

7

REMOTE ACCESS PERSONAL DIGITAL ASSISTANT (PDA) IN SUPPORT OF THE REGION CENTRALIZED TRAFFIC CONTROL SYSTEM (CTCS) TRANSPORT CANADA INTELLIGENT TRANSPORTATION SYSTEM (ITS) FUNDING

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, August 25, 2004, from the Commissioner of Transportation and Works:

1. RECOMMENDATIONS

It is recommended that:

1. Authorization be given to the Commissioner of Transportation and Works to enter into an agreement with Transport Canada for 50% funding of a \$500,000 Intelligent Transportation System (ITS) project, as outlined in this report.
2. Authorization be given to the Commissioner of Transportation and Works to enter into an agreement with Delcan Corporation to develop and integrate a Remote Access Personal Digital Assistant (PDA) in support of the Region Centralized Traffic Control System (CTCS) as outlined in this report at an upset fee of \$396,422.
3. The requirements of the Purchasing By-law be waived for this assignment.

2. PURPOSE

This report seeks authorization to enter into an agreement with Transport Canada for up to funding of 50%, up to \$250,000 under Canada's Intelligent Transportation Systems Deployment and Integration Plan.

In addition, this report seeks authorization for Delcan Corporation to provide software development consulting services for this project. This project provides Remote Access Personal Digital Assistant (PDA) in support of the current Region's Centralized Traffic Control System (CTCS).

3. BACKGROUND

Transport Canada invited proposals from municipal and private sector alliances to fund and implement Intelligent Transportation Systems (ITS) throughout Canada. The financial support offered to Canadian agencies is 50% of total eligible expenditures up to a maximum of \$250,000, for ITS projects meeting certain objectives and criteria. In response to this call for proposals, Region staff and Delcan Corporation prepared a proposal to Transport Canada. The proposal detailed an ITS project consisting of a remote access PDA in support of the Region CTCS.

This proposal was submitted to Transport Canada in September 2003. On May 14, 2004, Transport Canada notified staff the proposal for funding was accepted.

One of the conditions for the funding requires a partnership be formed between the public and private sector. As a result, Delcan Corporation will provide an “in-kind” contribution to the project of \$20,000. The contribution will be in the form of time and effort provided by their staff. The value of this contribution is calculated by measuring “in-kind” hours worked on the project multiplied by salary cost, plus overhead, without profit. The “in-kind” contribution will be shown as a credit on the claims for progress payments.

The Region and Delcan Corporation, together, own the proprietary software used within CTCS. Therefore, Delcan Corporation has integral knowledge of the software. As a result of the proprietary vendor specific software, it is not appropriate to obtain proposals from other software development consultants for this project.

This project must be completed by 2005 and is a shared cost initiative with the Region and Federal government providing one half of the funding. Transport Canada will provide a maximum contribution of \$250,000 toward the proposed project.

4. ANALYSIS AND OPTIONS

A joint proposal was prepared and submitted to Transport Canada. The proposal included details of the project and its relevance to the ITS plan. The project proposal outlined the following major activities.

- Define the system requirements for implementation of the remote PDA system.
- System architecture encompassing all of the requirements identified.
- Evaluate different technologies used for each requirement identified.
- Prepare a system design.
- Software development using software quality assurance plans and procedures.
- Integrate and test the various software and hardware components of the system.
- York Region staff will operate and maintain the system.

In addition to the above program activities, the Region must enter into an agreement with Transport Canada to establish the equal funding arrangement.

This new technological application allows the Region to resolve problems reported by the public regarding traffic control signal malfunctions in a more efficient manner. The PDA system to be designed and developed provides for information related to any intersection to be retrieved through the latest wireless communication technology from the CTCS central server. It is envisioned the PDA system will allow for staff to adjust traffic control signal timing while at the intersection in a more effective and knowledgeable manner.

The software development and ongoing maintenance will be completed by Delcan Corporation. Currently, the Region has a five-year agreement with Delcan Corporation to maintain the CTCS software. The software development discussed within this report is an enhancement to the current system. The Information Technology (IT) branch will be consulted to discuss connection to the Region network.

Studies have proven a more effective and knowledgeable response in a timely manner will generate savings in reduced vehicular delay, reduced pollutants to the environment, reduced fuel usage and potentially a reduction in collisions due to reduced driver frustration and improved traffic signal co-ordination.

It is proposed that Delcan Corporation be authorized to undertake the consulting portion of this assignment, and that the Commissioner of Transportation and Works be authorized to sign all applicable applications and agreements with Transport Canada for the funding of this project.

4.1 Purchasing By-law

The Region and Delcan Corporation own the proprietary software used within CTCS, and therefore, have integral knowledge of the software. The software developed within this project will continue to be owned by the Region. As a result of the proprietary vendor specific software, it is not appropriate to obtain proposals from other consultants to implement this project.

Therefore, requirements of the Purchasing By-law should be waived, and this project be assigned to Delcan Corporation.

5. FINANCIAL IMPLICATIONS

Funds will be included in the draft 2005 Capital Budget and Business Plan for this project. The total budget is \$500,000 which is funded equally by Transport Canada and the Region. The estimated budget breakdown is shown in Table 1.

Table 1
Cost Breakdown

Project Phase	Total Project Estimate	In-Kind Contribution	Consulting Fee
System Requirements Definition	\$17,000	\$8,500	\$15,228
System Architecture	\$17,000		\$15,228
Technology Survey and Evaluation	\$49,000		\$39,700
System and Software Design	\$55,000	\$11,500	\$46,030
Software Development	\$239,000		\$184,010
Integration and Testing	\$60,000		\$41,969
Operations, Evaluations and Maintenance	\$27,000		\$24,257
Purchase, Develop, Test Hardware and software	\$36,000		\$30,000
Total	\$500,000	\$20,000	\$396,422

Typically, software development and integration projects are consultative intensive. Therefore, Delcan Corporation's total project fee is \$396,422, which is comprised of tasks listed within Table 1. Of this project fee, approximately \$30,000 is reserved to purchase hardware and software licenses for software development and applications. The remaining amount of \$83,578 will be allocated for hardware to support the software developed by Delcan Corporation.

6. LOCAL MUNICIPAL IMPACT

The proposed technology enables the Region to remotely adjust traffic control signal timing while at the intersection. As a result, the Region can be more effective and efficient in response to traffic patterns along the road network. This will also assist in reducing delays and congestion on local roads intersecting with Region roads.

7. CONCLUSION

To encourage the development of intelligent traffic system initiatives throughout Canada, the Federal government initiated a program through Transport Canada to provide funding to public/private sector alliances.

Region staff worked with Delcan Corporation to develop a PDA solution in support of the Region CTCS. The ease of usage further enhances the quality and timely correction of traffic control signal concerns and essentially creates a remote CTCS.

It is proposed that the Commissioner of Transportation and Works be authorized to execute agreements with Transport Canada and Delcan Corporation. These agreements will allow for the funding, development and integration of a Remote Access PDC in support of the Region CTCS, as outlined in this report.

The requirements of the Purchasing By-law should be waived, and this project be assigned to Delcan Corporation.

The Senior Management Group has reviewed this report.