

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF APRIL 19, 2017

Item 6, Report No. 4, of the Finance, Administration and Audit Committee, which was adopted without amendment by the Council of the City of Vaughan on April 19, 2017.

6 LED STREET LIGHT RETROFIT PROJECT: RECOMMENDED FINANCING STRATEGY ALL WARDS

The Finance, Administration and Audit Committee recommends:

- 1) That the recommendation contained in the following report of the Deputy City Manager of Public Works, the Director of Infrastructure Delivery, and the Chief Financial Officer and City Treasurer, dated April 3, 2017, be approved; and
- 2) That the staff presentation and Communication C1 presentation material entitled, “*LED Streetlight Project – Update on Project Financing Options*”, be received.

Recommendation

The Deputy City Manager of Public Works, the Director of Infrastructure Delivery, and the Chief Financial Officer and City Treasurer recommend:

1. That the upfront capital costs for the design and installation of the LED street light retrofit project be financed by the successful proponent, subject to an updated value for money analysis to be completed prior to award of contract.

Contribution to Sustainability

This report contributes to the goals and objectives within the Green Directions Vaughan, the City's Community Sustainability Environmental Master Plan, specifically:

Goal 1: To significantly reduce the use of natural resources and the amount of waste we generate

Objective 1.1: To reduce greenhouse gas emissions and move towards carbon neutrality for the City of Vaughan's facilities and infrastructure

Goal 3: To ensure that Vaughan is a city that is easy to get around with a low environmental impact.

Objective 3.2: to develop and sustain a network of roads that supports efficient and accessible public and private transit.

Economic Impact

The total upfront capital costs for the design and installation of the LED retrofit project is approximately \$19.1 million. The business case approved by Council in June 2016 (Item 8, Committee of the Whole Report 26) recommended that debt-financing be used to fund the project's upfront capital costs, with future energy and maintenance savings being used to pay down the debt financing over the term of the contract.

Staff conducted an updated value for money (VFM) analysis to determine the appropriate debt financing option for the upfront capital costs. The analysis compared two key financing options available for the project: City-issued debentures and external financing obtained by the preferred proponent. The VFM analysis assessed which of these financing options would provide a total overall lower project cost to the City, when taking into account both the financing costs and the estimated amount of risk transfer to the private sector.

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The results of the VFM analysis revealed that the external financing option delivers greater overall value for money for the project versus the City-sourced financing option. The preferred project delivery model of design, install, operate and maintain with externally sourced financing, maximizes the proponent's expertise and ensures their continued financial commitment to the project for the full 18 year contract term through the optimal allocation of project risk. The potential for additional costs of externally sourced financing was determined to be more than offset by the allocation of project risk that would be transferred to the successful proponent under this financing arrangement. A summary of the VFM analysis is included in the Background section of this report.

Capital project RP-2058-15 LED Streetlight Conversion has a total approved budget of \$19.4 million for this project; \$14.9 million from debentures and \$4.5 million from federal gas tax. Based on the results of the VFM analysis, it is not anticipated that the City will be issuing debentures for the upfront capital costs, however through the recommended external financing; the City will still be paying for the capital costs of the project from the future energy and maintenance savings that will be achieved.

Prior to the award of contract, staff will update the VFM analysis based on the bids received to confirm that external financing provides greater value for money to the City for this project. Results of that analysis will be included in the award report to Council.

Communications Plan

A comprehensive communications plan will be developed to ensure the public remains informed about the project. A consultant will be brought on to assume a lead role with respect to communications, and work collaboratively with the Corporate Communications department to contribute to the development of a communications plan, including identifying opportunities for community engagement and promotion. Communications tactics for consideration include a social media campaign, development of key messages, FAQs, backgrounders and fact sheets, as well as producing web content, marketing and eMarketing content.

Purpose

The purpose of this report is to provide Council with a status update on the procurement of the LED Street Lighting Retrofit Project and to address recommendation No. 2 contained within Item 8, Report No. 26 of the Committee of the Whole (Working Session), which was adopted without amendment by Council on June 7, 2016, that states:

“Staff conduct further financial analysis to determine the appropriate debt-financing option for the upfront capital costs associated with the design and installation of the Energy Performance Contract and report back with a recommendation to a future Finance, Administration and Audit Committee meeting during the 2017 budget process and prior to the award recommendation to Council”.

Background - Analysis and Options

In 2014, Council endorsed the City's Energy Conservation and Demand Management Plan, which directed Staff to “explore the feasibility of a large scale LED street light retrofit” by “preparing a business case including financing alternatives for the retrofit program”

In 2014, the City's Energy and Conservation Demand Management Plan recognized the significant reduction in energy consumption and savings in operating and maintenance costs that would likely result from a City-wide LED street light retrofit project. As a result, a business case was developed to support the retrofit project and evaluate alternative financing arrangements.

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Upon completion of the business case, it was recommended that the City pursue an Energy Performance Contract to deliver the LED street light retrofit project. In an Energy Performance Contract deal structure, the City would procure the services of an Energy Service Company (ESCO) to design and install the LED street light retrofits and to operate and maintain all of the street lights over a defined contract term.

The LED Street Light Retrofit Study: Business Case & Financing Alternatives was approved by Council in June 2016

At its meeting of June 7, 2016, Council approved the LED Street light Retrofit Study: Business Case & Financing Alternatives. This business case outlined the benefits of the anticipated project and documented the preliminary value for money gained by the City in its implementation. The key benefits of the project highlighted within the business case were:

- There was a positive result to the value for money assessment in favour of the proposed delivery model,
- Upfront capital costs are amortized over the term of the contract,
- The implementation will reduce the City's carbon footprint,
- Total nominal savings in energy, operations and maintenance costs estimated at \$41 million over the full term of the contract,
- The planned works will result in a more reliable street lighting system with fewer outages, and
- The model is a performance based contract.

Staff have developed contract and procurement documentation to engage the market, with the intent to select the preferred proponent and award the contract in October 2017. Installation is expected to commence shortly thereafter.

The project scope has been expanded to incorporate additional capital and operational programs

During the refinement of the project scope, opportunities arose through consultation with various departments, to coordinate and incorporate additional associated capital and operational programs. The scope has been expanded to now include all parks and open space lighting, the existing City street light pole replacement program and the long term maintenance and operation of all the City lighting. Each of these programs are currently managed under separate short term (1-3 year) contracts and their inclusion into the overall street lighting project will take advantage of economies of scale and appropriately transfer the risk to the private sector for coordination and delivery, in-turn taking advantage of the resulting energy savings across all external City lighting.

This more comprehensive approach towards City lighting and energy savings maximizes the opportunity to integrate SMART City technologies as identified within the City's Digital Strategy. Staff in Public Works are working together with the Office of the Chief Information Officer and Policy Planning and Environmental Sustainability to ensure that, where possible, the street and park lighting can be used in support of any services that may be developed as part of the City's Digital Strategy.

The procurement process for this project has commenced through the issuance of a Request for Expressions of Interest (RFEOI) to assess the market interest for such a project.

Staff have undertaken extensive research and carried out an environmental scan across Canada, US and Europe, gathering lessons learned. Different project delivery models currently in

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development or in operation have been reviewed and considered. The selected delivery model will help achieve the key benefits identified for this initiative in an accelerated timeframe, while minimizing the overall risk to the City. It is intended that this project will take full advantage of market technologies, lessons learned and the appropriate shared risk apportionment with the selected proponent for the delivery and ongoing maintenance of the street and parks lighting system.

The project is being delivered with inputs not just from the core project team, but also across City departments such as the Office of the Chief Information Officer (integration), Access Vaughan (public interface and reporting), Policy Planning and Environmental Sustainability (energy efficiency and future clean energy production) Office of the City Clerk (insurance and risk management) and Corporate Communications (both internal and external stakeholders).

A comprehensive review of the financing model to support delivery of this project was undertaken and staff recommend proceeding with private sector sourced financing

An integral part of the procurement document development and the RFEOI process was to assess the preferred financing strategy for this project. Staff conducted an additional risk assessment and quantification based upon the two key financing options available: City sourced financing (debenture financing) and externally sourced financing obtained by the preferred proponent. These financing options were analyzed and compared by developing a Value for Money (VFM) model for each.

The purpose for re-evaluating the initial VFM against the financing methodology was to determine whether the potential for the additional cost of externally sourced financing could be offset by the appropriate allocation of project risk. Within the VFM analysis, project risks were considered under the following key categories:

- Policy and Strategy
- Design and Procurement
- Installation
- Apparatus
- Life cycle and post contract residual value
- Operational
- Project control

Under each financing scenario, individual risks within these categories were apportioned a dollar value based upon estimated probability and financial impact against the overall contract. These risk assessments were then input into the VFM model to quantify and compare the overall dollar value of the project risks that would be retained by the City under each financing option. The difference between the net present value of the total project cost of each option, inclusive of retained risks to the City, is estimated as the VFM.

The results of the VFM analysis indicate that the external financing option delivers greater value for money for the project, as the total overall project costs when taking into account allocation of project risk, was estimated to be \$15 million less than the City-sourced financing option. The value of external financing lies in the greater amount of risk that could be transferred to the preferred proponent in design and procurement, installation and operation/maintenance phases of the contract. The preferred project delivery model of design, install, operate and maintain with externally sourced financing, leverages the preferred proponent's expertise and ensures their continued financial commitment to the project for the full 18 year contract term through the optimal allocation of project risk.

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A summary of the VFM results is illustrated in Table1 below.

Table 1: Summary of results from the financing VFM in favor of private sector financing:

Externally Financed		City of Vaughan Financed	
\$ (millions)	Net Present Value	\$ (millions)	Net Present Value
Present value of procurement costs	\$28.3	Present value of procurement costs	\$25.7
Dollar value of retained risks	\$9.1	Dollar value of retained risks	\$26.8
PV of ESCo procurement	\$37.4	PV of ESCo procurement	\$52.5
Discounted Value for Money (\$ millions)		\$15.1	
Discounted Value for Money (%)		40%	

Staff will revise and update the VFM model upon receipt of the proposals from qualified proponents. This will ensure that the preferred proponent proposal will provide the optimal value for the City. It is only at this stage that staff will move forward with a recommendation to Council to award the contract and proceed with the implementation of the project.

The project is on schedule and it is anticipated that the LED street light retrofits will commence in Q4-2017

In December 2016, potential proponents were invited to submit Expressions of Interest through an RFEOI process. Proponents were provided the opportunity to table any concerns they may perceive as a result of the chosen delivery model and risk apportionment. The project was well received by the market, with 15 responses declaring an interest in the project and the risk profile outlined in the staff presentation.

Following the RFEOI process, staff propose that the remainder of the procurement process timetable be as outlined below:

Activity	Description	Planned Date
Issuance of Request For Pre-Qualification (RFPQ)	Open to the market, inviting proposals to evaluate	February 2017
Receipt and evaluation of RFPQ	Staff will evaluate bidder responses and identify qualified proponents to issue the RFP to	March/April 2017
Issuance of Request For Proposals (RFP)	The RFP document is a detailed project specification and associated contract documentation designed to obtain accurate delivery method and pricing from the proponents	April/ May 2017

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Activity	Description	Planned Date
Receipt and evaluation of RFP	Staff will evaluate the bidder responses and identify a preferred proponent	August 2017
Commercial Close	This is the acceptance of the terms and conditions under the contract and the technical specifications	September 2017
Financial Close	Finalization of the financing terms for the project	October 2017
Commencement	The service provider commences work	October 2017

Relationship to Term of Council Service Excellence Strategy Map (2014-2018)

In consideration of the strategic priorities set within the Term of Council Service Excellence Strategy Map, the recommendations in this report support the following priorities:

- Continue to cultivate an environmentally sustainable city
- Invest, renew and manage infrastructure and assets

Regional Implications

The City operates and maintains many of the street lights on Regional roads, while the Regional Municipality of York only operates and maintains the street lights at Regional intersections. To ensure consistency in the City's road network and promote collaboration in the provision of street lighting services, the City has engaged the Regional Municipality of York and provided them with the opportunity to partner in this initiative. The Regional Municipality of York continues to review options for its own LED street lighting retrofit initiative. As a result, Regional staff has decided not to undertake this project at this time. The Regional Municipality of York staff will be advised upon project commencement.

The City also operates and maintains street lights along Steeles Avenue. As Steeles Avenue falls under the jurisdiction of the City of Toronto, staff will advise the City of Toronto upon project commencement.

Staff will co-ordinate the approvals including mitigation of traffic impacts resulting from the proposed work, with the respective jurisdictions.

Conclusion

As a result of the financing strategy review and revised value for money analysis, staff recommends that the upfront capital costs for the design and installation of the LED street light retrofit project be financed by the successful proponent. This will ensure that the successful proponent remains accountable through the payment incentive mechanism and provide incentive for their continued performance throughout the full contract term. Prior to award of contract, staff will conduct an updated VFM analysis to confirm that the external financing option remains the preferred financing approach for the project.

Attachments

N/A

Report prepared by:

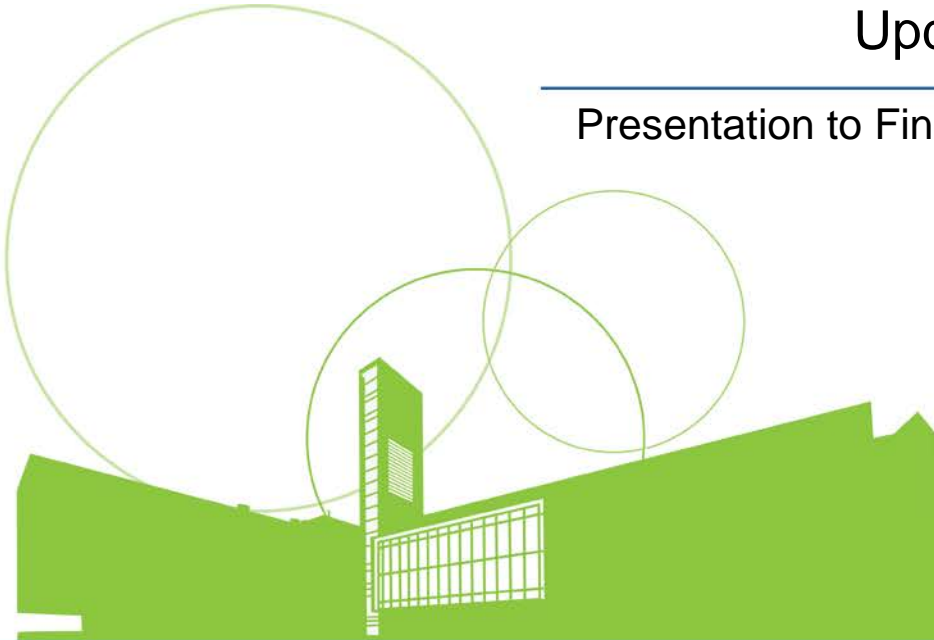
Stuart Galloway, Project Manager, ext. 8181
Vince Musachio, Manager, Infrastructure Programming, ext. 8311
Rita Selvaggi, Manager, Financial Planning & Analysis, ext. 8438

LED Streetlight Project

Update on Project Financing Options

Presentation to Finance, Administration and Audit Committee

April 3, 2017



Agenda

- Recap business case for LED Streetlight Project
- Consideration of Financing Options and VFM
- Key justifications for External financing
- Next Steps
- Timelines
- Questions



LED Streetlight Project – Recap of Business Case

- Business Case approved in June 2016 to procure a Service Provider to design, install, operate and maintain the streetlights over an 18 year contract term
- Capital cost estimate \$19.1 million to replace 28,000 street lights with LED
- Through development of Terms of Reference, identified opportunities to expand assets included

LED Streetlight Project – Recap of Business Case



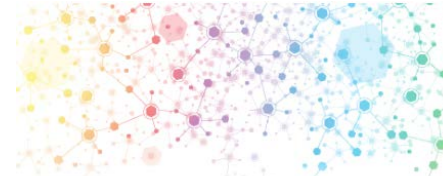
2,500 parks and sports lighting



Pole replacement program



Upgrade older areas of the City to current standard



Digital Strategy

Office of the Chief Information Officer OCIO City of Vaughan

SMART City enabling technology

LED Streetlight Project – Recap of Business Case

- Staff were directed to conduct further financial analysis
 - Determine the appropriate debt-financing option for the upfront capital cost
- The cost of the project will be paid for through savings on electricity, maintenance and lifecycle repairs

Consideration of Financing Options and VFM

- Optimal method to consider financing options was through a Value For Money analysis (VFM) comparing:

City sourced
debenture with
Traditional Design,
Bid, Build contract

VS

Externally sourced
financing with
Design, Build,
Finance, Operate and
Maintain contract

Consideration of Financing Options and VFM

- Updated Value For Money analysis was completed end of 2016
- Focused on appropriate risk transfer between the City and the Preferred Proponent (who has the best ability to manage)

Consideration of Financing Options and VFM

Result:

- an overall value for money of **40%** (or **\$15** million in potential savings over the entire term of the contract), of Private Sector financing over City sourced financing

Key Justifications for External Financing

- City financing alternative removes much of the performance based incentives for the private sector to deliver to City's requirements
- Risk transfer to private sector greater VFM when delivering a fully integrated design, finance, install, operate and maintain model
- Transferred risk rated \$ value outweighs the additional cost of external financing

Next Steps

- Results support the continued pursuit of a fully integrated Design, Install, Finance, Maintain and Operate model
- The VFM analysis will be updated prior to the contract award to confirm continued VFM for the project
- Report to Council required prior to Contract Award, which will include the updated VFM

Timelines

Activity	Date	Completed
Request for Expressions of Interest issued to the Market (RFEOI)	Nov - Dec 2016	✓
Request for Pre-Qualifications	Feb – Mar 2017	✓
Request for Proposals	May – Aug 2017	
Select Preferred Proponent	Oct 2017	
Council Award	Nov 2017	
Commence work	Dec 2017	

**LED STREET LIGHT RETROFIT PROJECT: RECOMMENDED FINANCING STRATEGY
ALL WARDS****Recommendation**

The Deputy City Manager of Public Works, the Director of Infrastructure Delivery, and the Chief Financial Officer and City Treasurer recommend:

1. That the upfront capital costs for the design and installation of the LED street light retrofit project be financed by the successful proponent, subject to an updated value for money analysis to be completed prior to award of contract.

Contribution to Sustainability

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Economic Impact

The total upfront capital costs for the design and installation of the LED retrofit project is approximately \$19.1 million. The business case approved by Council in June 2016 (Item 8, Committee of the Whole Report 26) recommended that debt-financing be used to fund the project's upfront capital costs, with future energy and maintenance savings being used to pay down the debt financing over the term of the contract.

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The results of the VFM analysis revealed that the external financing option delivers greater overall value for money for the project versus the City-sourced financing option. The preferred project delivery model of design, install, operate and maintain with externally sourced financing, maximizes the proponent's expertise and ensures their continued financial commitment to the project for the full 18 year contract term through the optimal allocation of project risk. The potential for additional costs of externally sourced financing was determined to be more than offset by the allocation of project risk that would be transferred to the successful proponent under this financing arrangement. A summary of the VFM analysis is included in the Background section of this report.

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on the results of the VFM analysis, it is not anticipated that the City will be issuing debentures for the upfront capital costs, however through the recommended external financing; the City will still be paying for the capital costs of the project from the future energy and maintenance savings that will be achieved.

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Upon completion of the business case, it was recommended that the City pursue an Energy Performance Contract to deliver the LED street light retrofit project. In an Energy Performance Contract deal structure, the City would procure the services of an Energy Service Company (ESCO) to design and install the LED street light retrofits and to operate and maintain all of the street lights over a defined contract term.

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The procurement process for this project has commenced through the issuance of a Request for Expressions of Interest (RFEOI) to assess the market interest for such a project.

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The project is being delivered with inputs not just from the core project team, but also across City departments such as the Office of the Chief Information Officer (integration), Access Vaughan (public interface and reporting), Policy Planning and Environmental Sustainability (energy efficiency and future clean energy production) Office of the City Clerk (insurance and risk management) and Corporate Communications (both internal and external stakeholders).

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A summary of the VFM results is illustrated in Table1 below.

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The project is on schedule and it is anticipated that the LED street light retrofits will commence in Q4-2017

In December 2016, potential proponents were invited to submit Expressions of Interest through an RFEI process. Proponents were provided the opportunity to table any concerns they may perceive as a result of the chosen delivery model and risk apportionment. The project was well received by the market, with 15 responses declaring an interest in the project and the risk profile outlined in the staff presentation.

Following the RFEI process, staff propose that the remainder of the procurement process timetable be as outlined below:

Activity	Description	Planned Date
Issuance of Request For Pre-Qualification (RFPQ)	Open to the market, inviting proposals to evaluate	February 2017
Receipt and evaluation of RFPQ	Staff will evaluate bidder responses and identify qualified proponents to issue the RFP to	March/April 2017
Issuance of Request For Proposals (RFP)	The RFP document is a detailed project specification and associated contract documentation designed to obtain accurate delivery method and pricing from the proponents	April/ May 2017
Receipt and evaluation of RFP	Staff will evaluate the bidder responses and identify a preferred proponent	August 2017

Activity	Description	Planned Date
Commercial Close	This is the acceptance of the terms and conditions under the contract and the technical specifications	September 2017
Financial Close	Finalization of the financing terms for the project	October 2017
Commencement	The service provider commences work	October 2017

Relationship to Term of Council Service Excellence Strategy Map (2014-2018)

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Staff will co-ordinate the approvals including mitigation of traffic impacts resulting from the proposed work, with the respective jurisdictions.

Conclusion

As a result of the financing strategy review and revised value for money analysis, staff recommends that the upfront capital costs for the design and installation of the LED street light retrofit project be financed by the successful proponent. This will ensure that the successful proponent remains accountable through the payment incentive mechanism and provide incentive for their continued performance throughout the full contract term. Prior to award of contract, staff will conduct an updated VFM analysis to confirm that the external financing option remains the preferred financing approach for the project.

Attachments

N/A

Report prepared by:

Stuart Galloway, Project Manager, ext. 8181
Vince Musachio, Manager, Infrastructure Programming, ext. 8311
Rita Selvaggi, Manager, Financial Planning & Analysis, ext. 8438

Respectfully submitted,

Stephen Collins, P. Eng.
Deputy City Manager, Public Works

Laura Mirabella-Siddall
Chief Financial Officer and City Treasurer

Jack Graziosi
Director of Infrastructure Delivery