SUBJECT: Extension of Red Light Camera Program (PW03150d) - (City Wide)

RECOMMENDATION:

(a) That approval be granted to continue to operate the Red Light Camera (RLC) Program in Hamilton through to the end of the year 2012;

(b) That approval be granted to extend the existing contract or enter into a new contract between the City of Hamilton and the City of Toronto, to undertake centralized municipal processing of RLC offence notices, to the end of the year 2012, with the costs for this activity to be charged to account 55739-461010;

(c) That approval be granted to enter into an operational agreement with the Ministry of Transportation, Ontario, said agreement to define the responsibilities of the City and the Province under the RLC program and thereby authorizing and permitting the City of Toronto to obtain motor vehicle registration information necessary to lay charges under the RLC program on the behalf of the City of Hamilton, with the costs for this activity to be charged to account 55738-461010;

(d) That Traffipax, Incorporated be awarded the contract for the provision of red light cameras, associated equipment, maintenance services and data transfer services for the period 2007-2012, in accordance with the terms and conditions of the Request For Proposals executed by the City of Toronto on behalf of the City of Hamilton and other participating RLC municipalities, with the costs for the equipment rental and servicing to be charged to account 55916-461010;

(e) That the Mayor and City Clerk be authorized to execute the above contracts, and the General Manager of Public Works be authorized to execute any other documentation required, in the opinion of the City Solicitor, to implement the contracts, at such time as the appropriate enabling provincial regulatory amendments come into force, with said documentation to be of the satisfaction of the General Manager of Public Works and the City Solicitor;
That the initial extension of the RLC program in Hamilton for 2007 include four sites, each with full time camera operation, to be selected from the sites contained as outlined in Report PW03150d as Appendix “A”.

Scott Stewart, C.E.T.
General Manager
Public Works

EXECUTIVE SUMMARY:

As of November 2004, the Province of Ontario removed the “sunset clause” on red light camera installations. Following a thorough Request for Proposals (RFP) process conducted by the City of Toronto on behalf of the 6 municipalities involved in the RLC program in Ontario, the lowest compliant bidder was the company Traffipax Incorporated from Maryland, USA. Traffipax successfully passed the “Proof of Performance” stage in late 2006 by demonstrating required performance through field installations and is therefore deemed to be fully compliant. The financial structure of the arrangement with Traffipax requires the City of Hamilton to commit to operating cameras for a five-year term, so approval to continue the RLC program through 2012 is recommended.

An earlier scientific study of the RLC program in Ontario has shown that the use of cameras provided a modest reduction in right angle collisions at traffic signals along with a compensating increase in rear end collisions. Hamilton’s current data shows similarities and differences compared to the provincial data. After correcting for changes in motor vehicle collision reporting rates, the eight camera equipped sites in Hamilton showed an 18% reduction in both right angle and rear-end collisions compared to conditions before the RLC program. In absolute numbers, the RLC program appears to be saving about 13 collisions per year. Overall, red light running continues to be a problem in the City of Hamilton with 268 collisions happening as a result of red light running at signalized intersections in 2006, and since red light cameras have been shown to be able to effect at least a modest reduction in collisions, an expansion to the existing program is recommended.

It is possible to extend the RLC program in Hamilton at no cost to the taxpayers, by choosing locations which are both high in red light running collisions and violations. It is therefore recommended that the program be expanded. The suggested expansion for 2007 is four sites with four cameras. The present situation is two cameras which rotate through eight sites so in effect this is a 200% increase in the number of live cameras in Hamilton.

<table>
<thead>
<tr>
<th>Status</th>
<th># of Red Light Camera Sites</th>
<th># of Red Light Cameras</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Program</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Proposed 2007 Expansion</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Proposed Total Program</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>
A relatively modest expansion is recommended until staff have additional experience with the new technology and with the new vendor. If the equipment operates as the Proof of Performance predicts, staff will report back for 2008 with a recommendation for further additional expansion.

A minor regulatory change is required to amend the Highway Traffic Act to allow for the new brand of camera equipment. The office of the Minister of Transportation is aware of the need to process this change, but until the Regulations under the Highway Traffic Act are formally amended, the new equipment cannot be used for red light enforcement. It is therefore recommended that preparations be made, but that the contract with Traffipax not be completed until the HTA Regulations are amended.

A list of proposed sites is shown outlined in Report PW03150d as Appendix “A”. These are sites that have been identified as exhibiting both high numbers of motor vehicle collisions as a result of red light running and high numbers of violations through field studies. The vendor has performed a preliminary review of sites for technical feasibility. It is proposed to choose the RLC sites from the list working generally from the top but subject to technical constraints as identified by Traffipax Inc. That is, there might be some sites on this list which may later be defined as not technically feasible due to interference from metal objects in the roadway or inability to place a camera in the desired location.

BACKGROUND:

The information/recommendations contained within this report have City wide implications.

The City of Hamilton has been operating the RLC program since November of 2000. The Hamilton program has consisted of eight red light camera sites through which two cameras are rotated. The intent of the program is to increase public safety through the reduction of right angle collisions at traffic signals caused by drivers failing to obey red traffic signals.

The program has demonstrated a modest but measurable reduction in right angle collisions and rear end collisions, but only at the sites equipped with cameras. There has been no “halo” effect that has resulted in a wider-spread reduction in red-light type collisions.

The initial implementation of RLCs in Hamilton was through a joint tender undertaken by six municipalities in Ontario, including the Cities of Hamilton, Toronto, Ottawa and the Regional Municipalities of Peel, Halton and Waterloo. The initial contract was with a company which is now known as Affiliated Computer Systems (ACS). ACS was responsible for supplying and installing the cameras, conducting a regular rotation of the cameras to various sites and removing the film and delivering it to the City of Toronto. The processing of violations is done at the City of Toronto on behalf of all six municipalities. The City of Toronto employs Provincial Offences Officers who observe and review each violation to ensure correctness and then request the necessary information from the Province of Ontario to identify the vehicle from its license plate and issue the violation. Violations are issued on the basis of the rear license plate only, without identification of the driver and as such, no moving violation demerit points are assigned.
The first two years of the RLC program were deemed to be a part of a pilot project by the Ministry of Transportation, Ontario. A subsequent two year extension was provided through to November 2004. At that time the Province removed the sunset clause and use of RLC is then allowed indefinitely. Following the provincial announcement, the six municipalities involved went through a long process of developing an RFP for new hardware which culminated in series of submissions being received in the summer of 2006. The RFP process was done under the auspices of the City of Toronto. In accordance with City of Hamilton purchasing policy, joint tendering is an acceptable procedure as long the process follows all pertinent rules within the municipality in charge. Following the RFP process, the lowest compliant bidder was chosen and required to submit to a review of functionality which is called “Proof of Performance”. Cameras were installed in the City of Toronto and the quality of the photographs produced examined along, with the processing of hardware and software. The Proof of Performance step was successfully completed in the late fall and the recommended vendor for the extension of the RLC program is Traffipax Inc., with home offices in Maryland, USA.

The recommended plan is to retain the existing ACS cameras and sites, as the cost of purchase and installation has been amortized and these sites remain cost neutral or better. The City has a contractual arrangement with ACS until the end of 2007, at which time the ACS program will be re-evaluated. The business case is superior for the new hardware and the quality of the photographs is equal or better than the previous so it is recommended that the City extend the camera program using Traffipax hardware. Given that the pricing for sites without cameras is almost the same as sites with cameras installed, it is recommended that all new sites have cameras permanently installed, rather than rotate cameras from site to site.

The financial structure for the new program is completely different from the old one. Under the ACS contract, the City purchased the camera hardware outright and was required to amortize the cost over the life of the cameras and simply paid maintenance services to ACS. The Traffipax arrangement is strictly turn-key and rental. That is, there is no capital outlay required, simply a monthly charge that covers all aspects of installation, maintenance and servicing. However, in order for the supplier to recoup their investment, it is required that the City enter into a minimum 5 year contract. This requires that Committee and Council endorse a five-year RLC program. It is recommended that the city start slowly with this new program and the new vendor in order that we can ascertain the true cost and functionality and hardware in our environment. Therefore staff are recommending a starting point of four additional sites with cameras to be installed in 2007. Should these sites prove successful, staff will report back in 2008 with a recommended additional expansion of the program.

Appendix A lists the sites identified as having the highest combination of red light collisions and red light violations as field measured. These sites have had an initial scan by the vendor to verify the technical feasibility of camera installation. The intention would be to generally work from the top of the list to the bottom as the locations at the top are the most serious in terms of risk to public safety. All red light camera sites must receive a final, detailed review for technical feasibility, particularly the ability to install electromagnetic loops in the road surface and the potential for proper pole placement for good camera angles. As such, the sites at the top of the list have been screened by Traffipax and appear to be viable, but the final decision can only be made once detailed
installation plans are prepared. It is proposed to work from the top of the list down subject to the technical constraints defined by the Traffipax.

As well, it is necessary to extend our contractual arrangements with the City of Toronto for processing the violations and with the Ministry of Transportation, Ontario for supplying the City of Toronto with license plate information in order that the violation notices can be issued.

The new, proposed contract with the Province of Ontario requires that Hamilton conduct regular public information campaigns as part of the commitment which in turn gains access to vehicle registration information. Staff feel that public information is extremely valuable in any case, as a way to leverage better impact from the RLC program. The existing budget already has an allocation for public information. Therefore, an on-going program of media information will be undertaken.

**ANALYSIS/RATIONALE:**

A formal scientific study of the RLC program in Ontario carried out several years ago showed that the use of cameras provided a modest reduction in right angle collisions at traffic signals along with a compensating increase in rear end collisions. The overall effect was a slight reduction in motor vehicle injuries at signalized intersections. Hamilton’s data shows similarities and differences compared to the provincial data. The overall number of right-angle collisions reduced from 377 in 2000 to 268 in 2006. Since the reporting arrangements changed markedly during that time, and fewer collisions were reported by police officers, the best comparison is between right-angle collisions at traffic signals and overall injury collisions. Right-angle collisions at traffic signals as a percentage of injury collisions dropped from about 17.5% to about 15% over the six years of the program. After correcting for the change in reporting, the eight camera equipped sites in Hamilton showed an 18% reduction in both right angle and rear-end collisions compared to conditions before the RLC program. In absolute numbers, the RLC program appears to be saving about thirteen collisions per year. The numbers of violations and collisions at the camera sites in Hamilton remained roughly constant for the first 3 years of the project, then dropped dramatically by 40 to 50% through years four, five and partly into year six, and then rebounded in the latter part of 2006, for reasons unknown. Staff speculates that the red light running violations are partly related to the impact and frequency of public information campaigns.

The intention of the RLC program is to improve motorist and pedestrian safety by reducing the incidence of drivers intentionally failing to stop for red traffic signals. Over one-half of all right-angle collisions at traffic signals (not all of which are caused by intentional behaviours) are injury-causing. The immediate effect of red light cameras appears to be limited to educating drivers at the locations which are equipped with RLCs. It is hoped that if sufficient cameras are installed, the impact is broader based and through the “halo effect” spreads to intersections that are not camera-equipped. Ideally, the implementation of RLCs will make a statement that aggressive driving is not acceptable within our City and this will impact on other driver behaviours such as stop sign obedience.
**ALTERNATIVES FOR CONSIDERATION:**

Committee and Council could choose to not extend the program either in the short term or not at all. The potential to reduce right-angle collisions at traffic signals would then be lost.

**FINANCIAL/STAFFING/LEGAL IMPLICATIONS:**

The recommended program expansion using Traffipax equipment will exist in parallel with the existing ACS red light camera program. The previous financial structure with ACS required the City of Hamilton to purchase all of the equipment outright. Subsequent expenditures included only the necessary service to rotate the cameras from site to site, keep them in operating order, and remove the film on a twice weekly basis. The ACS contract and program has previously been approved by Council until the end of 2007.

The new Traffipax financial structure is the inverse of the ACS program, with no capital expenditures being required but with the City being required to enter into a five-year contract and to pay a constant rental charge for each camera and site throughout the five years. Based on the proponent’s bid price, the preferred financial structure is to place a camera in each site as the cost of a site without the housing is not significantly less than the cost of a site with a camera in the housing.

Following is an estimated expenditure and revenue budget for the expansion (Traffipax) portion of the City’s RLC program, for a twelve month period based on four sites, all equipped with cameras. The following is for the expansion portion of the program only:

### Red Light Camera Project Expenditures, Expansion Program -12 Month Period

<table>
<thead>
<tr>
<th>Component</th>
<th>Annualized Program Costs For Four Additional Cameras/Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera Operation</td>
<td>$ 172,000</td>
</tr>
<tr>
<td>Processing &amp; Photographic prints</td>
<td>$  96,000</td>
</tr>
<tr>
<td>Province of Ontario</td>
<td>$ 150,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ 418,000</strong></td>
</tr>
</tbody>
</table>

### Red Light Camera Estimated Fine Revenues, Expansion Program -12 Month Period

<table>
<thead>
<tr>
<th>Component</th>
<th>Estimated Annual Revenues From Four Additional Cameras/Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Fines</td>
<td>$ 452,600</td>
</tr>
</tbody>
</table>

The matching income side from the RLC program consists of fine revenue ($190.00 per red light violation, from which is deducted a victim surcharge $35.00, court processing costs for the local court system and miscellaneous other charges for recovering costs). Based on our field reviews on red light running violations, it is expected that the fine revenues on the four sites chosen should comfortably match or exceed the expenditures on the cameras in the first several years of the program. However, a
A conservative approach is recommended, with only four cameras at the outset in order to verify these facts.

Even with multiple field studies on new sites and six years of experience with current RLC sites, it is very difficult to estimate the number of violations which will occur at the recommended expansion sites. Further, if the camera program is successful, violation rates diminish with time, and this is equally hard to predict. However, in general, the sites chosen should be revenue neutral over the five-year period of the contract. In the event that revenues do not match expenditures, there is a reserve available from current red light camera operations that should be able to compensate, such that there will be no impact on the current budget. Therefore, the overall program, ACS plus Traffipax, should remain revenue neutral.

Staff are confident that the proposed 2007 camera program expansion can be run at no cost to the public, and, as well, it is likely that it will be possible to expand the program beyond the four camera sites recommended for 2007 without having any financial impact on the current budget.

Legal counsel recommends entering into a formal contract with the vendor, and based on the complexity of the RFP and the addenda that accompanied it, staff are in support.

Policies Affecting Proposal:

There are no policies that impact on this proposal.

Relevant Consultation:

An external consultant hired by the six participating Ontario municipalities was used to develop the RFP. The City of Toronto purchasing department issued the RFP on behalf of the Cities of Hamilton, Toronto and Ottawa and the Regional Municipalities of Peel, Halton and Waterloo. Legal Services and Finance have been consulted in the preparation of this report. Detailed discussions about some details have been held with the recommended vendor.

City Strategic Commitment:

By evaluating the “Triple Bottom Line”, (community, environment, economic implications) we can make choices that create value across all three bottom lines, moving us closer to our vision for a sustainable community, and Provincial interests.

Community Well-Being is enhanced. ☑ Yes ☐ No
Through a reduction in right angle collisions, personal safety for Hamilton citizens and visitors is improved.

Environmental Well-Being is enhanced. ☐ Yes ☑ No

Economic Well-Being is enhanced. ☑ Yes ☐ No
The RLC program should be revenue neutral or better.

Does the option you are recommending create value across all three bottom lines? ☑ Yes ☐ No

Do the options you are recommending make Hamilton a City of choice for high performance public servants? ☑ Yes ☐ No
Through contribution to an aggressively managed safety program supporting the corporation’s reputation is “quality” public service provider.
Appendix A
Candidate Locations for Red Light Camera Program Expansion - 2007

- Cannon and Hess
- Dundurn and Main
- King and Victoria
- Catharine and King
- Mud and Paramount
- Burlington and Gage
- Main and Queen
- Upper Wentworth and Stonechurch
- John and Main
- Catharine and Wilson
- Cannon and Kenilworth
- Victoria and Wilson
- Hess and Hunter
- Bay and Hunter
- Main and Wellington