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DATE: October 28, 2011

REPORT TITLE: **EXTENSION AND EXPANSION OF TRAFFIPAX INC., AGREEMENT FOR THE INTERSECTION SAFETY PROGRAM, CAPITAL PROJECT 11-4415 DOCUMENT 2006-671P ALL WARDS**

FROM: Dan Labrecque, Commissioner of Public Works

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#### **RECOMMENDATION**

**That the contract with Traffipax Inc. (Document 2006-671P) for Red Light Camera Services be extended by two sites for the remainder of the contract ending October 18, 2012, in the estimated amount of \$75,033, for a total estimated annual cost of \$780,324 (excluding applicable taxes), under Capital Project 11-4415, in accordance with Purchasing By-law 63-2008;**

**And further, that the Red Light Camera program be expanded for five additional one year periods commencing in October 2012;**

**And further, that authority be given to the Director of Transportation to expand the sites on an annual basis starting October 2012 and subsequent periods based on satisfactory performance, price and approved budget, in accordance with the subject contract with Traffipax Inc.;**

**And further, that operational agreements and purchase orders with both the City of Toronto and the Ministry of Transportation Ontario be extended, as may be required, to continue the program in accordance with Purchasing By-law 63-2008;**

**And further, that the a copy of the report of the Commissioner of Public Works, dated October 28, 2011, titled "Extension and Expansion of Traffipax Inc., Agreement for the Intersection Safety Program, Capital Project 11-4415, Document Number 2006-671P, All Wards" be provided to the City and the Ministry of Transportation Ontario for information.**

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**REPORT HIGHLIGHTS**

- The Red Light Camera Program continues to demonstrate increased intersection safety by reducing the frequency and severity of collisions at intersections with red light cameras installed.
- Angle type collisions resulting in fatalities and personal injury were reduced by 18.2 per cent in the direction where the cameras were installed and there was a 3.4 per cent reduction in fatalities or personal injury for all collision types.
- A comparison of the total net benefits and costs showed a decrease in societal costs of collisions by an average of 25.1 per cent in 2009 when compared with the societal costs in 2007 at the 10 red light camera locations installed in 2008.
- Six municipalities were designated by the Ministry of Transportation of Ontario as Red Light Camera project areas; all municipalities are seeking to extending their contracts as per the agreement.
- Recommend extending the current contract for an additional five years.

**DISCUSSION**

**1. Background**

The Red Light Camera program has been in operation in the Region of Peel since December 2000 and has continued to be effective in reducing red light running and providing for a safer intersection environment. Six municipalities were designated by the Ministry of Transportation of Ontario (MTO) as Red Light Camera project areas, namely, the Cities of Toronto, Hamilton, Ottawa, and the Regional Municipalities of Halton, Peel, and Waterloo. All municipalities are recommending to extend their contracts for five additional one year periods as per the agreement.

In accordance with Region of Peel Strategic Plan (2011-2014) goals 6.2 and 6.3, this program ensures a safe peel community by managing Regional infrastructure to ensure a safe living and working environment in collaboration with other governments, organizations and emergency services to develop initiatives to build a safe community.

The Region of Peel operates and maintains 25 Red Light Camera Sites (See Appendix I, Red Light Camera Program in Peel). To allow for the operation of this program the Region of Peel has an operational agreement with the City of Toronto to manage the Central Processing Centre, which includes cost sharing for operating costs, as well as with the MTO to provide vehicle license plate information.

**a) Red Light Camera Infractions**

The *Provincial Offences Act – Transfer of Responsibilities to Municipalities* (Bill 108) was passed in 1998. Bill 108 authorized staff to negotiate an inter-municipal agreement among the City of Brampton, City of Mississauga and the Region of Peel to transfer the responsibility for the administration of the Provincial Offences Courts to the Cities of Brampton and Mississauga, while the Province retained the responsibility of appointing Justices of the Peace and Provincial Prosecutors.

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This legislation provided for the following functions to be assumed by the local municipalities:

- i) Administrative, court support and prosecution functions for Part I offences – (regulatory ticket offences which are only punishable by fines up to \$500, e.g. *Highway Traffic Act* and municipal by-law offences) and Part II offences (parking tickets).
- ii) Administrative functions for Part III offences which include serious highway traffic offences, zoning violations, environmental offences and where the penalty may exceed \$500, with possible probation and incarceration.

As per the agreement all monies collected will be retained by the Cities of Brampton and Mississauga, less the amounts collected for victim surcharges and the costs which the Attorney General incurs for the adjudication of prosecutions, monitoring and enforcing. The Region of Peel does not receive any monies collected from red light camera infractions.

Red light camera fines, in accordance with section 144 (18) of the *Highway Traffic Act*, increased Provincially effective January 1, 2010, from \$180 total payable to \$325 total payable. The increase is in accordance to the Ontario Court of Justice and the *Provincial Offences Act* as it relates to Schedule 43 of the *Highway Traffic Act*.

## **2. Methodology**

At the time of issuing this report, full 2010 collision data was not available. As such, this report discusses the 10 red light cameras that were installed in 2008 to allow for a full “before” (2007) and “after” (2009) comparison.

The 10 red light camera locations from 2008 are presented in Appendix II, Table 1. An analysis was undertaken to review the number of collisions that occurred “before” the installation of the red light cameras (2007) with the number of collisions that occurred “after” the installation of the red light cameras (2009). Percentage difference between “fatalities”, “personal injuries” and “property damage only” collisions were calculated. In addition, a monetary analysis was conducted for the societal cost of the collisions before the installation of the red light cameras with societal cost of the collisions after the installation of the red light cameras.

## **3. Findings**

### **a) “Before and After” Safety Evaluation**

The purpose of the “before and after” evaluation study was to determine the effect the installation of the red light cameras had on the collision frequency at the noted intersections. Of particular importance is the number of angle type collisions which are deemed to be the most serious type of collisions from a potential for personal injury and death and most susceptible to correction with the use of a red light camera. A summary of the collision frequency comparison is presented in Appendix II, Table 2.

Of all the collisions that occur at signalized intersections, angle type collisions are the most indicative of red light running. Table 2 shows on an average the difference between “before” (2007) and “after” (2009) collisions resulting in fatalities and personal injury, as well as property damage at the intersections where the red light cameras were installed in 2008.

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The angle type collisions resulting in fatalities and personal injury were reduced by 18.2 per cent in the direction where the cameras were installed and there was a 3.4 per cent reduction in all collision types resulting in fatalities or personal injury.

Angle type collisions resulting in property damage were reduced by 65.5 per cent in the direction the cameras were facing and there was a 33.3 per cent reduction in all property damage collisions at the Red Light Camera intersections installed in 2008. It should be noted that collision statistics do fluctuate on a yearly basis and short term statistics should be considered with this in mind. Notwithstanding, monitoring of collision statistics will continue.

The Region of Peel does not have a red light camera installed for all approaches at existing red light camera locations. However, as per Provincial requirements, all the approaches to the intersections with a red light camera present are signed to increase the benefit and the conspicuity of the red light cameras. Resultantly, the mere presence of the red light cameras at these intersections has had a positive effect in reducing collision numbers and injuries for the entire intersection.

**b) Benefit Cost Analysis (Societal Costs)**

In recent years, many agencies and research organizations have spent considerable efforts trying to quantify and determine the societal cost of roadway incidents. While it is extremely difficult to quantify the emotional and psychological impact of an accident in monetary terms, researchers have come up with cost estimates of the monetary and resource drain of a collision in terms of emergency services, insurance costs, health care, income (or productivity) losses, and the cost of property damage to both public and personal properties.

The benefit cost calculation involved a calculation of the social cost of collisions. Current societal costs for a collision are generally accepted to be \$800,000 for a fatal collision, \$35,000 for a personal injury collision and \$8,000 for property damage collisions. The benefit from a reduction in collisions is the avoidance of these costs. If a collision can be avoided, the resources consumed by that collision could be allocated elsewhere for the benefit of society.

The total net benefits and costs comparison showed a decrease in societal costs by an average of 25.1 per cent in 2009 when compared with the societal costs in 2007 at the 10 Red Light Camera locations installed in 2008. A societal cost comparison is presented in Appendix II Table 3.

**4. Proposed Direction**

The success of the Red Light Camera Program in the Region of Peel is evident in collision reduction and societal benefit. Therefore it is beneficial to extend the number of sites for the last year of the current contract (2012) by two with Traffipax Inc. and to continue with the program for five additional one year periods commencing in October of 2012.

**FINANCIAL IMPLICATIONS**

Sufficient funding is available under Dept ID 11-4415.

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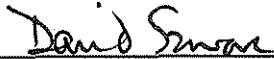
**CONCLUSION**

The Red Light Camera Program continues to demonstrate increased intersection safety by reducing the frequency and severity of collision at intersections with red light cameras installed. Along with reduced collision potential, the program has saved \$264,000 in societal cost. As such, it is recommended that the Red Light Camera Program continue and authority given to expand the program.



Dan Labrecque  
Commissioner of Public Works

**Approved for Submission:**

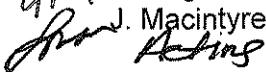


D. Szwarc, Chief Administrative Officer

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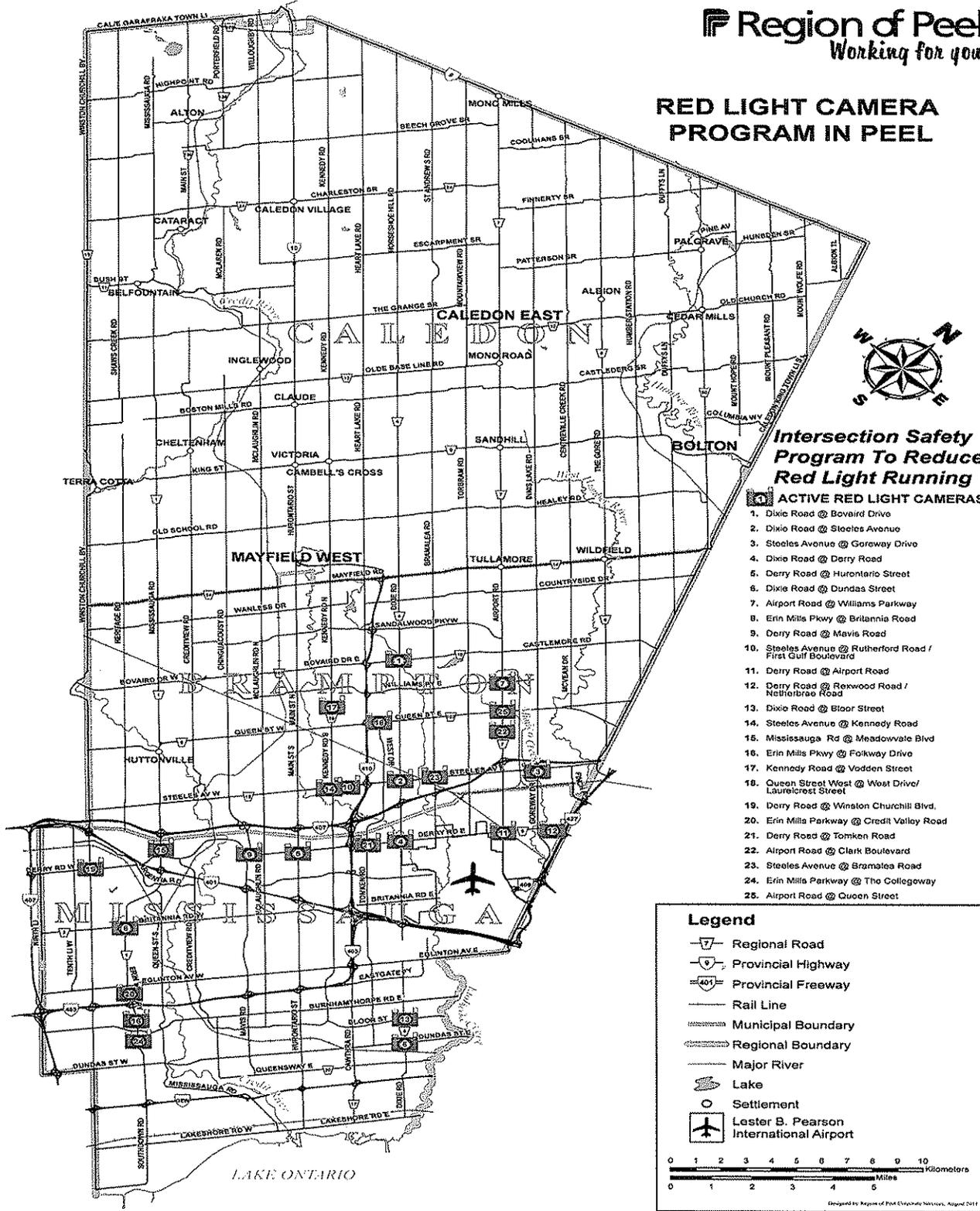
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**APPENDIX I**



**RED LIGHT CAMERA PROGRAM IN PEEL**



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**APPENDIX II**

**Table 1: Ten Red Light Camera locations where a camera was installed in 2008**

Location	City	Ward(s)	Camera Direction
Airport Road at Williams Parkway	Brampton	7 and 10	Northbound
Erin Mills Parkway at Britannia Road	Mississauga	9 and 11	Southbound
Derry Road at Mavis Road	Mississauga	11	Eastbound
Steeles Avenue at Rutherford Road/First Gulf Boulevard	Brampton	3	Eastbound
Derry Road at Airport Road	Mississauga	5	Eastbound
Derry Road at Rexwood Road/Netherbrae Road	Mississauga	5	Eastbound
Dixie Road at Bloor Street	Mississauga	3	Southbound
Steeles Avenue at Kennedy Road	Brampton	3	Eastbound
Mississauga Road at Meadowvale Boulevard	Mississauga	9 and 11	Northbound
Erin Mills Parkway at Folkway Drive	Mississauga	8	Southbound

**Table 2: Collision Frequency Comparison - 10 Red Light Camera Locations Installed 2008**

10 Red Light Camera Locations Installed 2008	% difference 2009 (After) compared to 2007 (Before)	
	Fatal and Injury Collisions	Property Damage Only Collisions
All Collision Types	-3.4%	-33.3%
Camera Direction All Collision Types	-3.3%	-40.7%
All Rear End Collisions	-7.1%	-32.4%
Camera Direction Rear End Collisions	-50.0%	-53.6%
All Angle Collisions	-7.1%	-50.0%
Camera Direction Angle Collisions	-18.2%	-65.5%

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**Table 3: Societal Cost Comparison<sup>1</sup> - 10 Red Light Camera Locations Installed 2008**

<b>10 Red Light Camera Locations Installed 2008</b>	<b>Societal Cost 2007</b>	<b>Societal Cost 2009</b>	<b>Difference in Societal Cost between 2007 &amp; 2009 (Savings)</b>
All Collision Types	\$443,000	\$356,000	\$87,000
Camera Direction All Collision Types	\$221,000	\$170,300	\$50,700
All Rear End Collisions	\$162,600	\$122,300	\$40,300
Camera Direction Rear End Collisions	\$76,200	\$36,100	\$40,100
All Angle Collisions	\$90,600	\$66,300	\$24,300
Camera Direction Angle Collisions	\$61,700	\$39,500	\$22,200
<b>Total</b>	<b>\$1,055,100</b>	<b>\$790,500</b>	<b>\$264,600</b>

<sup>1</sup> There are multiple variants for societal costs. The most recent was published by Transport Canada in August 2007 entitled "*Analysis and Estimation of the Social Cost of Motor Vehicle Collisions in Ontario*". This report indicates significantly higher estimations of \$15.7 Million, \$82 Thousand and \$8 Thousand respectively for fatal, personal injury and property damage only collisions. In order to be more conservative in the costing it was felt that estimates from the "*Highway Element Investment Review Guidelines*", MTO Design and Contracts Standards Office Publication, Version 1.0, October 2007 was more appropriate and reflected what the engineering community is utilizing.