Agreement, it is recommended that the Chief Administrative Officer be delegated authority on behalf of the Region in this regard, with such authority being subject to:

- The terms and conditions of this Report E-14-032/F-14-019 dated March 4 2014 including that any Regional expenditures contemplated by the execution of such documents are accommodated within the funding described in Table 3 of this Report
The agreements are in a form and content satisfactory to the Region’s legal, technical and financial advisors.

In addition, there are certain certificates and other documents that the Regional Clerk and Chief Financial Officer will be required to complete and sign to give effect to the recommendations contained within this report. Staff recommends that Regional Council authorize such signing.

7.2 Financial Close

Upon Commercial Close, the final short and long term interest rates will be set based on the prescribed rate set protocol. As previously described, the bid submitted by GrandLinq reflected short and long term Government of Canada bond yields in place as of December 13, 2013, and a “spread” above these rates to reflect GrandLinq’s expected cost of borrowing. The “re-setting” of these rates is in recognition of:

- The movement of the underlying Government of Canada bond yields, which is outside the control of GrandLinq and the Region.

- Fluctuations in the interest rate spreads (i.e. the amount of risk premium associated with this project above and beyond the Government of Canada yield noted above) over time based on market conditions and investor expectations. Since there are no publically available “benchmarks” to track movements in the Infrastructure Bond market (in contrast to government bonds), GrandLinq submitted a set (or basket) of bonds (e.g. Greater Toronto Airport Authority) that were similar to the Region’s LRT project. This set of bonds is then used to create a benchmark that tracks movements in GrandLinq’s spread. This pre-established benchmark was proposed by GrandLinq and approved by the Region to act as the "floor" and "ceiling" for the interest spreads on the GrandLinq debt.

Through the rate set protocol the financing costs for the project are finalized and the PA populated with the final pricing information as it relates to financing rates, and at that point the financial model is set and attached to the PA. Additional information regarding the potential impact of the final rate setting exercise is found in the Financial Implications section of the report (see Table 2 – note 1).

Financial Close (expected to be on or about April 25, 2014) will occur approximately three business days following Commercial Close when all Lending Agreements are in place and funding is available to GrandLinq from its lenders (i.e. the flow of funds, in the form of debt and equity, from the lenders to GrandLinq has occurred).

Corporate Strategic Plan:

The report supports Focus Area 3.1 of Council’s Strategic Focus: Implement a light rail transit system in the central transit corridor, fully integrated with an expanded conventional transit system.
Financial Implications:

1. Project Capital Costs

The capital cost of the “Design-Build” component of the project is set out in the following table.

<table>
<thead>
<tr>
<th>Project Agreement Component</th>
<th>Capital cost</th>
<th>Payment details/Notes</th>
<th>Subject to inflation (yes/no)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and construction (includes the LRT and Public Infrastructure Works)</td>
<td>$583.3 m + net HST $593.7 m</td>
<td>The first 22.5% or $131.3 million is funded by GrandLinq (i.e. not paid by the Region during construction). The remaining 77.5% or $452.0 million is paid monthly based on the value of work completed during the course of construction.</td>
<td>No</td>
</tr>
<tr>
<td>Less Public Infrastructure Works</td>
<td>$61.6 m</td>
<td>Projects that are being undertaken as part of the GrandLinq proposal but are being funded from sources other than the LRT budget. (Note 1)</td>
<td>No</td>
</tr>
<tr>
<td>LRT Component</td>
<td>$532.1 m</td>
<td>This represents the net design and construction cost of the LRT project.</td>
<td>No</td>
</tr>
</tbody>
</table>

Note 1: Public Infrastructure Works are projects that are being undertaken as part of the GrandLinq proposal but are being funded from sources other than the LRT budget. These are primarily projects which were already planned and budgeted and would have been implemented regardless of LRT construction. The Water Capital program includes $4.4M for construction of a watermain on Charles Street. The Roads capital program includes a number of projects, such as King Street and Northfield Drive rehabilitation and reconstruction, rehabilitation and reconstruction of King Street (Victoria to Union), Underpass construction on King Street and GEXR Crossing, and reconstruction and rehabilitation on Frederick Street, Ottawa Street and Courtland Avenue, that will be completed as part of the GrandLinq proposal. The total budget from the Roads Capital Program is $46.9M. Cost sharing with City of Kitchener and Waterloo is documented in Report E-14-003/F-14-001 dated January 7, 2014 and totals $10.3M.

2. Project Financing, Operations, Maintenance and Lifecycle Costs

The financing, operating, maintenance and lifecycle costs and associated payment details are set out in the following table. These are the costs included in the GrandLinq
bid that will form the basis of the PA payments over the 30 year operations and maintenance term. The costs reflect the base service level only, and do not include inflation (which will be calculated and applied annually) on all components with the exception of the Financing component.

### Table 2 ($ in millions)
**Project Agreement Costs During the 30 Year Operations and Maintenance Term**

<table>
<thead>
<tr>
<th>Project Agreement Component</th>
<th>Annual cost</th>
<th>Total cost (30 years)</th>
<th>Payment details</th>
<th>Subject to inflation (yes/no)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance (note 1)</td>
<td>$11.0</td>
<td>$330.4</td>
<td>Paid monthly for 30 years (mid 2017-mid 2047). This includes the $131.3 million in withheld capital described above plus the costs of GrandLinq’s financing and other corporate costs such as audit, legal, agency rating fees, etc.</td>
<td>No</td>
</tr>
<tr>
<td>Operations</td>
<td>$4.0</td>
<td>$121.1</td>
<td>Paid monthly for 30 years (360 payments) from mid 2017 to mid 2047</td>
<td>Yes (note 2)</td>
</tr>
<tr>
<td>Maintenance</td>
<td>$4.5</td>
<td>$135.9</td>
<td>Paid monthly for 30 years (360 payments) from mid 2017 to mid 2047</td>
<td>Yes (note 2)</td>
</tr>
<tr>
<td>Lifecycle</td>
<td>$8.8</td>
<td>$263.1</td>
<td>Paid monthly for 30 years (360 payments) from mid 2017 to mid 2047 – payments vary by year</td>
<td>Yes (note 2 / note 3)</td>
</tr>
<tr>
<td>Insurance</td>
<td>$1.7</td>
<td>$51.0</td>
<td>Paid monthly for 30 years (360 payments) from mid 2017 to mid 2047</td>
<td>Yes (note 2)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$30.0</td>
<td>$901.5</td>
<td>Payments vary by year for lifecycle costs.</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

1. The cost of financing in GrandLinq’s bid is based on long term Government of Canada bond yields in effect as of December 13, 2013 (one business day prior to the date the bids were submitted). The final cost of long term financing will be set on the date of Commercial Close (approximately three days prior to Financial Close) and will be based on the long term bond yields in effect at that time plus a “spread” or premium which will apply to GrandLinq’s debt. These costs will then be fixed for the 30 year term and not subject to inflation or refinancing risk.
It is noted that both short and long term interest rates are currently lower (as of February 27, 2014) than they were on December 13, 2013. If the current rates were to remain in effect until Financial Close, the annual payment for this portion of the contract would be reduced by approximately $250,000 per year, or approximately $7.5 million over 30 years. A one basis point (1/100 of a percent) change in interest rates (either up or down) results in approximately a $10,000 per year annual impact to this component of the payment.

2. The Operations, Maintenance, Lifecycle and Insurance costs shown above reflect the base service level only, and will only be altered as follows:

   a. For inflation – which is calculated annually based on a set of inflation factors that have been bid by GrandLinq and which will be enshrined in the Project Agreement

   b. For monthly volume (i.e. service level) adjustments based on the actual level of service provided for a particular month

   c. For any deductions relating to non-performance relative to the output specifications

   d. For service level changes approved by Council – each bidder was required to provide firm pricing for 6 additional and enhanced service levels. The decision to increase service levels (by adding more vehicles and/or running vehicles more frequently) is entirely at the discretion of Regional Council. Any future request to expand the ION service level would likely come forward in the form of a Budget Issue Paper during the Region’s annual budget process.

   e. Insurance – bidders were instructed to bid a standard IO insurance package cost. Costs will be determined through an insurance procurement process and are subject to annual adjustment based on actual costs.

3. The Lifecycle portion of the project costs represents periodic asset rehabilitation work required to maintain the LRT system. This includes work to be performed on tracks and the overhead catenary system, the OMSF and vehicles. The typical Lifecycle spending profile is periodic and should be mostly in the latter half of the 30 year term. To accommodate the Region’s funding strategy (which includes relatively smooth annual funding over the 30 year contract period) GrandLinq included in their proposal a lifecycle cost profile that includes payments in each of the 30 years. Payments made in advance of work being completed will be managed through a Lifecycle reserve. Deductions for not meeting performance standards would be made to the monthly payments for Lifecycle costs in the same manner as financing, operations and maintenance costs.

Subject to approval of the recommendations in this report, the PA would come into
effect on or about April 25, 2014 and includes the construction (Design and Build) period to mid 2017 and the 30 year Finance, Operations and Maintenance period (with Operations subject to approval by Council every 5 years starting at year 11). The Project Agreement therefore would expire in mid 2047. By adopting the recommendations set out in this report, Council will be committing to the payment regime for the capital investment over the next 3.5 years as well as operations, maintenance, lifecycle and insurance payments to GrandLinq over a 30 year period.

3. Capital Budget

The original capital cost estimate of $818 million was established in June 2011, in $2014. This was prior to the Region’s decision to procure the project in the form of a DBFOM contract. A comparison of the approved and revised capital budgets (both expenditure and sources of financing) is provided in the following table:

<table>
<thead>
<tr>
<th>Table 3 ($ in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Component</td>
</tr>
<tr>
<td>LRT Project</td>
</tr>
<tr>
<td>DBFOM</td>
</tr>
<tr>
<td>LRT</td>
</tr>
<tr>
<td>Intersecting projects, utilities, and betterments</td>
</tr>
<tr>
<td>Total DBFOM construction (incl. net HST) Recovery (area municipalities and Roads and Water capital budgets)</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>Net DBFOM Total</td>
</tr>
<tr>
<td>Non-DBFOM</td>
</tr>
<tr>
<td>Vehicles</td>
</tr>
<tr>
<td>Land</td>
</tr>
<tr>
<td>Project Office &amp; Consulting</td>
</tr>
<tr>
<td>MTO Underpass construction</td>
</tr>
<tr>
<td>Hydro One – Transmission line relocation</td>
</tr>
<tr>
<td>Early Works and Other Infrastructure</td>
</tr>
<tr>
<td>Non-DBFOM Total</td>
</tr>
<tr>
<td>LRT Total</td>
</tr>
<tr>
<td>aBRT Vehicles and Construction</td>
</tr>
<tr>
<td>Contingency allowance</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Note 1 – per Report E-14-027/F-14-016, attached as Appendix B.
Note 2 – per Table 1 above

Note 3 – as included in the Region’s Capital Programs (e.g. King St. grade separation and Charles St. watermain replacement) and cost sharing reports as previously approved by Council (see table 1 note 1 for more details).

Note 4 – Contract for 14 Bombardier Light Rail Vehicles as previously approved by Council.

Note 5 – Estimate of costs based on land requirements as previously approved by Council.

Note 6 – costs for Rapid Transit project office, GEC (Parsons Brinckerhoff), Procurement assistance (Infrastructure Ontario), Legal (Norton Rose Fulbright), Financial (Deloitte) and other consulting requirements.

Note 7 – Contract through MTO as previously approved by Council.

Note 8 – Contract with Hydro One Networks Inc. to relocate an overhead transmission line underground along the hydro corridor parallel to Fairway Road. Approved by Council in Report E-14-008 dated January 7, 2014. This was previously budgeted for in Early Works.

Note 9 – aBRT construction tender to be issued in Spring 2014, vehicle purchase tender expected to be issued in 2016.

Note 10 – The overall capital cost of the RT project is currently estimated at $818 million, including the contingency allowance. Staff will continue to manage the project to this budget and report back regularly through the Periodic Financial Reporting process.

Regional Capital Budgets since 2012 have included the RT project and have been based on the original cost estimate from June 2011.

4. Capital Financing

Sources of financing for the RT project are set out in Table 4 below.

Table 4 ($ in millions)

<table>
<thead>
<tr>
<th>Source of funding</th>
<th>Notes</th>
<th>2011 (Original Estimate)</th>
<th>2014 (Contract Award)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government of Canada</td>
<td></td>
<td>$265</td>
<td>$265</td>
</tr>
<tr>
<td>Province of Ontario</td>
<td></td>
<td>$300</td>
<td>$300</td>
</tr>
<tr>
<td>ROW long term debt and reserve funding</td>
<td></td>
<td>$253</td>
<td>$122</td>
</tr>
<tr>
<td>GrandLinq long term financing (22.5% of construction cost)</td>
<td></td>
<td>$0</td>
<td>$131</td>
</tr>
<tr>
<td><strong>Total sources of financing</strong></td>
<td></td>
<td><strong>$818</strong></td>
<td><strong>$818</strong></td>
</tr>
</tbody>
</table>
The original estimates developed in 2011 did not contemplate a DBFOM procurement model, and as such the $253 million not funded by the federal and provincial governments was assumed to be debt financed by the Region. The revised sources of financing include a reduced amount of debt and reserve financing from the Region, offset by GrandLinq’s financing of the first 22.5% of construction costs.

5. Long Term Financing and Regional Debenture Authority

As shown in the previous table, the original Capital Budget established by Council for the project contemplated Regional financing in the amount of $253 million. Under the DBFOM contract structure, long term financing for the project will be in two forms:

- **GrandLinq financing**: The $131.3 million in capital costs withheld by the Region and paid over 30 years (following substantial completion) is converted to GrandLinq debt and equity. The equity portion will be in place at the outset of the project, and GrandLinq’s long term debt will be in place as of financial close (scheduled for April 25, 2014 – see discussion under Next Steps). The annual payments associated with GrandLinq’s financing are $11,013,651 for 30 years, and will be fixed on or about April 22, 2014 based on prevailing interest rates in effect at that time.

- **Regional Debentures**: Total long term financing in the form of Regional debentures is estimated at $104.5 million. Of this amount, the Region issued $50 million in 30 year debt in May of 2013 (as set out in Council Report F-13-044 and under the authority of By-law 13-016). Staff are currently working with the Region’s fiscal agency syndicate to price and place a second 30 year Regional debenture issue for the RT project as early as March 5, 2014 (subject to the Committee’s approval of the recommendations in this report). Long term interest rates continue to be favourable, although are not as low as the rates achieved by the Region in May 2013. Issuing this debt now will eliminate any interest rate risk for the Region over the next 30 years, and allow the Region to benefit from an extended period of historically low borrowing rates. Debt ($4.5 m) will also be required for the project is for aBRT (adapted Bus Rapid Transit) vehicles and will be issued in 2016 or 2017 for a 10 year period, similar to Grand River Transit vehicle purchases.

Staff will report back to Council after financial close with the final GrandLinq long term finance

6. Provincial and Federal Funding

The Province of Ontario has committed $300,000,000 for this project. Staff at the Region and Ontario are in the process of concluding negotiations for the Transfer Payment Agreement (TPA), which, among other things, establishes eligible and ineligible costs, the process for submitting grant claims (Region) and processing payments (Ontario), audit and oversight. Grant claims will be submitted on a quarterly basis by the Region throughout construction, and the balance of the grant amount will
be paid out shortly after substantial completion. The agreement will expire the earlier of 24 months after substantial completion or December 31, 2019.

The Government of Canada has committed to fund 1/3 of eligible costs up to a maximum of $265,000,000 for this project. Staff at the Region and Canada are in the process of negotiating the Contribution Agreement (CA). Approval for the Region to enter into the CA with Canada is the subject of Report F-14-026/CR-RS-14-019 on the March 4, 2014 Administration and Finance Committee agenda. Treasury Board approval is expected within the next 8-12 weeks. The content of the CA with Canada will be very similar to that of the Ontario TPA. Grant claims will be submitted on a quarterly basis by the Region throughout construction, and the entire grant amount will be paid out shortly after substantial completion. The CA will expire shortly after substantial completion.

7. Project Funding Strategy

The funding strategy approved by Council in June of 2011 provided for the implementation of Stage 1 of the LRT system including LRT from Conestoga Mall to Fairview Park Mall and adapted bus rapid transit form Fairview Park Mall to the Ainslie Street terminal, with funding for the Region’s portion of the capital costs and operating and maintenance costs, based on a 1.2% tax rate increase in each year from 2012 to 2018, area rated to the urban transit service area, subject to annual budget approval. The intent was that by 2018 (first full year of revenue service), Regional revenue in the form of property taxes and fares would be sufficient to fund the ongoing costs of the RT project (i.e. long term financing, operations and maintenance costs associated with the Project Agreement, traction power costs, regional debt servicing costs, aBRT operating costs, the Cambridge transit supportive strategy and Rapid Transit division operating costs).

Funding was also approved for improvements to Grand River Transit bus service, based on an annual tax rate increase of 0.3% per year (2012-2018), area rated to the urban transit service area.

The tax rate increases were to be offset by other savings, including the uploading of Ontario Works costs, and the retirement of debt on Regional buildings. The result was a projected average annual net increase in property taxes of 0.7% per year from 2012 to 2018 to fund the RT project. A 0.7% property tax increase in 2014 represented a tax increase of $11 per year on an average home in Waterloo Region.

Council approved the 1.5% tax rate increase in both 2012 and 2013 and adjusted the increase in 2014 to 1.25%. As described more fully in Budget Committee Report F-13-120 in the Budget Information Paper: Funding Strategy Options for the Regional Transportation Master Plan, an additional tax rate increase will be required in 2019 as a result of the 0.25% reduction in the 2014 tax rate increase. This increase is currently estimated at 0.75% to achieve the funding strategy objective. The need and amount of such increase will be re-evaluated annually during the Region’s Budget process.

Based on the bid submitted by GrandLinq and updated costs relating to other components of the project, the Council approved funding strategy for the RT project
remains achievable. Using modest inflationary figures (1.5%-2.0% per year) for both expenditures (e.g. payments to GrandLinq, project office costs, etc.) and revenues (e.g. ridership), the Region’s funding strategy is projected to be sufficient to fund all annual operating costs associated with the project, including:

1. Monthly service payments to GrandLinq in accordance with its bid, including financing, operations, maintenance, lifecycle and insurance
2. Debt servicing costs for the Region’s debt
3. Traction power costs
4. Ongoing project office costs
5. The Cambridge Transit Supportive Strategy (for 10 years)

As with all other Regional programs, long term LRT cost and revenue projections will be monitored regularly and updated during the course of each year’s budget preparation exercise. With the majority of the RT project costs now known or close to being finalized, there is little room for deviation from the approved funding strategy over the next 4 years.

The Province of Ontario may make additional revenue tools available to municipalities to fund transit and rapid transit initiatives. This could mitigate future tax rate increases anticipated in the funding model.

**8. Estimated Annual Costs/Revenues for Full Year Operations in 2018**

The following table outlines the anticipated annual costs/revenues of the RT project in 2018/2019.
Table 5 ($ in millions)
2018 RT Operating Budget Projection

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Operating Budget</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Revenues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property tax</td>
<td>$35.42</td>
<td>Property tax is calculated for 2019 based on tax rate increases to date, 1.5% for 2015-2018 and 0.75% for 2019</td>
</tr>
<tr>
<td>Ridership Advertising</td>
<td>$9.05 $0.25</td>
<td>Based on ridership from the Environmental Project Report and advertising estimates based on experience with Grand River Transit</td>
</tr>
<tr>
<td>Total Annual Revenues</td>
<td>$44.72</td>
<td></td>
</tr>
<tr>
<td>Annual Expenditures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocation to Cambridge transit</td>
<td>$1.00</td>
<td>Funding for 10 years to 2022. Annual spending plans are approved by Council.</td>
</tr>
<tr>
<td>GrandLinq</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debt &amp; general</td>
<td>$11.21</td>
<td>Contract costs as described in Table 3 (above), subject to final interest rate at Financial Close (debt), inflation (operating,</td>
</tr>
<tr>
<td>Operating</td>
<td>$4.43</td>
<td>maintenance, lifecycle and insurance) and experience rating (insurance)</td>
</tr>
<tr>
<td>Maintenance</td>
<td>$4.97</td>
<td></td>
</tr>
<tr>
<td>Lifecycle</td>
<td>$7.28</td>
<td></td>
</tr>
<tr>
<td>Insurance</td>
<td>$1.87</td>
<td></td>
</tr>
<tr>
<td>Sub-total</td>
<td>$29.76</td>
<td></td>
</tr>
<tr>
<td>Region (Debt servicing)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aBRT ($4.5 m)</td>
<td>$0.55</td>
<td>Principal and interest costs based on actual costs for $50 m issued in May 2013, and estimated costs for $50 m debenture issue</td>
</tr>
<tr>
<td>RT ($100 m)</td>
<td>$5.78</td>
<td>in March 2014 and $4.5 m debenture issue in 2016/2017</td>
</tr>
<tr>
<td>Sub-total</td>
<td>$6.33</td>
<td></td>
</tr>
<tr>
<td>Region (Operating)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aBRT</td>
<td>$3.70</td>
<td>Cost estimates based on GRT operating costs for aBRT, and estimated costs for traction power and utilities and staffing required</td>
</tr>
<tr>
<td>RT Division</td>
<td>$1.64</td>
<td>in 2018.</td>
</tr>
<tr>
<td>Traction power &amp; utilities</td>
<td>$2.29</td>
<td></td>
</tr>
<tr>
<td>Sub-total</td>
<td>$7.63</td>
<td></td>
</tr>
<tr>
<td>Total Annual Expenditures</td>
<td>$44.72</td>
<td></td>
</tr>
</tbody>
</table>

9. Conclusion

The original estimates of the Stage 1 LRT Project’s capital, operating and maintenance costs were established pursuant to report E-11-072 dated June 15, 2011. These estimates were made in $2014

The estimates developed by the Region in 2011 remain intact today. Specifically:
• The capital cost of the LRT project in GrandLinq’s proposal is consistent with the Region’s capital cost estimate, and can be accommodated within the project capital budget of $818 million.

• GrandLinq’s projected operating, maintenance, life-cycle and financing costs can all be accommodated within the Region’s approved funding strategy.

• Based on the GrandLinq proposal, the Rapid Transit project remains on-time, on-budget and the costs remain affordable based on the Region’s funding strategy.

As approved in June 2011, the net property tax requirement for the Rapid Transit project in each year will be area rated to the urban transit service area.

Other Department Consultations/Concurrence:

This report was prepared with input from Finance, from Planning, Housing and Community Services, and from Transportation and Environmental Services.

Attachments:

Appendix A: Pre-Qualified Teams: Prime Team Members
Appendix B: Report E-14-027/F-14-016 dated February 11, 2014
Appendix C: GrandLinq Team Member Profile
Appendix D: Value for Money Report from Deloitte
Appendix E: Correspondence from the Fairness Monitor re: Procurement Process

Prepared By: Darshpreet Bhatti, Director, Rapid Transit

Calvin Barrett, Director, Financial Services and Development Planning
Lisa Buitenhuis, Interim Director, Procurement and Supply Services

Approved By: Mike Murray, Chief Administrative Officer

Thomas Schmidt, Commissioner, Transportation and Environmental Services
Craig Dyer, Chief Financial Officer
Debra Arnold, Regional Solicitor
## Appendix “A”

### Pre-Qualified Teams: Prime Team Members

<table>
<thead>
<tr>
<th>Pre-Qualified Teams</th>
<th>Prime Team Members</th>
</tr>
</thead>
</table>
| **GrandLinq**       | - Plenary Group Canada Ltd.  
|                     | - Meridiam Infrastructure Waterloo LRT ULC  
|                     | - Aecon Construction and Materials Ltd.  
|                     | - Aecon Concessions  
|                     | - Peter Kiewit Infrastructure Co.  
|                     | - Kiewit Canada Development Corp.  
|                     | - Mass Electric Construction Canada Co.  
|                     | - Keolis SA  
|                     | - Keolis Canada Inc.  
|                     | - AECOM Canada Ltd.  
|                     | - STV Canada Construction Inc.  
|                     | - CIBC World Markets Inc. |
| **Kitchener Waterloo Cambridge Transit Partners** | - Gracorp Capital Advisors Ltd.  
| | - Fluor Canada Ltd.  
| | - Connor, Clark & Lunn GVEST Traditional Infrastructure Partnership  
| | - Parsons Canada Ltd.  
| | - Parsons Enterprise Inc.  
| | - Graham Infrastructure LP  
| | - IBI Group  
| | - exp Services Inc.  
| | - E & E Seegmiller Ltd.  
| | - Guild Electric Ltd.  
| | - Alternate Concepts Inc.  
| | - Investec North America Ltd. |
| **Tricity Transit System** | - SNC Lavalin Capital Inc.  
| | - SNC Lavalin Constructors  
| | - SNC Lavalin Operations & Maintenance Inc.  
| | - SNC Lavalin Inc.  
| | - EllisDon Capital Inc.  
| | - Fengate Capital Management Ltd.  
| | - URS Canadian Operations Ltd.  
| | - Hatch Mott MacDonald Ltd. |
Appendix B

Region of Waterloo
Transportation and Environmental Services
Rapid Transit
Finance
Financial Services and Development Financing

To:  Chair Jim Wideman and Members of the Planning and Works Committee
Date:  February 11, 2014  File Code:  T16-01
Subject:  ION Request for Proposals Evaluation Process

Recommendation:
For Information

Summary:
In February 2012, Regional Council approved a Design-Build-Finance-Operate-Maintain (DBFOM) delivery model for Stage 1 of the Light Rail Project.

In October 2012, the Region issued the Request for Qualification (RFQ) document and subsequently received submissions from seven teams interested in delivering the Project on behalf of the Region.

In February 2013, Council approved GrandLinq, Kitchener Waterloo Cambridge Transit Partners and TriCity Transit System as the three pre-qualified teams selected to submit proposals for the project.

In April 2013, Council approved the Request for Proposal (RFP) Technical Matters report.

In May 2013, Council approved issuing the Request for Proposals for the Light Rail Project to the three shortlisted teams.

The three bidders submitted their proposals including financial and technical components to the Region on December 16, 2013. The proposals are currently being reviewed by teams of Region staff and consultants with a recommendation for a
preferred proponent scheduled to be at Planning and Works Committee on March 4, 2014.

This report describes the evaluation process being undertaken.

Report:

Introduction:

In June 2011, Council approved the technology, route, stations, staging and funding of Stage 1 of the Region’s rapid transit project. Stage 1 includes 19 km of light rail transit (LRT) from Conestoga Mall to Fairview Park Mall and 17 km of adaptive bus rapid transit (aBRT) from Fairview Park Mall to the Ainslie Street Terminal. Council also directed staff to complete an evaluation of project procurement and delivery options with the goals of maximizing project innovation and quality, leveraging private sector expertise, and managing risks to the Region of Waterloo.

Structure of Project Agreement

On February 7, 2012 Regional Council (Report E-12-011) approved Design-Build-Finance-Operate-Maintain (DBFOM) as the procurement and delivery model for the implementation of light rail transit in the Region of Waterloo. The DBFOM option was chosen because it provides potential cost savings over other alternatives, makes use of private sector expertise and experience in delivering this type of project including operations and maintenance, and best allocates risks of construction, operations and maintenance to the party best suited to managing those risks.

Council approved a 30 year term for the finance and maintenance portions of the project, and the term for the operations portion was referred back to staff for further review. On September 26, 2012 Regional Council (Report E-12-098/F-12-079) approved a 10 year operations term with renewals for 5 years to a maximum total term of 30 years.

Through Report E-12-098/F-12-079 Council also approved the long term financing (i.e. the amount of capital withheld and paid back over 30 years) to be approximately 25% of the capital costs of the project. It is noted that the 25% figure was adjusted to 22.5% in the RFP document to reflect the inclusion of the Public Infrastructure Works in the DBFOM contract, which are not required to be financed by or maintained by Project Co. Including long term financing as part of the procurement approach ensures that the private sector partner has incentive to perform to the Region’s standards. The project is structured to ensure that the Region’s interests are protected through the entire period from start of construction to the end of the 30 year operations and maintenance period.

Staff has been working with the Region’s consultants and Infrastructure Ontario to structure the project agreement based on the DBFOM procurement model and Council’s direction. The major responsibilities of the Region and Project Co (Project Co is the generic name for a company that the Region will enter into a project agreement with) are described below, and are categorized by the different sections of the procurement and delivery model. If the Region’s standards related to design and construction are not met, construction payments are withheld. If the standards for
February 11, 2014

operations and maintenance are not met, the Region would have the ability to withhold some or all of the monthly payments to ensure satisfactory performance.

Design-Build

Project Co is responsible for:

- Completing detailed LRT design drawings and plans
- Building the LRT including all necessary permits and approvals
- Obtaining financing to pay contractors, employees, etc. in advance of the Region’s payments

Construction payments will be made based on progress completed (after the withholding portion is achieved as noted below) until Substantial Completion.

The Region is responsible for the ongoing review and management of the design and construction process, the supply of Vehicles, Fare Technology procurement and various early works such as Hydro One hydro line relocation and the MTO underpass at Highway 7/8

Finance

Project Co is responsible for obtaining financing to pay all costs during construction, operations, maintenance and lifecycle activities in advance of the Region’s payments. The first 22.5% of construction costs (approximately $125M) are not paid during construction and are converted to long term debt/equity, and the resulting capital and financing costs are paid by the Region in monthly installments over the 30 year term. The balance of construction costs is paid based on progress payments with 15% held back until final settlement payment at Substantial Completion (approximately $80M).

The Region is responsible for financing, through funding from the RTMP Reserve Fund and the issuance of debt, its portion of the project costs including vehicles, land, the Hydro One hydro line relocation, the MTO underpass, and the Region’s share of the construction costs. (A significant portion of the construction costs is financed through the contribution of the Province of Ontario and the Government of Canada.)

Operate

Project Co is responsible for:

- Managing the day-to-day operations of the LRT system, including supplying the operators to drive the light rail vehicles, meeting the Region’s service schedule and safety requirements
- Reporting to the Region on Key Performance Indicators

Payments are made monthly based on the service level, and are subject to deductions for unsatisfactory performance. Unsatisfactory performance can result in financial deductions and points deductions. Point deductions can lead to termination of the contract.
The Region is responsible for determining the schedule of service, planning enhancements, utilities, and managing the contract.

Maintain

Project CO is responsible for:

- Planning and completing all required LRT system repairs and upkeep, including tracks, vehicles, catenary (overhead wires), maintenance facility, etc.
- Reporting to the Region on Key Performance Indicators
- Establishing lifecycle plans (major refurbishments and maintenance of vehicles, tracks and systems)
- Completing all required lifecycle activities to ensure that the LRT system is operational for the full 30 year term and that the system is “handed back” to the Region in an appropriate state of repair at the end of 30 years

Payment is made monthly based on the maintenance activities planned and on a regular basis for the lifecycle activities predicted, and subject to deductions for unsatisfactory performance.

The Region is responsible for reviewing maintenance schedules and managing the contract.

Project Cost Elements

The Region of Waterloo’s usual method of delivering capital projects is called Design-Bid-Build (DBB). The DBB process involves completing a final design of a project, issuing a contract that exactly specifies what is to be built and then having the construction completed. The project budget includes Design & Construction division design costs, external engineering design and construction management and the DBB tender, and financing provided through the Region’s capital budget. A bidder provides a bid for the construction of the project (capital cost only). The cash flows for a DBB project typically consist of monthly progress payments that are made during construction until the project is complete. Future operating, maintenance, life cycle and financing costs (if any financing is required) are not included in the evaluation of the project and are the responsibility of the Region. The contract is awarded solely on the basis of lowest construction cost for bids meeting specifications.

In the DBFOM process used for the ION project, the bid includes the design and construction cost as well as financing, operating, maintenance and life cycle costs. The design is a combination of in-house design (through Rapid Transit and Parsons Brinkerhoff) and Project Co and the financing is a combination of Project Co financing and Region financing. Therefore, it is not possible to directly compare a DBB tender price with a DBFOM bid. It is, however, possible to extract construction costs from a DBFOM project and develop a construction cost that is somewhat comparable to a DBB tender price.

The capital cost of the ION project includes DBFOM portions and non-DBFOM portions as shown in the table that follows. Non-DBFOM costs include intersecting projects, utility upgrades and relocations and betterments that are funded outside of the ION
budget, (for example through the Region’s roads capital budget). These are generally works that either would be completed whether the ION was going ahead or not or are not directly required to complete the ION. Examples of intersecting projects include the King/Victoria grade separation, King Street sanitary sewer replacements and sidewalk improvements.

The capital budget for the Rapid Transit project is based on the 2011 capital project approved by Council and shown using the DBFOM methodology with total capital costs of $818M. Financing for the long term debt (both Project Co and Region), operations, maintenance and life cycle costs are not included in this table. Financing during the construction period is included.

<table>
<thead>
<tr>
<th>Item</th>
<th>2013 Capital Cost Budget DBFOM Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRT Project</td>
<td></td>
</tr>
<tr>
<td>DBFOM</td>
<td></td>
</tr>
<tr>
<td>LRT</td>
<td>$545</td>
</tr>
<tr>
<td>Intersecting projects, utilities, and betterments</td>
<td>$81</td>
</tr>
<tr>
<td>Total DBFOM</td>
<td>$606</td>
</tr>
<tr>
<td>Recoveries (area municipalities and Roads capital budget)</td>
<td>$(81)</td>
</tr>
<tr>
<td>NET DBFOM TOTAL</td>
<td>$545</td>
</tr>
<tr>
<td>Non DBFOM</td>
<td></td>
</tr>
<tr>
<td>Vehicles</td>
<td>$98</td>
</tr>
<tr>
<td>Land</td>
<td>$45</td>
</tr>
<tr>
<td>Project Office &amp; Consulting</td>
<td>$58</td>
</tr>
<tr>
<td>MTO Underpass construction</td>
<td>$11</td>
</tr>
<tr>
<td>Early Works and Other Infrastructure</td>
<td>$39</td>
</tr>
<tr>
<td>Non DBFOM TOTAL</td>
<td>$249</td>
</tr>
<tr>
<td>LRT TOTAL</td>
<td>$784</td>
</tr>
<tr>
<td>sbRT (Vehicles and Construction)</td>
<td>$24</td>
</tr>
<tr>
<td>Total</td>
<td>$818</td>
</tr>
</tbody>
</table>

A DBB contract typically ends with substantial completion, with the Region responsible for financial costs (debt principal and interest), operations, maintenance and lifecycle costs.

For the DBFOM contract, following the completion of construction in 2017, the Region will make monthly payments to Project Co. These monthly payments will cover the financial costs (Project Co principal and interest), operations, maintenance and lifecycle, similar to the payments following completion of a DDB project. The Region will also be responsible for the principal and interest on Region issued debt. The monthly payments for operations, maintenance and lifecycle costs will increase with inflation and changes in level of service over the term of the agreement, while the financial costs are fixed through a 30-year debt issuance.

Proposal submission process

The first phase of selecting a proponent to complete the ION project was a Request for Qualifications (RFQ). Seven teams submitted statements of qualifications documenting...
February 11, 2014

why they felt they were the best team to complete the ION project for the Region. The seven statements of qualifications were evaluated and three teams were shortlisted to move on to the Request for Proposals (RFP) stage.

The RFP was issued in June 2013. Since then each of the 3 shortlisted prequalified teams has been working to complete proposals that meet the requirements of the RFP (i.e. are compliant) and achieve the lowest overall cost (as measured by Net Present Value). The Region and its consultants held a series of individual confidential meetings with each of the teams to discuss the technical, financial and legal aspects of the project. This process allowed each of the teams to present various aspects of the project to determine if they were compliant with the RFP. The process also allowed the teams to ask questions and request clarifications of the Region. During that time the Region also issued revisions to the RFP documents to reflect any changes that were made based on the questions raised, clarifications etc.

On December 18, 2013 each team submitted their proposal. The proposals consisted of a Technical submission delivered to 50 Queen Street in Kitchener and a financial submission delivered to the Infrastructure Ontario Offices in Toronto. Each of the teams successfully provided the necessary submissions.

Proposal Evaluation Framework

The first step in the review process was evaluation of the proposal responses to ensure that each of the submissions was complete. The submissions were all determined to be complete.

In order to maintain fairness and integrity in the process the evaluation teams of the Technical and Financial submissions were completely separate and they were not aware of what was being reviewed by the other team or the outcomes of those reviews. All evaluating team members were required to sign confidentiality agreements and declarations that they had no conflicts of interest.

Throughout January the evaluation teams evaluated the Technical and Financial submissions.

The technical submissions are evaluated on the following factors:

- Project Management
- Civil Design
- Systems Design
- Construction
- Maintenance and Rehabilitation
- Operations

All of the technical submissions must meet a minimum score (70% on each factor) to be compliant. The technical score makes up 50% of the total score.
The Financial submissions include the following components:

- Design and build costs (the capital costs of designing and constructing the project, financing costs during construction and also the cost of the intersecting projects and betterments which are funded from Roads Capital Program and by local municipalities).
- Financing costs over the 30 year term
- Operations and Maintenance costs over the 30 year term
- Lifecycle costs

For scoring purposes the above costs are converted to a net present value (NPV) for each of the bids received. The NPV is both a comparison of the costs, similar to the DBB bid, and also a test to ensure that the bids are fair and provide value over the term and through changing service levels. The majority (90% or 450 points) of the financial score is based on the NPV. The remainder (10% or 50 points) of the financial score is based on the quality of the financial plan and bidders must score 60% on this factor to be considered. The financial score makes up 50% of the total score.

A second test was developed by Regional staff in conjunction with our consultants so that the bidders would be encouraged to put forward bids that fit within the Region’s funding envelope. This test, the “affordability cap”, is based on a combination of the Region’s estimated cost for the project (capital, operating, maintenance, financial and lifecycle) and the anticipated revenues developed through the Region’s financing strategy (ridership revenues, property tax and other) to develop what the annual maximum amount is that the Region can “afford”. This concept was also used in the City of Ottawa LRT project. The intention of the affordability cap was to create competitive tension, encourage bidders to propose affordable solutions and ultimately ensure that bids fit within the Region’s funding envelope.

Evaluation Committee

Each of the technical and financial evaluation teams prepare summary presentations to explain the review that has been completed and the scores given. This information will be presented to an Evaluation Committee (EC), comprised of the CAO, CFO, Commissioner of Transportation and Environmental Services, Commissioner of Planning, Housing and Community Services and the Regional Solicitor. The EC may accept all of the information as presented or may request that the evaluation teams go back and reassess and re-evaluate certain parts of each proponent’s proposal. Once both the technical and financial scores are accepted by the EC the scores are summed and the team with the highest score is identified as the “First Negotiations Proponent” (FNP).

During the technical review or financial review there may be minor aspects of a bid that are identified as needing to be clarified or refined. The RT Project team would work with the FNP to reach agreement on any changes required to finalize the FNP’s bid prior to a recommendation being presented to Regional Council.
February 11, 2014  Report: E-14-027/F-14-016

Structure

The overall structure for the evaluation portion of the project is:

- Council
  - Planning & Works Committee
  - Rapid Transit Steering Committee
    - Rapid Transit Evaluation Committee
    - Fairness Monitor
      - Completeness Review Team
      - Conflict Review Team
    - Evaluation Coordination Team
  - Technical Evaluation Team
  - Financial Evaluation Team

The entire evaluation process involves over 60 individuals (Regional staff from various departments, engineering consultant Parsons Brinckerhoff, financial advisors Deloitte and procurement advisors Infrastructure Ontario). The Fairness Monitor was represented at every evaluation meeting. The Fairness Monitor takes on the following roles during the evaluation process:

- Review and provide comments on the Evaluation Framework
- Monitor evaluation process to ensure fair and consistent application of the Evaluation Framework
- Participate in process to resolve issues relating to confidentiality and conflict of interest
- Prepare an independent report on the evaluation process

The Fairness Monitor's report will be included with the recommendation for award report. This will confirm to Regional Council and the bidders that the evaluation framework was applied appropriately.

Next Steps

Staff are targeting the March 4, 2014 Planning and Works Committee meeting to present a report for the approval of a preferred proponent for the ION project. The report is scheduled to be considered by Planning and Works Committee at 3:00 pm to
allow ample opportunity for public participation. This report will include the final scope of work and the total cost for the ION project including capital, operations and maintenance, lifecycle and financial costs. Following consideration by Planning and Works Committee the recommendations would be presented to Regional Council on March 19, 2014.

The successful team would start the design process immediately following Council approval. The various agreements needed for project implementation would be finalized and signed in April/May 2014. Actual start of construction would follow closely on the design process possibly as early as fall 2014.

Corporate Strategic Plan:

The report supports Focus Area 3.1 of Council’s Strategic Focus: Develop an implementation plan for light rail transit including corridor and station area planning.

Financial Implications:

In June 2011, Council approved the implementation of the RT project, including LRT and aBRT, with estimated capital costs of $818 million, in 2014 dollars, with capital funding to be provided by the Province (up to $300 million), the federal government (one third of eligible project costs to a maximum of $265 million) and the Region ($253 million). The net costs of the RT project and improvements to conventional transit are financed through annual tax rate increases.

Other Department Consultations/Concurrence:

This report was prepared with input from Corporate Resources.

Attachments: Nil

Prepared By: Thomas Schmidt, Commissioner, Transportation and Environmental Services

Calvin Barrett, Director of Financial Services and Development Financing

Approved By: Craig Dyer, Chief Financial Officer

Thomas Schmidt, Commissioner, Transportation and Environmental Services
Appendix “C”

GrandLinq Team Member Profile

Plenary Group (Canada) Ltd.

Development Prime Team Member and Finance Prime Team Member

- Long-term investors, developers and concessionaires of public infrastructure P3 development teams.
- Have secured 22 projects valued at over $11 billion since 2004.
- Projects in Asia, Pacific and the Americas
- Offices located in Toronto, Ottawa, Vancouver, Edmonton, Los Angeles, Seattle and Denver along with a number of site offices
- Sample projects:
  - Gold Coast Rapid Transit Australia (DBFOM), capital cost $1.07 billion, - 14 vehicles/16 stations and accommodation for up to 75,000 passengers per day
  - Disraeli Bridges, Winnipeg, Manitoba (DBFOM), capital cost $138 million, bridge work across the Red River and spans the Canadian Pacific Railway
- Plenary Group has issued over half of the Public-Private Partnership (P3) bonds in the Canadian market
- Plenary Fund has $295M of committed capital of which approximately $123M remains available for investment
- Recognized as the 2010 North American Sponsor of the Year by Project Finance Magazine
- Infrastructure Journal ranked Plenary Group second in global P3 developer space with 8% of global market share in 2011

- Paul Dunstan – President – Project Director – will provide senior guidance on the project – experienced in negotiation of P3 models, structuring and underwriting developments through the bid, construction and operating phases. Paul has over 13 years of project finance experience.

- Martin Stickland – Senior Vice President of Plenary Group, Toronto office – Project Role: Bid Director - management of day to day project developments and integration. Martin has led a full spectrum of publicly procured infrastructure projects. Over 15 years of P3 experience including DBFOM – our primary point of contact

- Jean-Marc Arbaud, Project Manager – team lead for Design and Construction and Operations- 25 years experience with concession contract negotiation, has a thorough knowledge of P3 projects
GrandLinq Team Member Profile

Meridiam Infrastructure Waterloo LRT ULC
Development Prime Team Member and Finance Prime Team Member

- Wholly owned subsidiary of Meridiam Infrastructure North America Fund II, a Delaware limited partnership with no single investor holding a controlling interest
- Office – Toronto, ON
- Part of three 25 year infrastructure funds with total committed capital exceeding $3 billion.
- Invests exclusively in long-term “buy and hold” P3 - DBFOM projects
- $1.3 billion successful equity investments in 20 P3 projects – 16 transportation, including 3 rail projects with a total capital value exceeding $30 billion.
- Recognized as 2011 Global Infrastructure Fund of the Year by Infrastructure Journal
- Sample projects:
  - Nottingham Express Transit (DBFOM), Nottingham England, value $947M, 14 KM long with 23 stops
  - Montpellier High Speed Rail – France – (DBFM) – 80 km of new rail infrastructure of which 60 km is high speed rail with 26 stops, value $2.32 billion
  - Northeast Anthony Henday Drive – Edmonton, Alta. (DBFOM) - $1,534 Million ring roads
- Elisabeth Hivon – Deputy Bid Director – Senior professional with over 15 years experience in infrastructure project development and financing. Elisabeth will be responsible for management and oversight of all commercial aspects during the Procurement Process and through to Financial Close
## GrandLinq Team Member Profile

**Aecon Construction and Materials Ltd. - Construction Prime Team Member**

**Aecon Concessions (division of Aecon Construction) - Development and Finance Team Member**

- A wholly owned subsidiary of Aecon Group specializing in complex infrastructure projects
- Office – Toronto, ON
- Aecon’s Construction and Materials Civil team supports efforts across Canada
- Voted as one of Canada’s Best Employers by MacLean’s magazine
- In 2012, Aecon reported revenues of $2 billion
- Aecon have secured over $7 billion in committed financing for domestic and international P3 projects
- Experience in major excavation work, tunnel construction, highway, sewer & water, environmental projects, winter road maintenance and concrete slip-forming work
- Sample projects:
  - Highway 407 ETR (DBFOM), $2.5 billion
  - Eglinton Crosstown LRT Toronto (50/50 with ACS Dragados Canada), $177M
  - Quito International Airport Ecuador (DBFOM), $750M – Aecon 45.5% equity partner, and 50% partner in the construction joint venture
  - Cross Israel Highway, Israel – (DBFOM) $1.4 billion – 103 km of new highway - 25% stake in the Concession Company and co-led consortium in project finance, 33.3% partner in construction JV, controlling interest of 30.6% in the highway operator
  - Airport Rail Link Spur Line between Toronto Pearson Intl. Airport and Georgetown GO station

- Paul Warnant – Quality Assurance and Quality Controls Manager - Over 25 years experience on large infrastructure projects in Ontario and Quebec with an array of experience in QA/QC systems project specific programs
<table>
<thead>
<tr>
<th>GrandLinq Team Member Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kiewit Infrastructure Group/Kiewit Canada Development Corp.</td>
</tr>
<tr>
<td>Construction Prime Team Member and Development and Finance Prime Team Member</td>
</tr>
<tr>
<td>• A wholly owned subsidiary of Peter Kiewit Infrastructure Group based in Newmarket, ON and Kiewit Canada Corp. head office is based in Edmonton, Alberta, local office is in Milton, ON</td>
</tr>
<tr>
<td>• One of North America’s largest construction and engineering organizations, with its roots dating back to 1884</td>
</tr>
<tr>
<td>• In 2012 revenues were more than $11 billion, workforce employs 26,000 staff</td>
</tr>
<tr>
<td>• Kiewit Canada Development Corp. (KCDC) is a subsidiary of Peter Kiewit Infrastructure Co. (PKIC), and was formed in 2009 to support Kiewit’s development and equity investments in P3 projects</td>
</tr>
<tr>
<td>• Kiewit has been a leading highway/heavy civil contractor in Texas, Oklahoma and Louisiana for more than 30 years</td>
</tr>
<tr>
<td>• In 10 years have completed over 1,100 transportation projects with a value of more than $30 billion in contract revenue</td>
</tr>
<tr>
<td>• Sample projects:</td>
</tr>
<tr>
<td>• MidTown Tunnel, Queens, New York (DBFOM), $2.98 billion, highway, tunnel and toll road</td>
</tr>
<tr>
<td>• vivaNext H2, Vaughan, ON, developed to facilitate community transit, $158,070,000 is being built by Kiewit-EllisDon (KED) Joint Venture, widening 4.2 KM along Hwy. 7 between Hwy. 400 and GO Bradford/Barrie Railway. All work is being done while maintaining three lanes of live traffic in each direction along Hwy. 7</td>
</tr>
<tr>
<td>• vivaNext D1, Newmarket, ON, (DB) design build project is 3.3 KM of widening Davis Drive to add two dedicated center bus lanes in the corridor rapidway</td>
</tr>
<tr>
<td>• Developed a light rail system in Denver, Colorado, USA (DBF), $336 US million, 10.5 mile light rail line</td>
</tr>
<tr>
<td>• Hibernia Oil Platform in Newfoundland, 5.3 billion</td>
</tr>
<tr>
<td>• Services include track construction, grade crossings, thermite welding, surfacing, maintenance of way, grading, utilities, bridges, tunnels, stations and emergency work</td>
</tr>
<tr>
<td>• Norman Nandkeshwar – District Engineer – Manager of Project Controls – managing project schedules, budget and all cost control and documentation. Has overseen projects with a combined value of over $1.5 billion including major projects</td>
</tr>
</tbody>
</table>
### GrandLinq Team Member Profile

**Keolis SA, Keolis Canada**

**Development Prime Team Member, Finance Prime Team Member, and Maintenance, Rehabilitation and Operations Prime Team Member**

- A wholly owned subsidiary of Keolis, SA, Keolis is present in 13 countries worldwide
- Office – Montreal, PQ
- Keolis two main shareholders are French Railways SNCF in France and Caisse de Depot et Placement du Quebec
- The largest provider of public service transportation services in France
- In January 2014 the Massachusetts Department of Transportation Public Transport Authorities of Boston chose Keolis Commuter Services (KCS) to take over operation of the Greater Boston commuter rail service. KCS is the brand name of Keolis-SNCF joint venture (60%/40%) that will run the service. It comprises of 13 lines, 1000 KMS of track, 134 stations and carries 36 million passengers per year.
- Currently manages over 2.2 billion passenger trips per annum across rail and bus networks globally, operates 550km of tram networks and 900 tramsets
- Keolis has been present in Canada for 10 years
- Keolis Canada operates a fleet of 430 vehicles, 30 million km/year serving 1.1 million passengers per year
- Over 50,000 employees worldwide, with 814 Canadian employees, Keolis is the 2nd largest interurban operator in Canada.
- Keolis Canada operates 365 days per year within the Montreal-Quebec corridor and serve 200 municipalities from Gaspe to Montreal and including the lower Saint Lawrence, Quebec City, the Maurice and Centre-du-Quebec Regions
- Keolis designs transportation systems jointly with governments
- Sample projects: 2011 leading sponsor of two light rail P3 projects, Gold Coast Rapid Transit (DBFOM) in Australia and Nottingham Rapid Transit Phase 2 (DBFOM) project in England and contributed 10% equity on both projects
- In January 2012 Keolis SA acquired 25% of minority interest in Group Orleans Express Inc., thereby making Keolis SA 100% owner of Keolis Canada Inc.

- Dominique Hetuin – Manager of Maintenance – responsible for developing O&M and during operation supervision of the entire system’s maintenance and rehabilitation. Dominique has 27 years experience with Keolis.
**GrandLinq Team Member Profile**

Mass Electronic Construction Canada Co. (MECC)

**System Integration**

- A subsidiary of Kiewit specializing in systems work for transit and rail system construction including train signals, communications, control centers and traction electrification.
- Office – Milton, ON
- Completed over $3 billion transit work projects to date including $1 billion in Design-Build
- The largest North American installer of transit systems
- Have an extensive and effective safety program winning the National Railroad Construction & Maintenance Association (NRC) Contractor Safety Award in six of the last seven years
- Sample Projects:
  - Charlotte South Corridor Light Rail, North Carolina, USA (DB), $53.8 US million, - 9.6 mile double tracked light rail 19 passenger stations with street running in downtown.
  - Central Phoenix/East Valley Light Rail, Arizona, USA (DB), $93 US million, - 20 miles of intercity light rail, including 9 signal buildings/ interlocking’s and 12 signal case locations , 33 passenger stations, 5 transit centers complete with over 140,000 optic cables
### GrandLinq Team Member Profile

**Aecom Canada Inc.**

**Design Lead**

- Aecom have more than 45,000 professionals worldwide with 4,100 employees in Canada and nearly 1500 in Ontario
- Have been working in Waterloo Region for more than 50 years
- Office – Whitby, ON
- Aecom have experience working with 30 of the largest transit providers in North America, projects include Toronto, Calgary, Edmonton, Vancouver, Montreal just to name a few
- Ranked No. 1 in Transportation and Mass Transit Rail by ENR’s top 500 Design Firms Sourcebook in 2012
- Served as lead designer for more than 60 Design-Build projects in North America
- Samples of successful P3 projects have been Highway 407ETR, Confederation Bridge, VivaNext BRT, Toronto Air Link
- Will be the lead design role for this project
- Sample Projects:
  - Central Corridor LRT Minnesota, USA (DBB), $92M, 10 Mile light rail system
  - North LRT Downtown to Nail, Alberta, (CMR), $69M, 3.3 KM LRT extension and in 2010 4.5 KM extension
  - Los Angelos Metro Gold Line, California, USA, (DB), $35M, eight stations and 1.8 mile long tunnels, Denver Fas Tracks rail expansion and Multimodal Hub

- Rex Brejnik – Chief Engineer – 22 years experience in transportation/transit engineering, has worked on LRT projects such as Central Corridor LRT, Minneapolis, St. Paul MN -value of $958M, Hiwatha Line Rail Transit Design, Build Project, Minneapolis, MN – value $675M
- Jeff Spence – Senior Project Engineer – 28 years experience, worked with Toronto Transit Commission
GrandLinq Team Member Profile

STV Canada Construction Inc.

Design Sub consultant

- Founded in 1912, leader in rail transportation consulting
- Office – Toronto, ON
- 1700 personnel in more than 30 offices in North America
- 100% employee owned company
- Experience encompasses all aspects of transportation, including stations, terminals, shops and yards, line segments bus and rail vehicles, signals, communications and rights-of-way, subsystems, etc.
- Sample Projects:
  - Airtrain, JFK, (DBOM), $2M
  - Charlotte Area Transit Lynx Blue Line, North Carolina $74M (DBB), 9.6 Mile LRT, 15 stations
  - Working on Ottawa’s LRT project, other projects include Houston METRORail, DART LRT extension in Texas (DBB), $43.5M
  - Received 2011 Innovative Transportation Solution Award for providing the Southeastern Pennsylvania Transportation Authority (SEPTA) for their solutions to project management, engineering and quality assurance

Alberta Treasury Branches

Short Term Debt Provider

- Established in 1938, a provincial crown corporation since 1997
- Largest Alberta-based deposit taking institution
- Significant experience bidding and funding AFP project across Canada, including Evergreen Rapid Transit, Humber College and Pan Am Games Aquatic Centre

CIBC World Markets

Long Term Debt Underwriter

- A leading Canadian Investment Bank – in 2012 named strongest bank in North America by Bloomberg Markets Magazine
- Have over $12 billion in financings for P3 transactions in Canada
- Short-listed team on Ottawa’s LRT project
- Led the $535M bond issue for Northeast Anthony Henday Project (DBFM)
- Led the $87M Alberta Schools Phase III project (DBFM)
Appendix “D”

Value for Money Update from Deloitte

Region of Waterloo Light Rail Transit Project
Value for Money Report

Final Version
Preliminary results issued on May 22, 2013
Revised on February 24, 2014 to incorporate results from the First Ranked Proponent

STRICLY CONFIDENTIAL
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Introduction

Overview of the LRT Project
In June of 2011, the Region of Waterloo (the “Region”) approved a 36 km Rapid Transit System to improve the connection of Waterloo, Kitchener, and Cambridge. The system is expected to help mitigate urban sprawl, shape efficient transportation choices, re-urbanize/intensify the Region and improve overall environmental conditions.

Included in the project is a 19 km Light Rail Transit (“LRT”) from Conestoga Mall to Fairview Park Mall, and a 17-kilometre Adapted Bus Rapid Transit (“aBRT”) south from Fairview Park Mall to the Ainslie Street Terminal. The aBRT technology will include a distinctive and frequent limited-stop service, with transit signal priority and queue jump lanes. In addition, major connections to an expanded bus service will be provided at the LRT Terminals and other station stops along the alignment. Major destination points include the downtown business areas in Waterloo and Kitchener, the planned intermodal facility at King Street and Victoria Street, as well as the University of Waterloo.

As outlined in Figure 1, the project includes two components (collectively “the Project”):

1. The LRT vehicles, aBRT vehicles, acquisitions of land, construction of the aBRT works and overall management of the project (collectively the “Other Components”); and
2. The LRT as delivered using a design-build-finance-operate-maintain (“DBFOM”) contract structure, which is a form of public-private-partnership or, as referred to in Ontario Alternative Finance and Procurement (“AFP”) with a private consortium (“Project Co.”). This contract structure for the LRT was approved by Regional Council in February 2012.
Overview of the DBFOM

The DBFOM approach is expected to result in overall benefits for the Region over the long term, as it will transfer responsibility for the design, construction, operation, and long-term maintenance of the LRT system to Project Co. for the construction period as well as the 30 year operation period. The primary advantage of the DBFOM approach is that the Region only “pays for performance”1 and therefore Project Co.’s invested capital in the project is at risk. This incentivizes Project Co. to provide timely, on-budget performance over the long-term. Since design, construction, operations and maintenance are bundled, a single counterparty, Project Co., is held accountable to the Region. Ownership and control over the project assets remains with the Region at all times. This “risk anchoring” concept is illustrated in Figure 2 below.

---

1 Project Co. invests a certain amount during construction before the Region makes any payments and this invested capital is repaid over the operating term only if the performance specifications set by the Region are met.
Figure 2: Risk Anchoring in DBFOM

Traditional Public Sector Project

- Public sector/Region pays for assets/services as they are provided
- Full costs of construction are paid in advance of operational commencement
- Due to limited payment security, most cost overruns also become liabilities for the Region

DBFOM

- Payment during construction is linked to performance
- Project Co has lifecycle performance risk and must consider maintenance as part of design/build phase
- Operating risk is mostly assumed by Project Co and secured by Capital Payment
- Ongoing payments reflect amortized capital costs and ongoing operating/maintenance costs
- Performance and asset condition is considered in the development of output-based specifications
- Interests of 3rd parties (Lenders) are aligned with the Region

Performance risk is transferred and secured by Capital Payment
Overview of the Value for Money Assessment

Purpose of this Report

Deloitte has been engaged by the Region to provide financial advice on the Project, which includes the development of a Value for Money (“VFM”) analysis to assess the benefits of the DBFOM. Please note that this report provides a VFM assessment for the LRT only, as the Other Components defined earlier are not part of the DBFOM contract with Project Co.

This report was originally presented to the Region on May 22, 2013, using cost estimates for the DBFOM created by the Region and its advisors Deloitte, Parsons Brinckerhoff (“PB”) and Infrastructure Ontario (“IO”). Following the release of the May 22, 2013 report proposals have been received and evaluated, and a First Ranked Proponent has been identified. As a result, the VFM input cost and financing input assumptions has been updated with data from the First Ranked Proponent’s proposal and the VFM has been re-run for presentation to the Region. The risk matrix and overall VFM methodology for determining have remained unchanged since the original report.

Purpose of VFM

A VFM assessment is a comparison of the costs of delivering an infrastructure project using an AFP (in this case as a DBFOM) to a Public Sector Comparator based on a “traditional” procurement method using a Design-Bid-Build (“DBB”) approach, as follows:

1. **Alternative Finance and Procurement**: These are the total costs to the Region of delivering the LRT based on the DBFOM model. These costs are based on the Region's future service payments to the private sector partner, including re-payment of the construction costs that are privately financed, and also includes an adjustment for risks retained by the Region under the DBFOM.

2. **A Public Sector Comparator ("PSC")**: The PSC is an estimate of the total costs to the Region of delivering the LRT based on the Region’s traditional DBB method of delivering public infrastructure projects and also includes an adjustment for risks
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retained by the Region under this model. Under this approach (i.e. the DBB), the Region is assumed to finance the LRT’s capital costs.

The VFM analysis is conducted by comparing the Net Present Value ("NPV") of the risk-adjusted project costs of the DBFOM against that of the PSC. The premise is that by including the cost of all risks to the Region a fulsome risk-adjusted cost comparison of the DBFOM and the PSC can be completed. It should be noted that a VFM is a comparative assessment and, as such, any quantification of risk should only be viewed within this context and not interpreted on an absolute basis. The impact to the Region of an actual risk event occurring may or may not be similar to the results generated through the VFM risk quantification assessment.

Figure 3 illustrates how the value is demonstrated through the VFM calculation. The cash cost in the DBFOM before adjusting for risk is higher than the cash cost under PSC. However, after adjusting for risks transferred, the DBFOM may present a lower risk adjusted cost. This is because the higher financing costs incurred by the private sector are potentially offset by the risk transfer and mitigation of public sector risks under a DBFOM model.

**Figure 3: VFM – Comparison between PSC and DBFOM Delivery Model**

- **Retained Risks** are the risks that are managed by the public sector and cannot be transferred to another counterparty.

- **Risk Premium** is a theoretical premium charged by Project Co. to bundle design, build, maintenance, and operational risks into one contract.

- **Ancillary Costs** are costs associated with planning and delivery of a project. These costs include project management costs, transaction costs, and procurement costs and are typically higher under a DBFOM but may vary depending upon each project.

- **Financing Costs** are typically greater under a DBFOM than the PSC since the Project Co. borrows at private financing rates to pay for its portion of the construction costs versus the Region borrowing directly.

- **Base Costs** comprise of the design and construction costs as well as O&M and lifecycle costs. The base cost under the PSC and DBFOM are assumed to be the same. This is a conservative assumption as it does not account for potential efficiencies from the DBFOM’s bundled structure.
VFM Process, Inputs and Assumptions

Process
The VFM assessment quantifies risk transfer in dollar terms based on IO’s VFM methodology which is considered a best practice in Canadian DBFOM transactions. Some key distinctions of IO’s methodology are as follows:

- The risk assessment process is based on an estimate of the probability and cost impact of a range of risks associated with transit projects, in consultation with technical experts and key stakeholders. Estimated risk probability and impact under both the PSC and the DBFOM delivery models are assessed based on historical data for risks associated with transit projects, adjusted for project-specific factors.
- All design, construction, maintenance, and operating cost inputs are equal in both PSC and DBFOM model; no cost efficiencies are assumed for the DBFOM.
- A Risk Premium (refer to Figure 3) is removed from the First Ranked Proponent’s Base Costs for the DBFOM to determine the PSC costs.
- The discount rate for calculating the net present value in the VFM is assumed to be the long-term borrowing rate of the public sector (i.e. the Region).

Deloitte facilitated a series of risk workshops with the Region and its advisors, including PB and IO, all of whom contributed based on their respective technical expertise, professional experience and judgment. Prior to the workshops, a draft risk matrix was prepared based on IO methodology and augmented by the team’s experiences in the public transit/transportation sector. This risk matrix was refined for Project-specific risks and finalized over the risk workshops.

VFM Methodology
On completion of the risk matrix Deloitte ran a statistical simulation (a Monte Carlo simulation) in order to calculate the value of risk retained by each party under the PSC and DBFOM models. This simulation yields a distribution of impacts for each risk based on a range of inputs provided in the matrix. The resultant statistical mean is then used as the expected impact for each risk. Most risk impacts have a “triangular” distribution

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3 This is done as the bid results only contain DBFOM costs.
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(as illustrated in Figure 4 below), meaning that the range of potential impacts is skewed toward the right. The mode (typical value) often fails to reflect the wider range of worse-than-typical outcomes. Therefore, the mean value is used as the expected impact.

Figure 4: Illustration of Risk Impact Quantification

Impact of Force Majeure Risk (Construction Period)

Typical Value (Mode) = 6.6%

Expected Impact (Mean) = 6.3%

Estimated Impact

The statistical simulation provides an expected value for the impact of each risk, under both the DBFOM and the PSC and is calculated as follows:

\[ D = A \times B \times C \]

where:

- **A**: Each risk was assigned a potential cost value in dollars
- **B**: A probability of occurrence (as a percentage) for each risk was agreed upon through the workshops
- **C**: A “low” and “high” impact of each risk (as a percentage) was agreed upon through the workshops, with the average generated through the Monte Carlo simulation
- **D**: The quantified value of the risk is the product of A, B, and C. This value is allocated between the Region and Project Co. based on an assumed risk allocation under the DBFOM and PSC

It should be noted that VFM is a comparative assessment and, as such, the quantification of risk as presented above should only be viewed within this context and not interpreted on an absolute basis. The impact to the Region of an actual risk event occurring may or may not be similar to results generated through the VFM risk quantification assessment.
VFM Components

During the preliminary stage of the VFM assessment, cost inputs were based on the technical consultant’s cost estimates and formed the basis for the Deloitte report of May 22, 2013. At this stage, with the Region in the process of identifying the Preferred Proponent, this version of the report utilizes cost inputs from the First Ranked Proponent’s bid.

The Public Sector Comparator Costs

The PSC represents the estimated costs to the Region for procuring the design and construction of the LRT using a Traditional or DBB method, financing the project using Region financing, and operating and maintaining the LRT for a period of 30 years.

Following the receipt of the DBFOM costs, the PSC costs have been updated in line with the First Ranked Proponent’s submissions.

DBFOM Costs

The estimated project costs for the DBFOM model are the costs associated with Project Co. designing, and building the LRT, as well as financing, operating and maintaining the LRT for the 30-year operation period. The costs under a DBFOM are typically higher than under a PSC, as they include additional costs related to private sector financing as well as a risk premium to account for the added risk borne by Project Co. in a DBFOM structure.

Costs and financing assumptions for the DBFOM have been extracted from the First Ranked Proponent’s proposal.

The Risk Matrix

The structure of a DBFOM transaction allows the Region to transfer and/or mitigate risks associated with designing, constructing, operating and maintaining large infrastructure projects such as the LRT. Some examples of risk transfer and/or mitigation include:

- **Contractual Risk Transfer:** The contractual terms of the DBFOM requires Project Co. to bear most of the risks associated with design deficiencies, construction cost overruns, and maintenance and major capital (lifecycle) repair cost overruns. Typically, a DBB approach requires the Region to assume many of these risks.

- **Co-ordination:** The DBFOM requires a single party, Project Co., to undertake the design, construction, and long-term operations and maintenance of the asset, thereby greatly reducing co-ordination risks.
Private Capital Due Diligence: Financing risk in the DBFOM is borne by private debt and equity investors, who undertake thorough, up-front due diligence and long-term planning, thus reducing both the probability and impact of certain risks.

The risk analysis carried out by the Region’s team examined risks in the categories listed in the Table 1 below.

Table 1: Risk Categories

<table>
<thead>
<tr>
<th>Project Risk Categories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Policy and Strategic Risks</td>
<td>6. Permits and Approvals</td>
</tr>
<tr>
<td>2. Project Agreement</td>
<td>7. Completion Commissioning</td>
</tr>
<tr>
<td>3. Design &amp; Tender</td>
<td>8. Maintenance Risks</td>
</tr>
<tr>
<td>4. Site Conditions / Environmental</td>
<td>9. Operational Risks</td>
</tr>
<tr>
<td>5. Construction Risk</td>
<td></td>
</tr>
</tbody>
</table>
Certain key risks are set out below for summary purposes in Table 2. These are the key risks that have been determined to have a significant impact on the value of risk retained by the Region under each of the delivery models assessed. The key risks were assessed by the Region and its advisors in the spring of 2013 and are as presented to Council through Deloitte’s previous report of May 22, 2013.

Table 2: Key Project Risks

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Risk</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy / Strategic</td>
<td>Planning, Process And Allocation Practices</td>
<td>Risks that internal Region approvals are not received in a timely manner and ultimately results in delays in the procurement process.</td>
</tr>
<tr>
<td></td>
<td>Changes In Government Funding Policies</td>
<td>The risk that a change in government policy (which includes the Region, the Province and the Federal government) impacts or terminates the Project. There may also be an impact on the Region’s reputation and ability to carry out future procurements.</td>
</tr>
<tr>
<td>Design &amp; Tender</td>
<td>Incomplete RFP / Tender Documentation</td>
<td>The risk that RFP / Tender documentation (including construction contract or Project Agreement) incompletely or poorly defines Project scope and/or risk allocation, or is poorly coordinated. This results in uncertainty for bidders and may compel them to increase contingencies in their pricing to reflect the fact that the services cannot be priced accurately.</td>
</tr>
<tr>
<td></td>
<td>Scope Changes By Owner - During Construction</td>
<td>The risks associated with the Region changing the scope of work during the construction period through issuing change orders. Change orders are not priced under competitive tension and therefore these risks include risks of non-market pricing. This category also includes the risk that the method for pricing change orders is not fully prescribed in the contract resulting in change order costs exceeding estimated amounts. An unclear, incomplete or internally inconsistent specification will increase the probability of scope changes.</td>
</tr>
<tr>
<td>Construction</td>
<td>Acceleration to Maintain Schedule</td>
<td>The risk associated with the construction contractor having to accelerate the schedule in order to achieve the completion date. Acceleration can result in increased costs to the contractor (such as increased equipment utilization, higher prices for urgent materials); additionally acceleration may also have a quality assurance impact due to sub-trades working longer hours.</td>
</tr>
<tr>
<td></td>
<td>Project Integration</td>
<td>Risk that all the design elements of the project, including structures, roadways, tracks, systems, ITS, electrical, facilities and communications have not properly been prescribed and integrated. Risk that individual discipline areas have failed to properly coordinate design and construction in time, space and connectivity to meet final performance requirements, incurring additional costs and delays.</td>
</tr>
</tbody>
</table>

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Since the risk matrix is based on the AFP risk allocation, it does not need to be revised based on the results of the First Ranked Proponent’s submission.

Key Assumptions

Table 3 provides a summary of other key assumptions, including those which have been revised based on the First Ranked Proponent’s proposal.

**Table 3: Key VFM Assumptions**

<table>
<thead>
<tr>
<th>Assumption Item</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Schedule</strong></td>
<td>Extracted from the First Ranked Proponent’s proposal.</td>
</tr>
<tr>
<td><strong>Base Date</strong></td>
<td>As costs in a VFM analysis are considered on a NPV basis, they have to be discounted to a specified Base Date (i.e. the date to which all costs in NPV terms are discounted back to). For purposes of the LRT the Base Date has been set as the expected Financial Close date of April 2014.</td>
</tr>
<tr>
<td><strong>Region Borrowing Rate</strong></td>
<td>The VFM assessment has assumed an all-in cost of borrowing rate for the Region based on current trends.</td>
</tr>
<tr>
<td><strong>Discount Rate</strong></td>
<td>The VFM assessment assumes a discount rate which is equal to the Region’s notional borrowing rate.</td>
</tr>
<tr>
<td><strong>Ridership revenue</strong></td>
<td>The VFM calculation focuses purely on gross costs and thus does not take into consideration any sources of revenue (e.g. Ridership) that may be available to the Region to cover project costs.</td>
</tr>
<tr>
<td><strong>Federal and Provincial funding</strong></td>
<td>Similar to Ridership revenue, the VFM calculation does not reflect sources of funding available to the Region such as Federal or Provincial funding.</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Cost Inputs</strong></td>
<td>Extracted from the First Ranked Proponent’s proposal.</td>
</tr>
<tr>
<td><strong>Risk Premium</strong></td>
<td>An adjustment factor is applied to design and construction costs for VFM purposes to account for the additional risk premium associated with the bundling of design and construction. This premium is only applied to the DBFOM delivery model and not the PSC. The purpose of this standard VFM assumption is to capture the added risk profile that Project Co. takes on in a DBFOM project as compared to a traditional project delivery.</td>
</tr>
<tr>
<td><strong>Harmonized Sales Tax (HST)</strong></td>
<td>All cost inputs have been adjusted to include a non-recoverable portion of HST. This assumption has been applied for both the PSC and DBFOM models.</td>
</tr>
<tr>
<td><strong>Cost Inflation</strong></td>
<td>To account for inflation during the construction and operational periods of the Project an annual inflation factor has been applied to all costs.</td>
</tr>
<tr>
<td><strong>Project Co. Partnership Costs</strong></td>
<td>Extracted from the First Ranked Proponent’s proposal.</td>
</tr>
<tr>
<td><strong>Payments to Project Co. during construction (DBFOM)</strong></td>
<td>Project Co. will finance the initial capital costs without receiving any payments from the Region. Subsequently, the Region will be making monthly payments to Project Co. equivalent to 85% of the work completed during the month with the remaining 15% withheld as a holdback. At the end of the construction and commissioning period, the Region will be making a Substantial Completion Payment to Project Co. equal to the total amount of holdbacks withheld during construction leaving the initial capital costs to be repaid to Project Co. throughout the 30-year operational period.</td>
</tr>
<tr>
<td><strong>DBFOM Financing Structure</strong></td>
<td>Project Co. will finance initial capital costs through long-term financing. This long-term financing is covered through long-term debt (bond structure) and equity. In order to finance the 15% holdback withheld from payments made by the Region during construction, Project Co. will also draw on a short-term debt (bank loan) facility that will be entirely repaid by the Substantial Completion Payment.</td>
</tr>
<tr>
<td><strong>Private Sector Financing</strong></td>
<td>Extracted from the First Ranked Proponent’s proposal.</td>
</tr>
<tr>
<td><strong>Transaction Costs</strong></td>
<td>Transaction costs consist of the upfront costs required by the Region to deliver the LRT (i.e. take it from the planning phase throughout procurement). These costs are typically higher in AFP projects, relative to the PSC, because of the greater complexity of AFP transactions which require the involvement of external transaction, financial and legal advisors.</td>
</tr>
<tr>
<td><strong>Project Management Costs</strong></td>
<td>Project Management costs represent the Region’s internal costs required to oversee the LRT until the commencement of operations as well as the cost of retaining a technical advisor. These costs have been assumed to be the same for the PSC and AFP delivery models.</td>
</tr>
</tbody>
</table>
VFM Results

Risk Analysis Results

Table 4 below summarizes the risk transfer profile for the LRT, by key categories of risks, based on the mean of the results obtained through the Monte Carlo simulation. Note that each risk category is comprised of a number of more detailed risks, each assessed individually as part of a proprietary model. These results are reflective of the costing assumptions extracted from the First Ranked Proponent’s proposal.

Table 4: Risks Retained by Each Party by Risk Category

<table>
<thead>
<tr>
<th>Type of Risk</th>
<th>Estimated Quantified Risk Retained Under Each Option</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DBFOM Region Private Sector</td>
</tr>
<tr>
<td>Policy / Strategic</td>
<td>$33,578,540</td>
</tr>
<tr>
<td>Project Agreement</td>
<td>$3,736,898</td>
</tr>
<tr>
<td>Design &amp; Tender</td>
<td>$4,867,946</td>
</tr>
<tr>
<td>Site Conditions/Environmental</td>
<td>$7,586,219</td>
</tr>
<tr>
<td>Construction</td>
<td>$15,314,654</td>
</tr>
<tr>
<td>Permit and Approvals</td>
<td>$201,012</td>
</tr>
<tr>
<td>Completion Commissioning</td>
<td>$ -</td>
</tr>
<tr>
<td>Maintenance</td>
<td>$13,103,419</td>
</tr>
<tr>
<td>Operational</td>
<td>$6,380,050</td>
</tr>
<tr>
<td><strong>SUB-TOTAL:</strong></td>
<td><strong>$87,069,210</strong></td>
</tr>
</tbody>
</table>

VFM Results

As discussed earlier the value of risk retained by the Region is obtained through a Monte Carlo simulation on the impacts of each risk. The resulting statistical distribution of total risk retained by the Region is presented in Figure 5 below.

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3 Monte Carlo simulation is an estimation method based on a broad class of computational algorithms that rely on repeated random sampling to obtain numerical results i.e. by running simulations many times over in order to calculate probabilities.
By using the mean value of risk retained presented in Figure 5 the resulting VFM is approximately 12.1%, which is consistent with the VFM result of 12.3% presented in May 2013.

**Interpretation of Results**

When reviewing these results, the following considerations should be noted:

- The results illustrate the difference between two vastly different forms of contracts for an infrastructure project the Region has limited experience with. The VFM result is not intended as a criticism of the Region’s typical DBB contracting approach, which is not suited for the LRT project for the following reasons:

  - The Region’s typical construction delivery model is a DBB model using a standard form of construction contract that has been tested and applied against numerous projects that are typically less than $100m and does not include a long-term operating and maintenance obligation in the scope of the contractor. Current AFP uses the best practice of bundling design-construction-operations and maintenance through the design-life of the infrastructure for new legacy, large scale projects such as the LRT. The VFM illustrates this difference, with the main advantage of the DBFOM being that the same contract counterparty is responsible for all components, thus eliminating any “finger pointing” if the LRT does not perform.

  - One of the motivations for the Region to select the DBFOM model was to have Project Co. assume operations and maintenance, since the Region has no

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VFM results are typically presented as a percentage calculated by taking the difference between the risk-adjusted cost of the AFP against that of the PSC (please see Figure 3) divided by the risk-adjusted cost of the PSC.
expertise in operating LRTs. In other words, the VFM factors in the Region’s ability to be an LRT operator as compared to a private partner under the DBFOM whose core business is LRT operations.

- The DBB form of contract is prescriptive as the contractor bids against a 100% level design prepared by the Region, while the DBFOM relies on a performance based set of output specifications that are not prescriptive. The VFM contrasts the difference in the form of compliance, as Project Co. has flexibility to operate the LRT system and therefore must accept consequences if the system does not perform.

- The VFM captures the opportunities that exist under the AFP model to achieve cost synergies through innovations due to: (i) the use of non-prescriptive output-based specifications; and (ii) the integration of design, construction, operations and maintenance enables Project Co to make cost trade-off decisions as it is responsible for long-term asset performance and therefore has incentive to design, construct, and plan based on a “full lifecycle” view of the infrastructure.
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Conclusions

Based on the results of the procurement process and the First Ranked Proponent's proposal, the VFM analysis demonstrates that the DBFOM project delivery model continues to achieve value for money savings for the Region when compared to the PSC.
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1.0 Introduction

On June 6th, 2013, an RFP was issued by the Region of Waterloo ("the Region") to seek submissions from Proponents who were pre-qualified to participate in the Region of Waterloo Stage 1 Light Rail Project ("the Project").

P1 Consulting ("Fairness Monitor") was retained in September 2012 to perform fairness monitoring services and provide independent attestation on the procurement process. Our mandate was to review and monitor the bid documents and communications, provide advice on best practices, review and monitor the evaluation and decision-making processes that were associated with the procurement to ensure fairness, equity, objectivity, transparency and adequate documentation throughout the evaluation process. As Fairness Monitors we were also to attend, observe and provide guidance at the Region’s meetings, as well as the Applicant presentation. In particular, in our role as Fairness Monitor, we ascertained that the following steps were taken to ensure an open, fair and transparent 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 with respect to the bids and the evaluation process
- objectivity and diligence during the procurement process
- 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 related to conflict of interest and confidentiality during the procurement and evaluation processes
- security of information
- oversight to provide a process where all bidders were treated fairly

2.0 Project Background

The Region is at a critical point in the development and implementation of Rapid Transit ("RT"). The Region, over the last decade, has carefully studied and planned on how to address the Region’s challenges and opportunities associated with population and employment growth (over 200,000 new residents and 80,000 new jobs are expected over the next 20 years). The Region went through several planning phases (including alternative transportation strategies, funding options, field/engineering reviews and community input processes) to formalize the preferred RT Program, Rapid Transit Technologies of Light Rail Transit (LRT) and adapted Bus Rapid Transit (aBRT), alignment/route, and station locations. The preferred RT System, as approved by Regional Council for implementation on June 15, 2011, is fully aligned with the 2003 Regional Growth Management Strategy (RGMS). The approved system is expected to help mitigate urban sprawl, shape efficient transportation choices, re-urbanize/intensify the Region and improve overall environmental conditions.

3.0 Scope of the Fairness Monitor Engagement

The following are the tasks that P1 Consulting performed:
Review of the RFQ, RFP, Q&A and Addenda:
P1 Consulting reviewed the RFP and Addenda, as required, and all other documents related to the procurement process to ensure that the requirements were met.

Review of Requests For Clarifications (RFC), Requests for Information (RFI) and the Responses:
P1 Consulting reviewed all RFIs and the responses submitted to the Proponents. P1 Consulting also reviewed any RFCs submitted by IO and their responses.

RFQ and RFP Submission Deadlines:
P1 Consulting attended and monitored the Submission Deadlines as well as the subsequent Procurement and Legal Completeness Review.

Review of Evaluation Criteria and Procedures:
P1 Consulting reviewed the evaluation criteria and procedures for the RFQ and RFP to ensure that the requirements were met.

Advice on Best Practices:
P1 Consulting attended sessions to ensure that all Project Team members were provided with briefings on best practices, including the principles and duties of fairness, care and protection of confidential information, avoidance and disclosure of conflict of interest, bias and undue influence, scoring procedures and sign-off on individual scoring sheets, preparation, treatment and retention of evaluation documents.

Meetings:
P1 Consulting attended Project Team meetings, as directed by the Region of Waterloo, for the purpose of observing and providing guidance or advice on the proposed processes and issues related to the Project.

Evaluation Meetings:
P1 Consulting observed and documented evaluation meetings of the proposals, including the consensus sessions of the technical and financial evaluation teams and their presentations to the evaluation committee. Additionally, during the evaluation process, we provided verbal and written advice with respect to fairness, objectivity, consistency of process, conflict of interest and confidentiality to ensure strict accordance with the specifications and criteria set out in the RFQ and RFP documents, as well as consistency with the policies and practices of the Region of Waterloo.

Proponent Interaction:
P1 Consulting attended and monitored all presentations with Applicants and Proponents.

All of the tasks above were completed in a manner that was fair, open and transparent.

4.0 Request for Qualification Process

The Fairness Monitor received, reviewed and approved from a fairness perspective, copies of the draft and final RFQ and documents prior to their release. As addenda were issued, P1
Consulting also received, reviewed and approved copies of addenda documents from a fairness perspective. The evaluations were performed by the appropriate teams. The Fairness Monitor was represented at all evaluation meetings. The Fairness Monitor concluded that the review was performed fairly and in compliance with the Region’s evaluation guideline.

4.1 Evaluation Teams

The members of the Project Team, including the Evaluation Committees confirmed that they did not have any Conflicts of Interest and attended evaluator orientation training sessions, which the Fairness Monitor attended. The RFQ preparation and evaluation teams all signed the Code of Conduct prior to participating in the evaluation.

4.2 Proposal Receipt

The Region of Waterloo- Stage 1 Light Rail Project RFQ Submissions were due on November 23rd, 2012 at 14:00. The following Applicants submitted a proposal for evaluation on or before the Submission Deadline:

<table>
<thead>
<tr>
<th>Consortium</th>
<th>Equity Partners</th>
<th>Prime Team Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grandlinq</td>
<td>Plenary, Meridiam, Aecon, Kiewit, Keolis</td>
<td>Plenary, STV, STV, CIBC, LVM, Keolis, Mass. Electric, AECOM, Construction</td>
</tr>
<tr>
<td>KWC Transit Partners</td>
<td>Gracorp (C,C&amp;L), Fluor, Parsons</td>
<td>Fluor, Guild Electric, ACI, Investec, Graham, Connor, Clark, and E&amp;E Seegmiller, Parsons, Lunn Infra.</td>
</tr>
<tr>
<td>KW Transit Solutions</td>
<td>AQUILA, OHLC, FCC Co</td>
<td>Aquila, Arup, Miller, OHLC, Dillon, RATP, FCC Co, IDOM, Systra</td>
</tr>
<tr>
<td>RWTG</td>
<td>ACS Infrastructure Canada, Forum Equity Partners</td>
<td>ACS, Vias, Aedas, Forum, Delcan, Steed Evans, Bot, Morrison, National Express, Infrastructure, Hershfield, Hershfield, Thales Group</td>
</tr>
<tr>
<td>Transit Link Partners</td>
<td>Cintra, Acciona, Concessions, Macquarie Capital Group</td>
<td>Cintra, AIA Engineers, Acciona, Ferrovial, Concessions, Bombardier, Macquarie, Capital, Stantec</td>
</tr>
</tbody>
</table>
4.3 Location of the Proposals

The original RFQ submissions were securely held at the Region’s offices, and the proposal storage was maintained in accordance with the Region of Waterloo’s Evaluation Framework, during the review.

4.4 RFQ Debriefing Sessions

The Fairness Monitor attended the debriefing sessions related to the RFQ submissions and confirmed that they were conducted in a fair manner.

5.0 Request for Proposal Process

In accordance with the RFQ, only those Proponents who pre-qualified in the RFQ process (“Pre-Qualified Parties”) were eligible to participate in the RFP as RFP Proponents. The RFP was released on June 6th, 2013 to the following Proponents:

- GrandLinq (“GrandLinq”)
- Kitchener Waterloo Cambridge Transit Partners (“KWCTP”)
- Tricity Transit System Team (“TTS”)

5.1 Review of Solicitation Documents and Addenda

The Fairness Monitor received, reviewed and approved from a fairness perspective, copies of the draft and final RFP documents and the final procurement documents prior to their release. All RFIs and their responses were reviewed from a fairness perspective. As addenda were issued, P1 Consulting also received, reviewed and approved copies of those addenda documents and reviewed them from a fairness perspective, prior to their release.
5.2 Commercially Confidential Meetings

Commercially Confidential Meetings were held during the procurement process and were all attended by a Fairness Monitor.

5.3 Proposal Receipt

The submission date of the Financial and Technical Submission for the RFP was December 16th, 2013 at 14:00:00. The following Proponents submitted a proposal for evaluation:

- GrandLinq
- KWCTP
- TTS

The Fairness Monitor was on site to observe the receipt process for the Technical and Financial Submission Closing.

5.4 Location of the Proposals

The evaluation center for the Technical Submissions was securely located at Rapid Transit Division - Region of Waterloo, 50 Queen Street North, Suite 800, Kitchener, ON, N2H 6P4. The evaluation center for the Financial Submissions was securely located at Infrastructure Ontario (IO), 777 Bay Street. Suite 900, Toronto, ON, M5G 2C8.

5.5 RFP Evaluation

The Evaluation Guide developed by the Region of Waterloo and Infrastructure Ontario’s Procurement Department was received, reviewed and approved by the Fairness Monitor from a fairness perspective and it was provided to the members of the Evaluation Committee and sub-committees.

The evaluation included the following:

5.5.1 Completeness Review

The Completeness Review Team received, opened and conducted the Completeness Review of the RFP submissions. The results of the completeness review were reviewed by the Fairness Monitor who concluded that the review was performed fairly and in compliance with Region of Waterloo’s Evaluation Guide.

5.5.2 Legal / Compliance Review

The RFP submissions were reviewed by the Legal / Compliance Sub-committee and issues
were discussed and addressed by the Fairness Monitor. The Fairness Monitor concluded that the review was performed fairly and in compliance with the Region of Waterloo’s Evaluation Guide.

5.5.3 Technical Review

The Technical Submissions were reviewed and evaluated by the Technical Sub-Committees in accordance with the established criteria. The Technical Submissions were deemed to be compliant based on the results of the review and evaluation by the Technical Sub-Committees. Fairness Monitor concluded that the review was performed fairly and in compliance with Region of Waterloo’s Evaluation Guide.

5.5.4 Financial Review

The financial information was severed from the Technical Submission to prevent any price bias during the technical evaluation. The Financial Submission was scored in accordance with the RFP and the evaluation matrix which was received, reviewed and approved by the Fairness Monitor from a fairness perspective. The Fairness Monitor concluded that the review was performed fairly and in compliance with Region of Waterloo’s Evaluation Guide.

5.5.5 Clarification Process

Questions of clarification from the Technical, and/or Financial evaluation teams were sent to and responded by the Proponents, and all clarifications and their responses were reviewed by the Fairness Monitor. The responses were taken into consideration during the evaluation. Any relevant fairness issues were received, reviewed and approved by the Fairness Monitor and was addressed to the satisfaction of the Sponsors and the Fairness Monitor.

5.6 Evaluation Teams

The members of the Project Team, including the Evaluation Committees confirmed that they did not have any Conflicts of Interest and attended evaluator orientation training sessions, which the Fairness Monitor attended. The RFP preparation and evaluation teams all signed the Code of Conduct prior to participating in the evaluation.

Jill Newsome was the Lead Fairness Monitor and James Tonn was the Fairness Monitor. They or their delegates (P1 Consulting) attended and monitored all of the committees and sub-committee meetings as observers.
5.7  **Final Result**

As a result of the RFP evaluation, and in accordance with the Region of Waterloo's Evaluation Guideline, GrandLinq was selected as First Negotiations Proponent.

6.0  **Conclusion**

As the Fairness Monitor for the Region of Waterloo- Stage 1 Light Rail Project, we certify, in our opinion that, up to the point at which this Report was delivered, the procurement process was undertaken in a fair, open, and transparent manner.

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Jill Newsome  
Lead Fairness Monitor