
Subject: Red Light Camera

Report to: Public Works Committee

Report date: Tuesday, July 9, 2019

Recommendations

1. That Report PW 36-2019 **BE RECEIVED** for information.

Key Facts

- Niagara Region Staff are developing a business case to study the feasibility of operating a Red Light Camera (RLC) program throughout Niagara Region.
- Niagara Region Staff will report to Public Works Committee as a component of the Road Safety Plan for Niagara Region on the business case results and final recommendations to operate a RLC system by the end of the 2019 calendar year.
- Collisions involving pedestrians, cyclists or vehicles occur at signalized intersections with a high chance of causing serious injury or death.
- Approximately 20% of reportable collisions on Niagara Regional roads in 2016 and 2017 were angle collisions, with a 1.2% increase in 2018.
- In total, there were 947 collisions at Niagara Regional intersections from 2008 to 2017.
- The Province of Ontario legislated that Municipalities can operate a "Red Light Camera" system since November 2000. The cameras are proven to be an effective means to reduce the incidences of red light infractions making streets safer for all users. Appendix 1 provides further details on red light camera operations and those Municipalities already implementing the program.
- Since the introduction of RLCs, the number of angle collisions have been decreased within those Municipalities that have adopted RLCs (fatality collisions by 40%, Injury collisions by 37%), and the numbers of serious injury for rear-end collisions have decreased by 14% (no record of fatality collisions in rear-end collisions). These benefits also transfer to driver behavior at other intersections that do not have RLCs (a recent study showed a 10.7% reduction in overall collisions and a 22.7% reduction in severe collisions at none-RLC intersections).

Financial Considerations

Funding for this business case will be provided from the 2019 Transportation Services Operating Budget. An RFP will be issued to engage a Consultant to develop a business case for Niagara Region. This will include the associated cost-benefit analysis and setting out the targets, policies, and action plans that will guide Niagara Region in creating safer roads by reducing the number and severity of motor vehicle collisions at intersections.

Future capital and operating costs associated with this program will be considered as part of future budget deliberations by Council.

Analysis

The Province of Ontario introduced the RLC enforcement pilot project for prosecuting red light offenders using photo evidence in 2000. The resulting evaluation study indicated the program was a success and in August 2004, legislation became permanent. Currently, the program is running under Phase 3 which started in 2017 and will be operational through 2021, with an option to join a five (5) year period from 2022 to 2026. Niagara Region will be investigating potential start dates to join the red light camera program and will be bringing this back for consideration in a future report to Council.

Collisions resulting from red light running tend to be more severe than other intersection collisions because they usually involve at least one vehicle travelling at higher speeds. In the most severe collisions, the vehicles hit each other at right angles. The resulting side-impact collisions cause severe injuries, sometimes leading to death.

It can be a challenge, time-consuming and expensive for police enforcement of red light infractions at intersections which add high operational costs to policing and the overall municipal tax burden on residents.

RLCs are a well-established safety enforcement tool in Ontario. The enforcement, along with an education component, have proven to reduce the number of right-angle collisions at intersections.

Based on the business case recommendation, coordination with the Ministry of Transportation and Joint Processing Center, Niagara Regional Staff will report back to the Public Works Committee on options to join, that include safety effectiveness measures, a financial update and cost and revenue potential.

What is Red Light Camera Enforcement?

As a vehicle approaches a red light at or above a set speed, loops immediately in front of the intersection stop bar trigger the red light camera system. Two photographs are

taken; the first photograph shows the red signal and the vehicle positioned at the stop bar before entering an intersection while the second photograph shows the red signal and usually the vehicle positioned in the intersection. Both of the photos are taken of the rear of the vehicle and must clearly show a licence plate.

If the images clearly show a red light violation, then an infraction notice is mailed to the registered owner of the vehicle. Similar to parking tickets, RLC infraction notices are the responsibility of the vehicle owner, no demerit points are involved. It should be noted that vehicles that are in the intersection when the red light comes on are not photographed and are not subject to a RLC violation.

Superimposed on the photograph is identifying information related to the offence to clearly show that the vehicle was moving at the time (i.e., location, time, speed).

The effectiveness of red light cameras can be viewed in terms of reductions in crash frequency, crash severity, and frequency of red light running violations.

Joint Processing Centre (JPC):

Operated by the City of Toronto, the JPC views the photos and requests vehicle plate ownership information from MTO to match the ownership information with photos and form the belief that an offence was committed and issues a ticket. Accordingly, Provincial Offences Officers file charges (certificate of offence with the Court at the designated Municipality).

The City of Toronto chairs the RLC Program Steering Committee that manages and updates agreements between Municipalities; whereas the JPC obtains approval from existing Municipalities for 'new' partners and provides approval in principle to the Municipality and MTO.

Role of the Ministry of Transportation

The Province provides plate registrant information to Municipalities via the JPC and monitors contractual obligations between the Province and participating Municipalities. Operational Agreements include provisions for:

- Site-specific signage advising of camera enforcement;
- Municipally-led public awareness campaigns on red light running;
- Monitoring of safety effectiveness; and,
- Funding all aspects of the program, including reimbursement of Provincial costs.

Role of Municipality

The Municipalities lead and fund the Red Light Camera Program. The program is a partnership between the Provincial Government and Municipalities.

Municipalities must enter into three (3) agreements to operate RLC in their jurisdiction. The Vendor Agreement is to supply, install, operate and maintain camera equipment, and will pay for all equipment, technical and installation costs for the cameras.

The second agreement is the Processing Agreement with the City of Toronto Joint Processing Centre for the operation and cost-sharing of the Processing Centre, which issues offence notices. The last agreement is the Operational Agreement with MTO to provide plate registrant information to the JPC for distribution to Municipalities for prosecution purposes, including certified documents when required at trial.

Over the years, this approach ensures unified and consistent prosecution of offences protecting the overall integrity of the legislative regime.

Financial Implication

The cost to implement a RLC includes the operating cost of the RLC contract, RLC processing fees (City of Toronto), vehicle license information (Province), as well as an education/awareness program. The RLC contract is a fixed fee per location.

A red light camera costs approximately \$30,000 annually which includes the lease, installation and operational costs of each camera (the Vendor cost). There are also additional costs associated with the program such as supporting the Toronto Joint Processing Centre (approximately \$6,000 annually per camera), costs associated with retrieving data from the Ministry of Transportation (approximately \$30,000 per Municipality annually), and other related costs.

Over time, the number of right-angle collisions at the intersections will decrease, which has an associated social cost; however, the fine revenue will also decrease as there is improved compliance with the red lights.

Alternatives For Consideration

Potential alternatives will be provided in a future report to the Public Works Committee once costs and implications are defined through the finalization of the evaluation and administration process.

Relationship to Council Strategic Priorities

Alignment to Niagara Region Transportation Master Plan

Niagara Region is undergoing significant change and by 2041 will have grown and evolved on economic, demographic, social and technological fronts. This recommendation will support growth and enhance Niagara's position globally by ensuring the road network is safe.

This is a critical step forward to adopting Vision Zero Road Safety Plan in Niagara Region, by ensuring safe speed limits, conflict-free street design, and up-to-date driver enforcement to prioritize the safe passage of our most vulnerable populations.

Other Pertinent Reports

None.

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Appendix 1

Check sheet: Additional Information and Facts

1. What is red light running and how do cameras work?

"Red light running" is when a driver enters an intersection after the light has turned red.

Red Light Cameras (RLC) are installed to photograph vehicles that run red lights.

The cameras are in operation 24 hours a day, seven (7) days a week. They are connected to the traffic light (signal) and to sensors that are installed just before the stop bar. The system constantly monitors the traffic light (signal), and the camera takes a picture of any vehicle that does not stop at the red light.

The camera records the:

- Date
- Time of day
- The exact time the car crossed the stop line and the length of time that the red was active
- Vehicle speed
- License plate

The Provincial Offence Officers review these photos, and mail tickets to owners of the vehicles within three (3) weeks from the time of the violation.

2. How do red light cameras increase safety?

Red light cameras are adopted as a safety initiative at intersections to prevent motorists from running red lights.

Red light cameras cause people to slow down as drivers know that a camera is there; which cause a change in driver behavior. This awareness helps to reduce the accidents and injuries at intersections and changes driver behaviour over time.

Red light cameras have demonstrated a reduction of right-angle collisions at intersections.

3. Is red light running a safety problem in Ontario?

- Based on Ontario data, red light running accounts for:
- Approximately 0.80% of all HTA convictions. (2015 Ontario data)
- In 2014, approximately 24% of fatal collisions at municipal intersections with traffic signals (13 of 55 such collisions) were due to red light running. (2014 Ontario collision data).

- The participating RLC municipalities issued a total of 974,276 red light camera offence notices to Ontario plate holders between January 1, 2001, and December 31, 2017.
- The most serious type of collision at a municipal intersection is an angle collision. Results from the Red Light Camera pilot evaluation showed cameras successfully reduced this type of collision by 25%.

4. Which municipalities currently participate in the Red Light Camera Enforcement Program?

- Toronto, Hamilton, Ottawa, London, Peel Region, Waterloo Region, Halton Region, and York Region currently participate in the Red Light Camera Enforcement Program.
- The participating municipalities by the end of 2018 will be utilizing 336 cameras at 331 high-risk intersections:
 - Toronto (149 cameras; 144 intersections),
 - Ottawa (52 cameras; 51 intersections),
 - Hamilton (24 cameras; 24 intersections),
 - Regional Municipality of Peel (28 cameras; 28 intersections),
 - Regional Municipality of Waterloo (16 cameras; 16 intersections),
 - Regional Municipality of Halton (17 cameras; 17 intersections),
 - Regional Municipality of York (40 cameras; 40 intersections),
 - City of London (8 cameras; 8 intersections).