REGION OF OTTAWA-CARLETON REPORT
RÉGION D'OTTAWA-CARLETON RAPPORT

Our File/N/Réf. **50** 20-00-0201
Your File/V/Réf.

DATE 9 May 2000

TO/DEST. A/Co-ordinator
Corporate Services and Economic Development Committee

FROM/EXP. Environment and Transportation Commissioner

SUBJECT/OBJET **SUPPLY OF TRAFFIC CONTROL HARDWARE/SOFTWARE ENGINEERING SERVICES - CONTRACT AWARD**

DEPARTMENTAL RECOMMENDATION

That the Corporate Services and Economic Development Committee and Council approve the contract award for the supply of Traffic Control Hardware/Software Engineering Services to Thompson Technologies, Gloucester, Ontario for a total contract provision of $176,897.

DISCUSSION

The traffic control hardware/software engineering services will allow us to continue to develop enhanced traffic control strategies as directed by the Transportation System Management and the Transit Priority module of the Transportation Master Plan.

These services are required to upgrade and expand the software of both the Central Traffic Signal Control system and of the traffic signal controller units which are located at each signalized intersection. This type of work is of a very specialized technical nature and requires extensive traffic software design engineering and a thorough knowledge of our current Centralized Traffic Signal Control System.

There is an ongoing requirement for these types of services to assist in providing a state-of-the-art Traffic Signal Control System in Ottawa-Carleton. Some of the projects include Traffic Signal Priority software to speed response time for transit vehicles at signalized intersections, an upgrade of our communications protocol at both the Traffic Control System and the local controller and a Digital Wireless project to improve traffic signal control at remote locations.

This supplier, Thompson Technologies, is the only firm with this type of knowledge and experience. The firm is located in Gloucester, Ontario which provides benefits in terms of on-site availability. The sole source is based on past performance, detailed knowledge and experience with our Traffic Signal Control Systems.

Supply Management has reviewed the submission and recommends the report for approval. The established per diem rates are considered to be fair, competitive and of good value to the Region.

A brief description of the detailed work plan with costs is presented below. It is expected the work will take place over an 18 month period.

Description — Each Project Price

Digital Wireless Dial-Up Project. A wireless dial-up system can be used to maintain accurate traffic signal controller timing, progression, and improved fault monitoring capabilities at a significantly reduced operational cost. This year's project will involve approximately 20 intersections with an approximate savings of $1,020/intersection/year for a total savings of $20,400/year. Connection to the traffic signal controller can be made through any one of the three digital wireless telephone networks, providing a competitive service environment.

$44,512

New Traffic Communications Protocol Project. This project will expand the real time dedicated communication capabilities of both the Central Traffic Signal Control system and the local traffic controller. The currently used communication protocol was first developed in 1976. This needs to be expanded in order to provide expanded functionality surrounding transit priority, audible signals and traffic incident detection. ***$90,415***

Transit Priority Vehicle Identification Project. This will provide the ability to detect buses in mixed vehicular traffic. The Traffic Operations Branch and OC Transpo are developing a new system to provide priority for buses at traffic signals. A number of Regional vehicles are being fitted with a small transponder device to identify the bus/vehicle as well as to provide other information such as route number.

Inductive detection loops are installed in the road surface to automatically interrogate the "discus" and collect details of the bus. This information is then passed to the Central Traffic Signal Control system to take action to minimize delay to OC Transpo buses.

$10,683

Traffic Controller Software Project. There are a number of modifications required to the traffic controller software to continue improving operation at traffic signals located throughout the Region of Ottawa-Carleton. These features will provide improved service to pedestrians and vehicles at signalized intersections. ***$20,405***

Central Traffic Control System Project. This involves two projects. One will implement a function to synchronize the traffic system clocks to better track time-of-day clocks with a corporate clock system or synchronize with the GPS time-clocks.

The second project will create a system to monitor the Central Traffic Signal Control system performance. The parameters calculated will provide traffic flow Measures of Effectiveness to better quantify real time traffic conditions.

Software will be provided to analyze the effectiveness of signal timing variables coded in the local traffic signal controller at an intersection.

$10,882

CONSULTATION

As this contract represents the supply of traffic control software/hardware engineering services, consultation is not applicable.

EXPENDITURE JUSTIFICATION

The above-noted descriptions are the type of projects we need to proceed with to take advantage of new technology that is now available.

As the traffic signal control system expands each year, better tools are required to efficiently handle the maintenance and operating functions of the traffic signal control system. Many of these projects will help to reduce operating costs of the existing traffic signal control system. Features in the Digital Wireless Dial-Up, New Traffic Communications Protocol and Central Traffic Control System projects will all help to reduce the number of call-outs to intersections by Regional staff by providing improved remote monitoring and upload/download of local traffic signal timing database.

Transit Priority refers to various operational measures to provide buses with preferential treatment over other vehicles in a mixed traffic environment. As levels of traffic congestion continue to increase, priority measures provide transit with an advantage in order to help increase transit ridership. Transit priority will be an important function of the Woodroffe Avenue Bus Lane Project. Hardware and software developed for transit priority over the next 12 to 18 months will be implemented in the Woodroffe Avenue corridor.

One of the principles of the Transportation Master Plan approved by Regional Council in July of 1997 is Transportation System Management. As reductions in capital funding eliminate the option of constructing additional roadway capacity, optimization of the operation of the existing network through Transportation System Management becomes critical. Various aspects of the above-noted projects all help in reaching this goal.

FINANCIAL STATEMENT

	900120	900276	132525
	$	$	$
Approved Budget To Date	445,000	2,868,707	2,403,262
Total Paid and Committed	(276,581)	(1,070,240)	(486,126)
Balance Available	168,419	1,798,467	1,917,136
THIS REQUEST	(121,702)	(10,683)	(44,512)
Balance Remaining	46,717	1,787,784	1,872,624

Funds have been provided in the 2000 Capital Budget, Order No. 900120, Computerized and Traffic Surveillance & Signals (reference page 187), Order No. 900276, Arterial Transit Priority Measures (reference page 285), Purchase Requisition Nos. 10058308 and 10058309, and in the 2000 Operating Budget, Cost Center 132525, Signal Operations (reference page 219), Purchase Requisition No. 10058310.

In accordance with Transition Board financial guidelines, this contract award will require approval by the Ottawa Transition Board.

Approved by
M. J. E. Sheflin, P. Eng.

MG

SUPPLY MANAGEMENT DIVISION

I concur,

G. Ford on behalf of
the Finance Commissioner