



# City of Richmond

## Report to Committee

**To:** General Purposes Committee **Date:** February 14, 2020  
**From:** Cecilia Achiam **File:** 09-5350-01/2019-Vol  
 General Manager, Community Safety 01  
**Re:** **Traffic Intersection Cameras Implementation Planning**

### Staff Recommendation

1. That the Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 10160, which adds a service fee for video footage requests, be introduced and given first, second and third reading;
2. That the Consolidated 5 Year Financial Plan (2020-2024) be amended to include the operating budget impact of implementing the Traffic Intersection Cameras system of \$100,000 funded by an estimated \$50,000 revenue from traffic video requests and a reallocation of resources from the Community Safety Division; and
3. That staff develop a communication plan to inform the public of the implementation of the Traffic Intersection Cameras system and how to request video footage.

Cecilia Achiam  
 General Manager, Community Safety  
 (604-276-4122)  
 Att. 7

REPORT CONCURRENCE	
ROUTED TO:	CONCURRENCE
City Clerk	<input checked="" type="checkbox"/>
Finance Department	<input checked="" type="checkbox"/>
Information Technology	<input checked="" type="checkbox"/>
Law	<input checked="" type="checkbox"/>
Roads & Construction	<input checked="" type="checkbox"/>
RCMP	<input checked="" type="checkbox"/>
Communication	<input checked="" type="checkbox"/>
<b>SENIOR STAFF REPORT REVIEW</b>	<b>INITIALS:</b> CJ
<b>APPROVED BY CAO</b> 	

## Staff Report

### Origin

On December 11, 2017 Council approved \$2,185,242 to fund the Traffic Intersection Cameras project. Moreover, Council approved the following from the staff report titled "Closed Circuit Television (CCTV) for Signalized Intersections in Richmond" from the Officer-in-Charge at a Regular Council meeting on:

- 1) *That the report titled "Closed Circuit Television (CCTV) for Signalized Intersections in Richmond," dated October 31, 2017 from the OIC, Richmond RCMP, be received for information;*
- 2) *That the CCTV request at a capital cost of \$2,185,242 (Option 3) be submitted to the 2018 Capital budget process for Council consideration;*
- 3) *That the CCTV for Signalized Intersections Project be approved to seek additional funding from the Federal/ Provincial Investing in Canada Program and other appropriate senior government funding programs;*
- 4) *That if the senior government funding submission is approved, the Chief Administrative Officer and the General Manager, Community Safety be authorized to execute the agreement on behalf of the City of Richmond with the Government of Canada and/or the Province of British Columbia;*
- 5) *That if the funding application is successful, the grant received be used to replenish the City's funding source and the 2018-2022 Five Year Financial Plan Bylaw will be adjusted accordingly;*
- 6) *That Richmond MPs and MLAs be advised of the City's senior government submission;*
- 7) *That, if the funding request for a Closed Circuit Television (CCTV) For Signalized Intersections in Richmond is approved as part of the budget, staff be directed to seek approval of the proposed system from the Office of the Information and Privacy Commissioner and to recommend a fee structure for processing requests; and*
- 8) *That staff review the matter in 12 months to ensure that storage space is adequate.*

At the Community Safety Committee held on December 10, 2019, staff received the following referral:

*That staff provide information on the expected timeline of the Closed Circuit Television (CCTV) program launch and what resources are needed to expedite the project, and report back.*

The purpose of this report is to provide a status update on the Traffic Intersection Cameras project and respond to the referral from December 10, 2019.

This report supports Council's Strategic Plan 2018-2022 Strategy #1 A Safe and Resilient City:

*Enhance and protect the safety and well-being of Richmond.*

*1.1 Enhance safety services and strategies to meet community needs.*

## **Analysis**

### Office of the Information Privacy Commissioner (OIPC) Review Outcome

After the funding for the Traffic Intersection Cameras project was approved in the 2018 budget cycle, staff submitted a Privacy Impact Assessment to the Office of the Information and Privacy Commissioner (OIPC) for British Columbia, as directed by Council. After a lengthy review process and several amendments to the Privacy Impact Act submission to address the OIPC's comments, the OIPC indicated that it was satisfied with the City's submission and made specific recommendations intended to avoid conflict with the obligations under the Freedom of Information and Protection of Privacy Act (FIPPA) as well as prior rulings by the Privacy Commissioner. The OIPC's recommendations were that:

1. the Traffic Intersection Cameras project's primary purpose is traffic management/safety and must be managed by the City rather than the RCMP as the OIPC does not support using Traffic Intersection Cameras by law enforcement agencies for the purpose of generic surveillance;
2. the resolution setting of the cameras should not capture personal information such as license plates or individuals' faces;
3. the live stream data collected from the Traffic Intersection Cameras video footage should not be enhanced at a later date to detect license plates or individuals' faces; and
4. the City incorporate additional visible signage at major entry points to the city so that all road users are aware of the Traffic Intersection Cameras system.

### Implementation of the Traffic Intersection Cameras Project

There are several key components to implement the Traffic Intersection Cameras project and its on-going operational success as described in this section. A summary of the proposed expedited Traffic Intersection Cameras project implementation schedule is provided in Attachment 1. The separate phases of the implementation are described later in this report.

#### *Intersection Infrastructure and Equipment*

There are currently over 180 signalized intersections in Richmond, including Sea Island. While the intersections on Sea Island are on federally owned land and leased to the Vancouver Airport Authority, the signals are managed by the City.

Of the 180 signalized intersections, 75 intersections are already equipped with non-recording traffic detection cameras (Attachment 2) and connected with fibre optic cable (i.e., high speed communications network). Another 35 intersections already have fibre optic cable but require traffic detection cameras. The remaining 70 intersections are connected on a legacy copper wire infrastructure (i.e., low speed communications network) that does not have the bandwidth to allow for reliable video streaming and recording. The City intends to add cameras to these intersections as the fibre optic cable network expands as part of the long term Traffic Video and Communication Program. Only traffic cameras currently connected to the fibre optic network will be included in Phase 1 of the Traffic Intersection Cameras project implementation.

For the purposes of the Traffic Intersection Cameras project, the existing traffic cameras will require modification and repositioning to capture the full view of the intersection. Moreover, additional software and equipment as well as an expansion of the City's data storage infrastructure will be required to record video at existing and future camera intersections.

#### *Data Storage and Management*

Video captured from the cameras will be stored for 30 days after which this data will be purged from the storage system. The City will require new server storage capacity to accommodate the anticipated sizeable load from the Traffic Intersection Cameras recorded data. This new storage capacity will be procured and installed during Phases 1 and 2 (Attachment 3) of the project. A software solution will also be developed to allow for timely accessing of stored video data and to fulfill requests for this data from internal and external clients. The full data storage infrastructure will be built as part of Phases 1 and 2 to take advantage of volume pricing and ensure system compatibility.

When the City receives a request for video images within the 30 day time period prior to deletion of the records, staff will process the Traffic Intersection Cameras video request application and ensure that the privacy protection threshold is met before images are released, as recommended by the OIPC.

#### *Operational Management*

The OIPC mandated that the primary purpose of the Traffic Intersection Cameras system be for traffic management and road safety. It is anticipated that the current Traffic Intersection Cameras project will have a positive impact on road safety through the ability to utilize large amounts of traffic data to better problem-solve issues related to traffic volume, speed, collisions (vehicular, cycling and pedestrian), red-light running vehicles and other traffic safety related factors. This technology will enable more predictive road safety prevention and enforcement efforts that target high-risk traffic locations. The OIPC was not supportive of Traffic Intersection Cameras being used, primarily, for law enforcement and recommended that it be managed by non-police City staff. It was determined, after careful analysis, that the Traffic Section of the Transportation Department is best suited for the operational management of the Traffic Intersection Cameras project.

A Traffic Signal Systems Technologist (Technologist), in the Transportation Department, will be responsible for retrieving video footage and editing out any ancillary images that are irrelevant to the data request. This editing or obfuscation of data is a key part of the OIPC's recommendations. Should questions arise regarding video data release, the Technologist will draw upon the knowledge of the City Clerk's Office who has subject matter expertise with FIPPA and privacy issues in general.

If approved, this position will be supervised and supported by the other staff within the Transportation Department. Recruitment for the position will commence shortly following the procurement process.

As recommended by the OIPC and to comply with the privacy requirements of FIPPA, the Traffic Intersection Cameras project will require a series of privacy and information security-

related operational protocols. These protocols are currently being developed by staff and will be in place for the implementation of the Traffic Intersection Cameras project.

#### *Communications Plan and Public Access to Traffic Intersection Cameras Data*

Staff will develop a comprehensive communications plan to ensure that the public is informed about the project. Key areas covered under the communication plan will include:

- a. Signage: As per the OIPC recommendations, information signs will be installed at all Traffic Intersection Cameras recording intersections and at city entry points to notify road users of Traffic Intersection Cameras. Attachment 4 illustrates examples of Traffic Intersection Cameras notification signage and notification requirements.
- b. How the public can request access to video footage, including information on the associated fee: The communication tools used to build awareness and education include the City's website, social media channels and mainstream media (e.g., newspapers). An online request form is currently under development (Attachment 5 shows an example).

It is anticipated that individuals from the public or business organizations will be able to submit an online request for video footage.

#### *Bylaw Amendment*

An amendment to the Consolidated Fees Bylaw No. 8636 is required to add a service fee for video footage requests. The proposed cost-recovery minimum fee of \$375 plus taxes. In the case of large data requests that require multiple hours of work, there will be an additional charge of \$60 per hour.

#### Expediting the Traffic Intersection Cameras Project

Negotiations with the Vancouver Airport Authority are underway for the right to capture and utilize images at intersections on Sea Island in accordance with the guidelines set out by OIPC. The inclusion of Sea Island would expand the Traffic Intersection Cameras coverage to a key geographical area which is currently being supported by City first responders as well as the Transportation Department. Ideally, Sea Island would be included in Phase 1 of the project. However, if negotiations are delayed, these locations could be addressed in Phase 2 or 3 of the plan.

In order to expedite the Traffic Intersection Cameras project, as directed by Council, staff have reviewed opportunities to compress the anticipated time required to execute the procurement and equipment installation. This could involve deploying multiple equipment installation teams as opposed to the current practice of utilizing one team. In addition, staff resources from other areas within the Community Safety Division and Transportation Department could be redeployed to expedite the development of the policies and processes to meet OIPC recommendations for Traffic Intersection Cameras video footage requests while carrying out the procurement and hiring process.

### Compressed Project Implementation Timeline

This project has commenced and is anticipated to be implemented in three phases. The goal of the project is to have Traffic Intersection Cameras, with 30 days of video storage capacity supported by fibre optic cable, at all 180 signalized intersections in the City and other key strategic locations. Phase 1 of this project includes an achievement of 75 signalized intersections with Traffic Intersection Cameras connected to a centralized video data storage. Phase 2 will add 35 additional intersections for a total of 110 intersections. Phases 1 and 2 are underway concurrently and are anticipated to be completed by the fourth quarter of 2020. Phase 3 will continue until the remaining 70 intersection locations are integrated into the Traffic Intersection Cameras project. It is anticipated that the completion of Phase 3 will take multiple years with the gradual build-out of the City's fibre optic network.

*Phase 1: Building data storage for the entire system, activating existing intersections with fibre optic cable and developing a communications plan (Target Completion Q3 2020)*

Phase 1 includes purchasing and building server and data storage equipment/software for the full Traffic Intersection Cameras system (i.e. for the existing 180 signalized intersections and future capacity). The City is leveraging its existing traffic infrastructure by focusing on 75 existing intersections which already have fibre optic cable and cameras installed. Concurrently, the City will be going through the procurement process for additional equipment and software to allow these cameras to record. Systems testing will be conducted in Phase 2. The video footage will not be available for public requests at this time.

Negotiations with the federal government and Vancouver Airport Authority will occur concurrently during the implementation of Phase 1. Installing Traffic Intersection Cameras at the intersections on Sea Island will be implemented when an agreement is reached.

Staff will work with Corporate Communications in Phase 1 to develop and begin implementing a comprehensive communications plan, as per the direction of the OIPC, to ensure the public is informed of Traffic Intersection Cameras locations, their rights and how to apply for Traffic Intersection Cameras video footage.

*Phase 2: Procuring and installing cameras for the remaining intersections with the City's existing fibre optic network plus implementing a public communications plan and notifying the public (Target Completion Q4 2020)*

Phase 2 is anticipated to take place in the fourth quarter of 2020. This phase will involve the procurement of equipment and software for intersections currently without cameras but are connected to the City's existing fibre optic network. This phase will also involve installing and testing all camera and data storage equipment and software. Attachment 6 illustrates the majority of intersections where traffic collisions are historically concentrated and will have Traffic Intersection Cameras coverage at the completion of Phase 2.

Negotiations with the Federal government and Vancouver Airport Authority will continue for the intersections on Sea Island with Traffic Intersection Cameras and will be added to the system when an agreement is reached.

The completion of the City website is targeted for Phase 2 and will include information and maps to inform the public of which intersections are being recorded and how to request access to this video footage. Notification signage will be installed, as directed by the OIPC, to inform the public of the Traffic Intersection Cameras and to ensure compliance with FIPPA regulations. The Technologist will be hired and trained to administer the Traffic Intersection Cameras program. Processing of video requests from internal and external clients will commence during this phase.

*Phase 3 Completion of installation of cameras at remaining intersections with new fibre optic cable (Target Start Q4 2020)*

Phase 3 (Attachment 7) is anticipated to begin in the fourth quarter of 2020 and proceed for multiple years. As part of the existing Transportation and IT infrastructure expansion program, new camera and fibre optic cable enabled intersections will be completed gradually with the expansion of the fibre optic cable network.

Implementation Costs and Revenue

The cost of Phases 1 and 2 are anticipated to remain within the original Traffic Intersection Cameras project budget of \$2,185,242, as approved by Council in 2018. Based on the experience of neighbouring municipalities with Traffic Intersection Cameras programs (e.g., Surrey and Vancouver), the revenue from public requests for video footage is anticipated to be approximately \$50,000 annually. Until the Traffic Intersection Cameras program has reached a stable revenue level to cover the Operating Budget Impact (OBI) shortfall, the variance will be funded from the Community Safety Operating Budget as community safety is a key objective of this program. Revenue from the Traffic Intersection Cameras project will be coded to the Community Safety Division.

Council approved project funding of \$2,185,242, covers the full anticipated cost of the procurement and installation of camera, storage and infrastructure equipment for Phase 1 and Phase 2. The cost of expanding intersection cameras into new areas, when fibre optic cables are available as described for Phase 3, is anticipated to be funded from the Transportation Department's annual Traffic Video and Communications Program (approximately \$400,000/year), subject to Council approval as part of the annual capital budget process. If unforeseen capital expenses are discovered during and/or after the Traffic Intersection Cameras project has been approved, they will be subject to the annual capital budget process.

**Financial Impact**

It is anticipated that there will be an OBI of approximately \$100,000 for Phase 1 and 2 costs including camera maintenance, software and data storage. This cost will be offset in part by revenue from the Traffic Intersection Cameras project at full implementation. Given the phased roll-out of the project, it will take some time (approximately two years) to achieve full revenue. Any variance will be funded through the Community Safety Division. The proposed Traffic Signal Systems Technologist position will be funded through a reallocation of resources from the Community Safety Division to the Transportation Department. The Consolidated 5 Year Financial Plan (2020-2024) will be amended accordingly, as per budget policy.

A preliminary estimate for the OBI for Phase 3 is \$62,000 but may change as this implementation will occur gradually with the expansion of the fibre optic cable network.

The Phase 3 OBI will also be funded by future revenues and offset by the Community Safety Division until such time as the project is cost neutral.

### Conclusion

The multi-phase implementation of the Traffic Intersection Cameras project outlined in this report presents an opportunity to achieve traffic, first responder and emergency preparedness project goals while at the same time advancing the City's traffic management control system in an effective and efficient manner. As directed by Council, the Traffic Intersection Cameras project will adhere to the guidelines established by the OIPC to ensure the privacy of the public.



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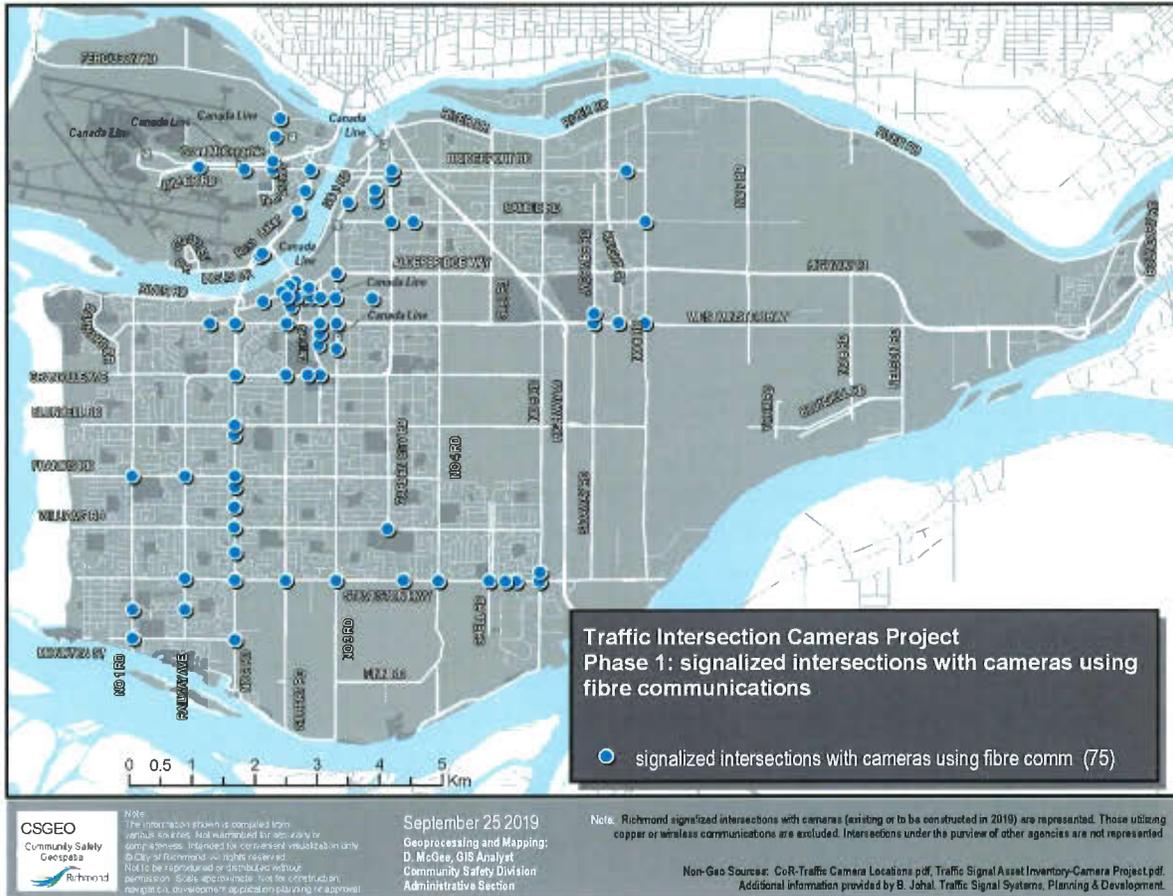
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- Att. 1: Table 1: Summary of the Proposed Expedited Traffic Intersection Cameras Project Implementation Schedule
- 2: Phase 1- 75 Signalized Intersections with Fibre Optic Cable and Data Storage
- 3: Phase 2 - 35 Additional Cameras (Not on Fibre Optic Network) with Data Storage for a Total of 110 Intersections
- 4: Sample Signage and Privacy Notice Requirements
- 5: Sample Online Request Form
- 6: Historical Density of Traffic Collisions (2007-2017)
- 7: Phase 3 - All 180 Signalized Intersections on Fibre Optic Network and with Data Storage

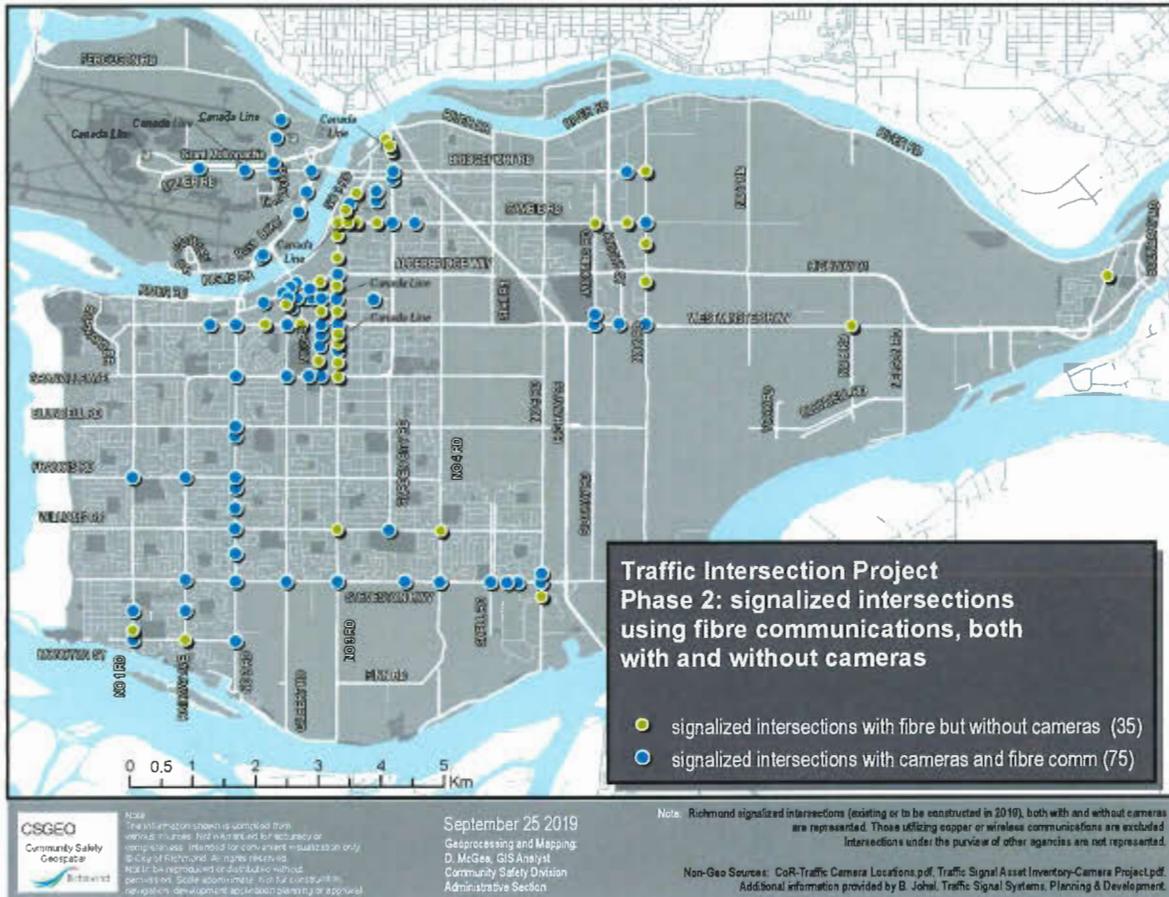
**Table 1: Summary of the Proposed Expedited Traffic Intersection Cameras Project Implementation Schedule**

Phase	Description	Status/Anticipated Completion Time
Phase 1- Building data storage for the entire system, activating existing intersections with fibre optic cable and developing a communications plan	<ul style="list-style-type: none"> <li>• Network storage, software and equipment procurement process</li> <li>• Installation of network storage for the full system built out</li> <li>• Installation and activation of 75 existing intersections connected to fibre optic network</li> <li>• Systems testing</li> <li>• Negotiations with the federal government as well as Vancouver Airport Authority (VAA) for the right to capture and utilize the image at intersections on Sea Island</li> <li>• Work with Corporate Communications to develop a comprehensive communications plan to ensure the public is informed of the purpose of the Traffic Intersection Cameras project as per direction of the OIPC</li> </ul>	<p>Initiated/Q1 2020</p> <p>Not started/Q3 2020</p> <p>Not started/Q3 2020</p> <p>Not started/Q3 2020</p> <p>Initiated/unknown</p> <p>Not started/Q2 2020</p>
Phase 2 - Procuring and installing cameras for the remaining intersections with the City's existing fibre optic network plus implementing a public communications plan and notifying the public	<ul style="list-style-type: none"> <li>• Equipment procurement process</li> <li>• Camera and software installation at intersections currently with no cameras but are connected to the existing City fibre optic network</li> <li>• Installation and testing of equipment and software</li> <li>• Development of OIPC recommended privacy and information security related operational protocols</li> <li>• Continue negotiations with the federal government and VAA to reach an agreement</li> <li>• Recruitment of the Traffic Signal Systems Technologist (Technologist)</li> <li>• Develop material for the City's website to support the Traffic Intersection Cameras program (application, maps and submission information, Freedom of Information (FOI) regulations, etc.)</li> <li>• Development an online public video request system</li> <li>• Training of Technologist</li> <li>• Processing requests from internal and external clients for Traffic Intersection Cameras video footage</li> </ul>	<p>Not started/ Q4 2020</p> <p>Not started/ Q4 2020</p> <p>Not started/ Q4 2020</p> <p>Initiated</p> <p>Initiated</p> <p>Not started/Q2 2020</p> <p>Not started/Q2 2020</p> <p>Not started/Q3 2020</p> <p>Not started/Q4 2020 depending on successful recruitment</p> <p>Not started/Starting Q4 2020 and on-going until completion</p>
Phase 3 - Completion of installation of cameras at remaining intersections with new fibre optic cable	<ul style="list-style-type: none"> <li>• Gradual installation of additional Traffic Intersection Cameras network in step with the build out of the City's fibre optic network</li> </ul>	<p>Not started/Starting Q4 2020 and on-going until completion</p>

Phase 1: 75 Signalized Intersections with Fibre Optic Cable and Data Storage



**Phase 2: 35 Additional Cameras (Not on Fibre Optic Network)  
with Data Storage for a Total of 110 Intersections**



## Signage Examples and Privacy Notification Requirement

### Sample Notification

“The City of Richmond's Traffic Intersection Cameras system is authorized to collect personal information under the authority of section 26 of the *Freedom of Information and Protection of Privacy Act*. Personal Information is collected for the purpose of, traffic management and planning, law enforcement and public safety. For questions regarding the collection of personal information, please contact the [title of manager], [department name] at [phone number] or {address of city hall}”.

### Signage Examples



### Privacy Notice Requirements:

Privacy notice requirements in *FIPPA* regulations require that signage be placed in a conspicuous place that includes the following information:

- Notify the area/intersection/block is under video surveillance upon entry.
- What authority the City of Richmond has to collect the data (s.26 of *FIPPA*).
- The manager responsible for the collection of the data.
- The address or contact information of the manager or senior person responsible for the collection of the data.

Notification signage will be periodically audited to ensure notifications remain at all required sites. It is further recommended that the City make information publicly available to citizens on the purpose and benefits of the Traffic Intersection Cameras program, as they do with other services under the “Public Safety” tab on their website.

### Sample Online Request Form

Event Location

Event Date

Event Time

**Preview *Optional***

 You may zoom in on the map, select a camera and view recent still images from our cameras.



Back Next

**Location and Event Summary**

**Location, Date and Time**

Location of Event Edit

Event Date **December 04, 2019** Edit

Event Time **12:30 PM** Edit

**Event Information**

Requested By

Individual  RCMP Police/ICBC SUI  RCMP  ICBC Adjuster

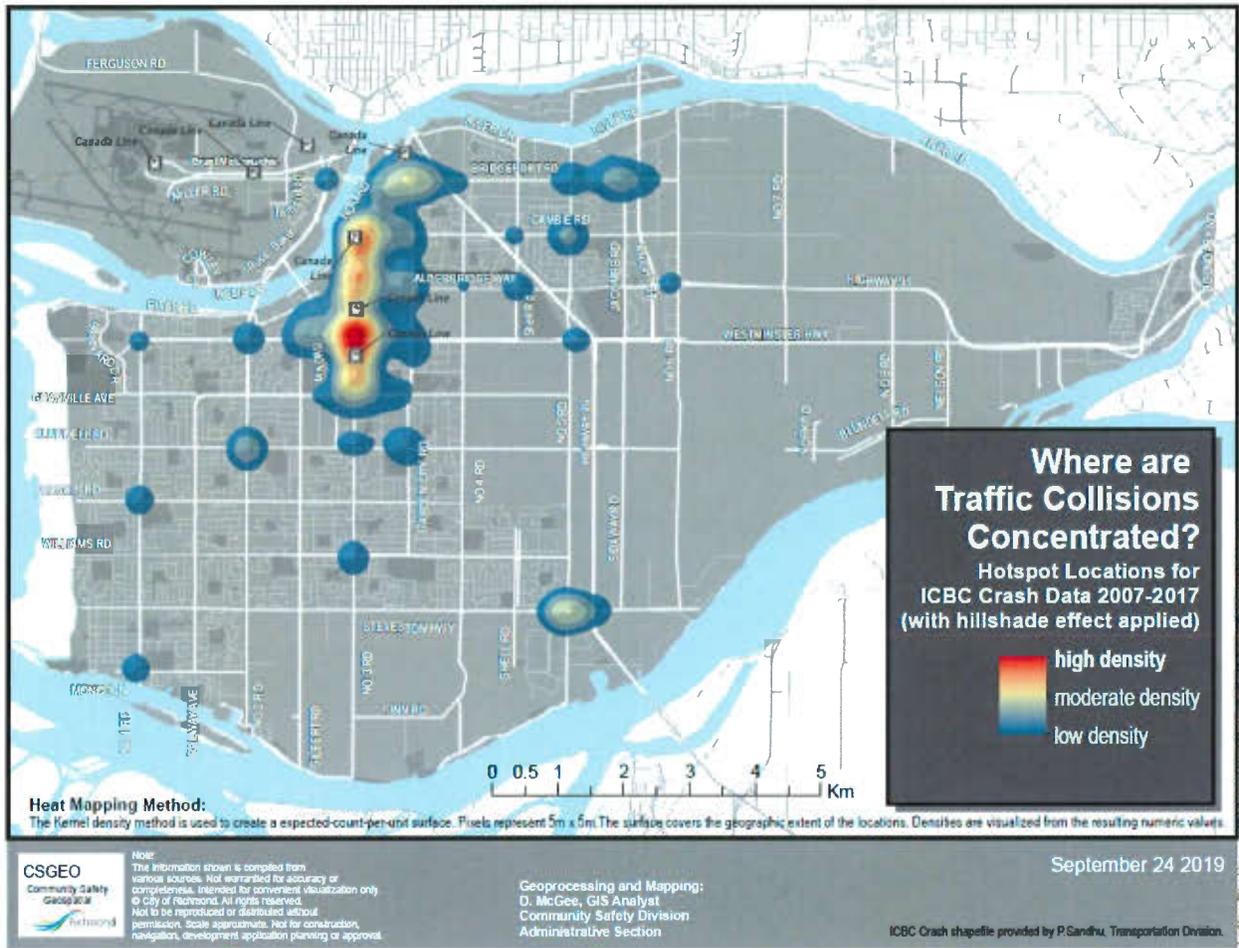
Event Description

**Upload a Document - *Optional***

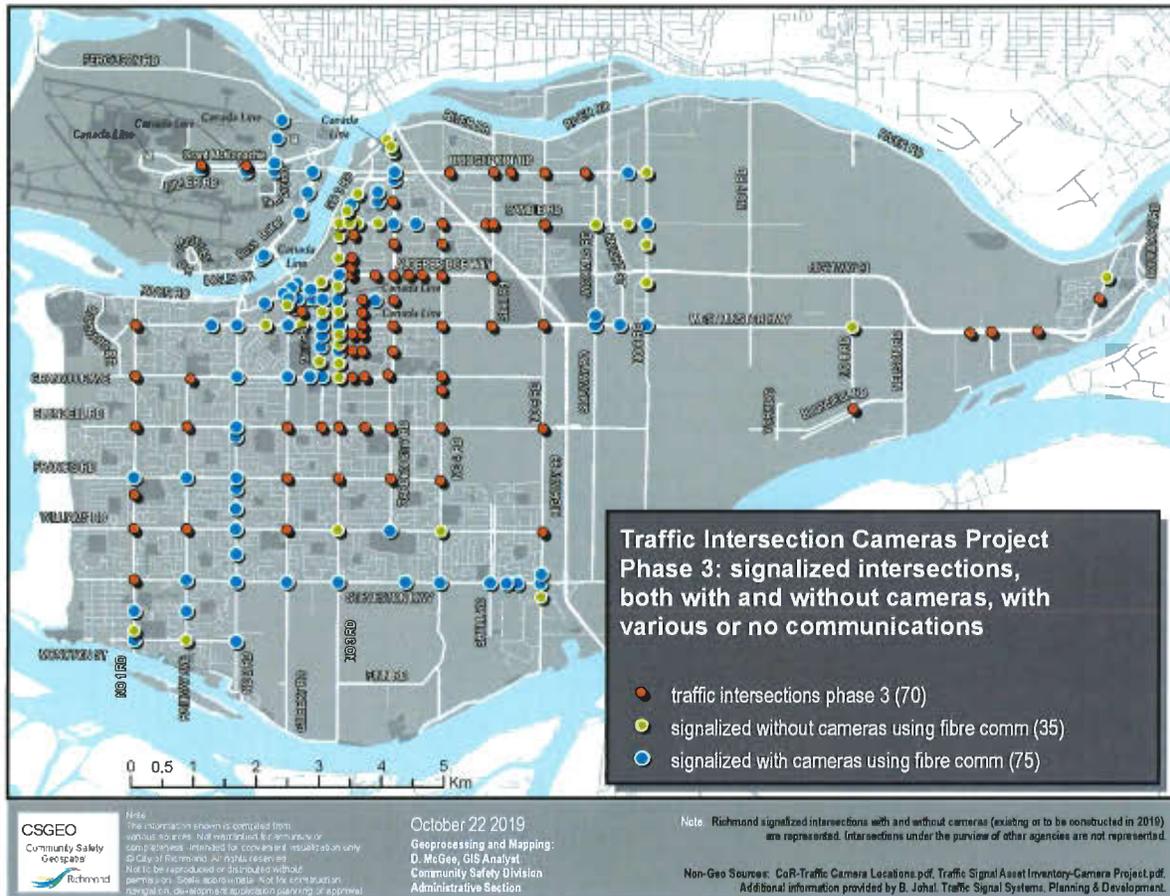
You may include supporting documents such as an Authorization to Release form, vehicle and/or other photos

 Drag & Drop Upload

Historical Density of Traffic Collisions (2007-2017)



Phase 3: All 180 Signalized Intersections on Fibre Optic Network and with Data Storage





Consolidated Fees Bylaw No. 8636
Amendment Bylaw No. 10160

The Council of the City of Richmond enacts as follows:

- 1. The Consolidated Fees Bylaw No. 8636, as amended, is further amended by adding the following fee to SCHEDULE – PUBLICATION FEES in alphabetical order:

Table with 2 columns: Description, Fee. Row 1: Traffic Camera Video Recording Search Fee, \$375.00. Row 2: Per Site (minimum charge), \$60.00. Row 3: Per hour additional for large requests.

- 2. This Bylaw is cited as "Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 10160."

FIRST READING

SECOND READING

THIRD READING

ADOPTED

Four horizontal lines for signatures.

Vertical stamp: CITY OF RICHMOND, APPROVED for content by originating dept. (M.C.), APPROVED for legality by Solicitor (signature).

MAYOR

CORPORATE OFFICER