



REGION OF WATERLOO

**TRANSPORTATION AND ENVIRONMENTAL SERVICES
Rapid Transit**

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

DATE: April 9, 2013 **FILE CODE:** A02-30/PW

SUBJECT: STAGE 1 LIGHT RAIL PROJECT – REQUEST FOR PROPOSAL TECHNICAL MATTERS

RECOMMENDATION:

THAT the Regional Municipality of Waterloo approve the Request for Proposal Technical Matters and a Design and Bid Fee of \$200,000 for each unsuccessful qualified proponent as described in Report E-13-048 dated April 9, 2013:

SUMMARY:

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

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.

Region staff and the Rapid Transit (RT) Consulting Team are preparing the procurement documentation package, consisting of the Request for Proposal (RFP) and the Project Agreement (PA), to be issued to these three teams (Proponents).

This report describes the nature of the procurement documentation and how Region Staff recommend the roles and responsibilities relating to the project be allocated between the Region and the successful bidder (Project Co).

Staff are preparing two reports to Planning and Works Committee concerning the RFP documentation and process. This is the first report and addresses primarily technical issues related to the RFP. A second report addressing financial matters, evaluation criteria and process issues is planned for April 30, 2013.

REPORT:

Background:

In February 2013 Council pre-qualified three Design-Build-Finance-Operate-Maintain (DBFOM) teams (Proponents) to submit proposals for the Stage 1 Light Rail Transit (LRT) system. The procurement documentation, consisting of the Request for Proposal (RFP) and the Project Agreement (PA) is scheduled to be issued in early May 2013.

In order to issue the RFP to the Proponents, a significant number of activities and documents are needed to outline the submittal requirements and procedures to be followed through the various stages of proposal preparation, submittal, evaluation and selection of Project Co.

The RFP document sets out the terms and conditions of the procurement process. This includes the general governing procurement policies and procedures, along with the project specific features, requirements and various schedules.

The Proponents will also be provided the draft Project Agreement (PA) and the Project Specific Output Specifications (PSOS) as an integral part of the RFP. The PA is a series of interconnected legal agreements and schedules that provide the commercial terms and form of Contract to be executed between the Region and Project Co. The PA articulates the responsibilities, obligations, and risk transfer between the parties. Within the PA, the PSOS provides the Proponents with all the design, technical quality, operations and maintenance requirements they need for their submission. 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.

Region staff and RT Consulting Team have developed the technical submission requirements, compliance checklists, and are finalizing the RFP evaluation framework. These documents are critical to ensure that the Region can appropriately and transparently evaluate each Proponent's submission and select the best overall submission.

Staff are preparing two reports to Planning and Works Committee concerning the RFP documentation and process. This is the first report and addresses primarily technical issues related to the RFP. A second report addressing financial matters, evaluation criteria and process issues is planned for April 30, 2013.

Allocation of Roles and Responsibilities between the Region and Project Co:

Part of the RFP preparation process is the identification of which responsibilities are most appropriately transferred to Project Co. and which are most appropriately retained by the Region.

Clarifying the Region's expectations to the Proponents with respect to which responsibilities will be transferred to them during the term of the PA will:

- Reduce their uncertainty about roles and responsibilities
- Will allow the teams to more accurately price the project
- Lower the overall bid price as clearly defined roles and responsibilities will result in clearly understood risks and lower costs associated with risk.

Over the past six months RT staff and RT Consulting Team have conducted a number of workshops with other departments and stakeholders to assess the appropriate allocations of roles and responsibilities between the Region and Project Co.

Region:

On the basis of this comprehensive consultation and evaluation, it is recommended that the Region retain the following key roles and responsibilities:

Vehicle Procurement

Region Staff is currently negotiating to procure 14 Light Rail Vehicles (LRVs) as part of an existing contract between Metrolinx and Bombardier Transportation Services. The Region will be responsible for the procurement and acceptance testing of the LRVs. After acceptance by the Region the vehicles will be turned over to Project Co. for their use in system integration, testing and commissioning of the LRT system. Once revenue service commences, Project Co. will operate and maintain the vehicles over the life of the PA.

Fares and Fare Technology

The Region will set the fares for the LRT. Grand River Transit (GRT) currently has a project underway to develop and procure an electronic fare media system that will integrate fares between the LRT, Adapted Bus Rapid Transit (aBRT) and conventional GRT bus routes. This is envisioned to involve a smart card technology where fare media is purchased prior to boarding. It is anticipated that the Ticket Vending Machines (TVMs) will be installed on the LRT station stops by a third party fare media contractor, who will also operate, maintain and service the TVMs on the Region's behalf. The LRT budget includes a provision for the purchase and installation of TVMs at all LRT station stops.

Project Co. will provide electrical and communication connections for the TVMs at each LRT station stop and will provide the overall communications network and connections to a central control system to enable Region staff to manage fare revenues.

Fare Enforcement, Safety and Security

The LRT is expected to have a Proof of Payment (POP) system where Regional staff, with by-law or partial law enforcement abilities, would monitor and patrol the system and randomly check fare media presented to them using handheld devices to determine if the transit user has purchased a valid fare prior to boarding. It is expected that Region fare enforcement officers will also respond to security incidents that may occur on the Light Rail Vehicles (LRV) and at LRT station stops. Serious incidents would require involvement of Waterloo Regional Police Services. GRT is currently developing an overall transit security plan that will include fare enforcement, safety and security for the LRT.

Traffic Operations

The Region currently manages and operates all traffic signals through a Traffic Control Center located at the Regional Headquarters. The planned Traffic Signal Priority (TSP) system for street running portions of the LRT will be designed and constructed to be fully integrated with the Region's existing traffic signal system. This TSP system and associated hardware will be designed and constructed by Project Co along the LRT corridor to Regional Standards. Once LRT revenue service commences the TSP system will be handed over to the Region for operations, maintenance and repair. Project Co. will continue to play a supporting role in managing the TSP over the PA period by providing regular input to the Region Traffic Control staff that will help improve operations along the LRT corridor for all modes of transportation.

Voice Radio Infrastructure

The LRT system will make use of the Region's existing voice radio infrastructure to facilitate communication between the LRVs, the Central Control Facility (CCF), the Operations, Maintenance and Storage Facility (OMSF), wayside maintenance crews and the existing GRT Control Center. This radio infrastructure is currently managed and maintained by Region staff,

and capacity is available on the existing infrastructure to accommodate the LRT. Project Co. will purchase and install mobile and on-board radio units that are compatible with the Region's infrastructure. Should the Region's system be upgraded or replaced over the life of the PA, Project Co. will be required to work with Region staff to ensure a seamless transfer to the upgraded system, including the procurement of radios that are compatible with the new infrastructure.

Advertising and Retail Space

The Region will retain all rights, responsibility and revenue for any advertising placed on the LRVs and station stops on the LRT system.

Property Acquisition

The Region will acquire the necessary property and access rights to facilitate construction, maintenance and operations of the LRT system. This process is underway and is expected to be completed by mid 2014.

RT on City Roads

Regional staff are working with staff at the Cities of Kitchener and Waterloo to discuss and determine the appropriate approach for dealing with LRT on City roads including possible transfer of City roads to the Region. Transferring the roads would simplify and improve construction, operating and maintenance of the Region's LRT system by having one level of government responsible for all the roads LRT is on. Transfer of the roads would also eliminate any liability that the Cities of Kitchener and Waterloo would have as the owners of a road. Discussions are ongoing with Cities of Kitchener and Waterloo staff. Region Staff will report back to Regional Council on this issue in the near future.

Project Co.:

The following are key roles and responsibilities that are most appropriately transferred to Project Co:

Light Rail Vehicle Operation and Maintenance

LRV operations will be managed by Project Co. for the first 10 years with potential for renewals. The maintenance, including all on board equipment and systems will also be the responsibility of the Project Co., who will hire and train the necessary staff.

Wayside Infrastructure Operation and Maintenance

Maintenance of wayside systems, which includes track, structures, traction power substations, the overhead catenary system, communications infrastructure, and the Operations, Maintenance, and Storage Facility (OMSF) require specialized staff that will be hired and trained by Project Co.

LRT wayside signals on non-street running portions (for example the Waterloo Spur) that are part of the train control system will be the responsibility of Project Co.

Operation of the Central Control Facility (CCF)

The OMSF will contain a CCF for dispatching trains, responding to operational contingencies, and overall day to day management of the LRT system. This CCF will be staffed by resources hired and trained by Project Co., who will operate the CCF and the OMSF over the life of the PA.

Lifecycle Rehabilitation

Project Co. will be responsible for replacement and refurbishment of infrastructure (except vehicle replacement) to ensure hand back requirements are met at the end of the PA. The Region will perform checks to ensure lifecycle rehabilitation is being performed as agreed upon and to the appropriate level. In particular towards the end of the 30 year period it is critical to ensure that infrastructure has been maintained and rehabilitated.

Operating Agreements

Project Co., in coordination with the Region, will enter into appropriate agreements with the various stakeholder agencies (Police, Fire, public utilities, Cities etc.) that will need to interface with the LRT system on a daily basis, or access the guideway as part of the agencies' day-to-day business activities.

Design and Bid Fees

Region staff have been reviewing different approaches to providing a design and bid fee to the unsuccessful proponents, in recognition of the effort required to complete and submit a compliant RFP proposal. Completion of a compliant RFP is estimated to require approximately \$2 million of effort by each proponent. The following summarizes staff's investigations:

Infrastructure Ontario Approach To The Design And Bid Fee:

Historically, Infrastructure Ontario (IO) projects with a design component have offered proponents design and bid fees in recognition of their efforts. The design and bid fees vary based on project specific criteria, but generally range in the \$500k to \$2.0 million range per proponent, with complex civil infrastructure projects being represented at the higher end of the band.

Other reasons given by IO for offering design and bid fees on their previous projects include the following:

1. Retains the interest of developers and contractors on a given project thus increasing competition;
2. Enables proponents to invest more in their designs to drive innovation which will result in lower whole life costs;
3. Encourages bidder participation by recognizing the high bid costs inherent in these complex projects;
4. Enables the owner to acquire the intellectual property rights of submissions, which allows the use of design innovations from losing bids into the project or other projects;
5. Demonstrates a commitment to see the project through to completion; and
6. Provides protection from future legal action with regard to the procurement process by requiring proponent to sign a waiver upon receipt of payment.

Below is a list of IO projects where a range of design and bid fees were granted to qualified proponents based on project complexity:

	Delivery Model	RFP Issue	Design & Bid Fee to Qualifying Proponent
Oak Ridge Facility – Penetanguishene	DBFM	Jan-10	\$800,000
Quinte Courthouse	DBFM	Jul-10	\$400,000
Halton Health Services	DBFM	May-10	\$800,000
Halton Health Services	DBFM	May-10	\$800,000
Humber River Regional Hospital	DBFM	Sep-09	\$2,000,000
Windsor Essex Parkway	DBFM	Apr-11	\$2,000,000
Ottawa Light Rail Transit	DBFM	Nov-11	\$6,000,000

For the RT project, IO has suggested that the Region consider \$800,000 as the design and bid fee for the unsuccessful qualified proponents during the RFP stage. Proponents are required to submit a fully compliant proposal to be qualified.

Other Considerations

Region's General Engineering Consultant (GEC) has advised that the project is being brought to the market at a very good time given the weak North American rail transportation market. Consequently, there is strong interest in this project as evident from the seven FRQ responses received. Adding to this is the fact that the Region has opted to purchase the Light Rail Vehicles separately from the DBFOM contract which will increase competition and reduce risk through the next stage of the procurement process.

Moreover, the project is not considered by the market as overly complex. There are certainly complicated staging, utility and railway coordination issues as well as the King Street grade crossing. This project is viewed as a technically uncomplicated and attractive commercial venture with a reasonable risk profile.

In light of the above, it is the opinion of the GEC that the Region could proceed without providing a design and bid fee and this will not have any appreciable impact on the overall level or quality of effort during the in-market period. This is an attractive project and there is a strong contracting community with the precise appetite for this scale of project.

The GEC has identified a few similar-sized projects they have worked on previously where no design bid fee was provided:

	Delivery Model	Project Completion	Final Construction Cost	Total Design & Bid Fee
Hudson Bergen LRT	DBOM	Sep-96	\$1.40 Billion	\$0
Airtrain JFK	DBOM	Feb-97	\$1.23 Billion	\$0
L. A. Eastside LRT	DB	Nov-09	\$800 Million	\$0

After reviewing all of the information collected, staff are recommending that the Region pay a design and bid fee of \$200,000 to the unsuccessful qualified proponents. This would provide some of the benefits that IO has listed (in particular access to innovative ideas and sign off on waivers) but also have the amount sufficiently low to recognize current market conditions.

CORPORATE STRATEGIC PLAN:

This 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:

In 2011, the capital cost of Stage 1 of the RT project was estimated to be \$818 million (in 2014 dollars). On June 15, 2011 Council approved the funding for the Region's portion of the Stage 1 capital costs (\$253 million), as well as for estimated long term operating and maintenance costs, subject to annual budget deliberations.

Regional staff are in the process of developing an updated funding model that will reflect all capital, operating, maintenance and financing costs over the 30-year life of the PA.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Finance, Corporate Resources and Planning, Housing and Community Services were consulted and had input to this report.

ATTACHMENTS

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