

17

REQUEST FOR PROPOSAL P-10-165 FOR COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM

The Transportation Services Committee recommends the adoption of the recommendations contained in the following report dated June 6, 2011, from the Commissioner of Transportation Services.

1. RECOMMENDATIONS

It is recommended that:

1. Council approve the Region's entering into an Enterprise License Agreement with ESRI Canada for the acquisition, implementation and maintenance of Cityworks, a Computerized Maintenance Management System solution at a cost not to exceed \$1,366,428 excluding HST.
2. The Regional Chair and Clerk be authorized to execute the contract subject to the terms and conditions acceptable to the Commissioner of Transportation Services and subject to review of Legal Services to form and content.

2. PURPOSE

This report seeks Regional Council authorization to purchase a Computerized Maintenance Management System for the Transportation Services Department.

3. BACKGROUND

Transportation Services helps manage a growing road network currently estimated to include over 2.2 billion dollars worth of tangible capital assets.

The 2009 Regional Transportation Fact Book reported the Region's arterial road system had increased 10.4% over the preceding 10 years. Today our road network consists of 3472 lane kilometres. Assuming that the road network continues to grow over the next 20 years at a similar rate, by 2031 the Region's road maintenance, renewal and reconstruction program will be significantly stressed.

The existing maintenance management program is not effective in managing the tangible capital asset inventory

The current maintenance program, known as RMMS (Road Maintenance Management System) is primarily paper based and runs on an access database which is unable to meet timely maintenance and reporting requirements. The current RMMS is missing key components necessary to provide staff with up to date information. Simple tasks such as identifying an asset on a map and assigning work orders to that asset electronically cannot be accomplished in the existing system. Transportation staff require accurate records of where the assets are and what their condition is. As the current service requests and work order procedures function on a paper based system, maintenance information is not being updated in a timely matter.

In 2009, Transportation Services Department staff undertook a business review with the goal of optimizing asset management of the Region's investments

Prior and Prior Ltd were hired in 2009 to assist the Roads Branch with a business review of how road assets were being inventoried, managed and reported on. The final report outlined a number of priority projects required for an advanced asset management program. A major recommendation stemming from the review was the need for a modern Computerized Maintenance Management System (CMMS). The CMMS would improve data integrity of asset information and would track and report on asset maintenance activities. The CMMS would also provide staff with the ability to report on asset condition to better forecast the maintenance required to maximize the life of the assets and minimize risk of asset failure. From single sign replacement to winter storm events, the CMMS would be able to handle many types of activities with the ability to create detailed reports and strategically plan for the future.

Staff time efficiencies will be created by removing existing paper processes and replacing it with a more streamlined digital version

A new digital CMMS will replace the existing paper based data management systems. As service requests and work orders are created, staff will be able to view them using various devices anywhere, anytime without having to track down or process paper documents. Technology and communication devices will allow staff to quickly update the asset information and reflect the value and scope of pertaining to an asset for accurate maintenance reporting.

A CMMS will help improve customer service by giving staff access to asset information in a timely manner.

An advanced CMMS will provide staff the ability to report on assets and any activity completed against an asset as work is completed on a daily basis or quicker in some cases.

Roads and forestry staff field numerous customer service requests on a daily basis. Often these currently involve the accessing of paper records, the distribution of these records to field staff, the reporting back of actions taken with inadequate recording of the resulting changes to the information on the original paper based records. With the implementation of a CMMS, staff will be able to view assets on maps, generate work orders, perform the required maintenance or other services and close off the work order all electronically with notices of completion being generated for reporting back to customers as required.

Digital, geographically based scheduling of multiple, similar service requests will improve staff productivity. Having one location where data is stored for any asset allows instant retrieval of information instead of having to check a range of databases and staff.

The improved management of road asset condition and maintenance data will improve the Region's risk management process.

The implementation of the CMMS will enhance the Regions record keeping related to roadway maintenance by improving the consistency of monitoring, regular maintenance and automated work orders which reduce the occurrence of incidents and the associated liability to the Region.

Asset data stored in the CMMS will allow for quicker and more accurate assessment and responses to claims against the Region. Risk and Insurance staff and our external insurance providers will have access to current, consistent and quality data when assessing and responding to claims. Data inconsistencies or inadequacies will be minimized. Data uniformity will be achieved through the use of digital forms. Demonstrating due diligence is a key component in managing roadway risks; it reduces liability and assists with preventing and reducing incidents.

Since 2009, Regional staff have struggled to collect and interpret tangible capital asset data to meet federal reporting requirements.

Effective January 1, 2009, all municipalities must report on their Tangible Capital Assets (TCA) on their Statement of Financial Position in conformance with the Public Sector Accounting Board (PSAB) requirements. A new format for municipal financial statements requires that Tangible Capital Assets (TCA) be amortized on the Statement of Operations.

Regional staff participated in a PSAB pilot which required the collection of TCA data, including financial information which was not readily available. Staff prepared the information based on the best data available. Staff continue to report on this basis. Compiling this paper based data has been onerous and time consuming.

A new CMMS system will collect, organize and analyse TCA data significantly reducing the staff time and expense in compiling accurate and complete annual financial reports to satisfy PSAB reporting requirements.

Regional staff are working to improve asset condition assessments to build better maintenance programs

A CMMS will give staff the ability to analyse existing assets based on current and historical conditions and provide quality data to use in the creation and extension of a robust maintenance program. A maintenance program will optimize investment in up keep of various assets and better forecast financial needs for future rehabilitation or replacement allowing for development of comprehensive strategies.

The CMMS will also more accurately assess long term funding needs and assist in evaluating optimal long term funding and risk management strategies. As inspections are carried out on assets, up to date condition ratings are stored, staff will be able to query any asset and determine a rehab or replacement timeline as well as determine the required funding needs.

The planned implementation of a new CMMS includes a planned implementation across all branches in Transportation Services

The Roads branch has a schedule in place to implement the Roads CMMS initially with the intent to implement other Transportation Service branches using the same software across the department.

4. ANALYSIS AND OPTIONS

The first phase of the procurement process was to issue a Request for Proposal

The Supplies and Services Branch issued a Request for Proposal (RFP) for a Computerized Maintenance Management System No. P-10-165. The request was issued to solicit interest for a computerized maintenance management solution. In response to RFP P-10-165, five software proponents expressed interest in this project and submitted their qualifications and proposed team members.

Transportation staff along with Information Technology, Finance and the planning department (GIS) were part of the evaluation team.

The technical scoring consisted of three parts:

- Evaluation of Technical and Management Proposal.
- Evaluation of the Functional System Requirements.
- Presentation and Demonstration of Solutions.

This RFP adapted the management best practice of including in the RFP a copy of the technology agreement which the Region and the successful proponent would ultimately execute for the acquisition of the CMM product. This is to ensure that all proponents were completely aware of the terms and conditions of the future contract. This practice was adopted following earlier difficulties experienced by the Region whereby the agreement had not been included in the RFP but presented to the proponent after the award.

Three of the five submissions were found to be non-compliant with the terms and conditions of the technology agreement by virtue of the stated refusal to be bound by them. Technical evaluations were not carried out on these three submissions.

The remaining two submissions that accepted the terms and conditions of the technology agreement were first evaluated and scored based on Technical and Management Proposal criteria such as:

- Qualification and experience of the firm.
- Qualification and experience of the project team.
- Familiarity with business processes relevant to CMMS.
- Responsiveness to RFP.
- Demonstration of full understanding of the project objectives and the services to be provided.
- Quality of proposal in terms of methodology and approach to the project.
- Ability to provide all services in a timely matter.
- GIS Integration Methodology.
- Value Added.

The two technical submissions were also scored based on the Functional System Requirements. This was achieved by supplying each proponent with a spreadsheet listing functional requirements of their solution. Each proponent was required to fill in the spreadsheet and return it with their submission. The sections within the spreadsheet were:

- System Compatibility.
- Upgrades and Modifications.
- System usability.
- Asset Registry.
- Work Management Module.

The combined score from Technical and Management Proposal, as well as the Functional System Requirements was used to determine their scores and progress in the evaluation. A score greater than 60% was required to qualify the vendors to move onto the demonstration component of the technical.

The second phase of the procurement process included product demonstrations by proponents who passed the technical evaluation.

The two firms invited to proponent demonstrations in response to RFP P-10-165 were:

- ESRI Canada with their Cityworks application.
- AGL Canada with their Cartegraph application.

After each demonstration was completed, staff evaluated the proponent solutions based on the criteria such as:

- General level of professional quality and effectiveness of the proponents approach to the presentation and materials, presence and qualification of presenter.
- Demonstrated understanding of the terms of reference.
- Project management methodology.
- Implementation Methodology.
- Scenarios demonstrated satisfactorily.
- Overall Acceptability / fit of solution.

The final phase of the procurement process was to evaluate the financial proposals

The two envelope system requires each proponent to submit the technical proposal and the financial proposal in separate envelopes. The proposals were evaluated based on a weighting of 80% for the technical component and 20% for the financial component.

The allocation of 80% for the technical component and 20% for the financial component has been our practice for several years. The reason for this split is to recognize the relative importance to the Region of retaining the best available professional services yet demonstrating fiscal prudence.

When the financial proposal for one of the vendors was opened, it was determined to be non compliant with the financial terms of the RFP due to the inclusion of a financial currency value indexing provision.

A final technical score was calculated for only the one remaining compliant submission.

The technical and financial scores were combined to achieve a total score.

Table 1 outlines the final results of the CMMS evaluation.

Table 1
Evaluation Summary

Firm	Technical Score (out of 80)	Financial Score (out of 20)	Total Score (out of 100)
ESRI Canada - Cityworks	68.03	20	88.03
Applied Geologies Inc. - Cartegraph	56.17	Financial Proposal Non- Compliant	-
CGI - Maximo	Technical Proposal Non-Compliant	-	-
The Createch Group - Maximo	Technical Proposal Non-Compliant	-	-

Staff recommends the purchasing of ERSI Canada's Cityworks CMMS Enterprise License Agreement.

The recommended proponent received the highest technical and demonstration scores as well as a cost that is within the budget estimates prepared by staff based on comparables. The cost includes five years of software maintenance and support across four branches within Transportation Services. The Enterprise License Agreement will provide Transportation Services the flexibility to add additional users as needed at no addition cost as the user base increases.

Transportation Services will be able to leverage the existing corporate ESRI software and hardware investment.

York Region has already made significant investment in ESRI software that powers the Geographical Information Technology (GIS) applications. The Cityworks CMMS integrates with the GIS technology infrastructure and will leverage the Region's earlier investment therefore lowering future costs.

The selected software will provide one solution across Transportation Services.

Considering all branches of the Transportation Service Department were included in the technical evaluation and demonstrations, the ESRI Cityworks application provided a solution that the Department can utilize as a whole as well as integrate and share data with other departments. From mapping of bus shelter, signs or culverts, creating service requests and work orders to maintain assets and reporting on asset conditions, the

recommended CMMS solution addressed common challenges that occur across the department.

5. FINANCIAL IMPLICATIONS

The funding for this program has been budgeted within Transportation Services.

The funding for this initiative is included in the 2011 Transportation Services Capital Budget.

6. LOCAL MUNICIPAL IMPACT

The CMMS system will provide staff with up to date asset information in order to provide better customer service to residents in all of the local municipalities.

7. CONCLUSION

The Roads, Transit, Natural Forestry and Heritage and the Traffic Management and Intelligent Traffic Systems Branches of the Transportation Services Department manage approximately \$2.2 billion in tangible capital assets.

This report recommends the acquisition of a Computerized Maintenance Management system to improve the Region's management of these assets, and to help optimize the return on future financial investments in these assets. Staff recommend the acquisition of the Cityworks CMMS program from ESRI Canada at a total price of \$1,366,428 excluding HST.

For more information on this report, please contact Paul Jankowski, General Manager, Roads at Ext. 5901.

The Senior Management Group has reviewed this report.