



Audit of the Automated Speed Enforcement and Red Light Camera Programs



Office of the
Auditor General
City of Ottawa

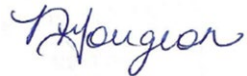
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Acknowledgement

The audit was conducted by Orbis Risk Consulting (independent external consultants) under the supervision of Rhea Khanna, Audit Principal and Joanne Gorenstein, Deputy Auditor General and my direction. My colleagues and I would like to thank those who contributed to this project.

Respectfully,



Nathalie Gougeon, CPA, CA, CIA, CRMA, B. Comm
Auditor General

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Introduction

The Audit of the Automated Speed Enforcement and Red Light Camera programs was included in the 2024-2025 Audit Work Plan of the Office of the Auditor General (OAG), approved by City Council on December 6, 2023.

Background/Context

Many cities are increasingly adopting automated technologies to enhance road safety and reduce traffic violations. Red light cameras are being used to capture images of vehicles running red lights, deterring dangerous behavior and improving safety at intersections. Automated speed cameras help monitor and enforce speed limits, thereby reducing speeding-related collisions. The use of all types of automated technologies continues to grow as cities and regions strive to reduce traffic-related injuries and fatalities.

Red Light Camera Program

The *Ontario Highway Traffic Act*, along with the *Red Light Cameras Pilot Projects Extension Act* (2002), allow municipalities to use red light cameras to reduce aggressive driving and collisions. In May 2000, City Council approved a pilot Red Light Camera program with two (2) cameras rotating at eight (8) locations. The pilot was extended in 2002, and in 2004, Council approved the continued use of red light cameras. By 2022, 85 cameras were installed, with only one (1) installed since that time.



Table 1 below shows the number of red light cameras in operation and the violations recorded each year over the past five years. Annual revenues generated from the Red Light Camera program peaked in 2023 with gross revenues generated of \$12 million.

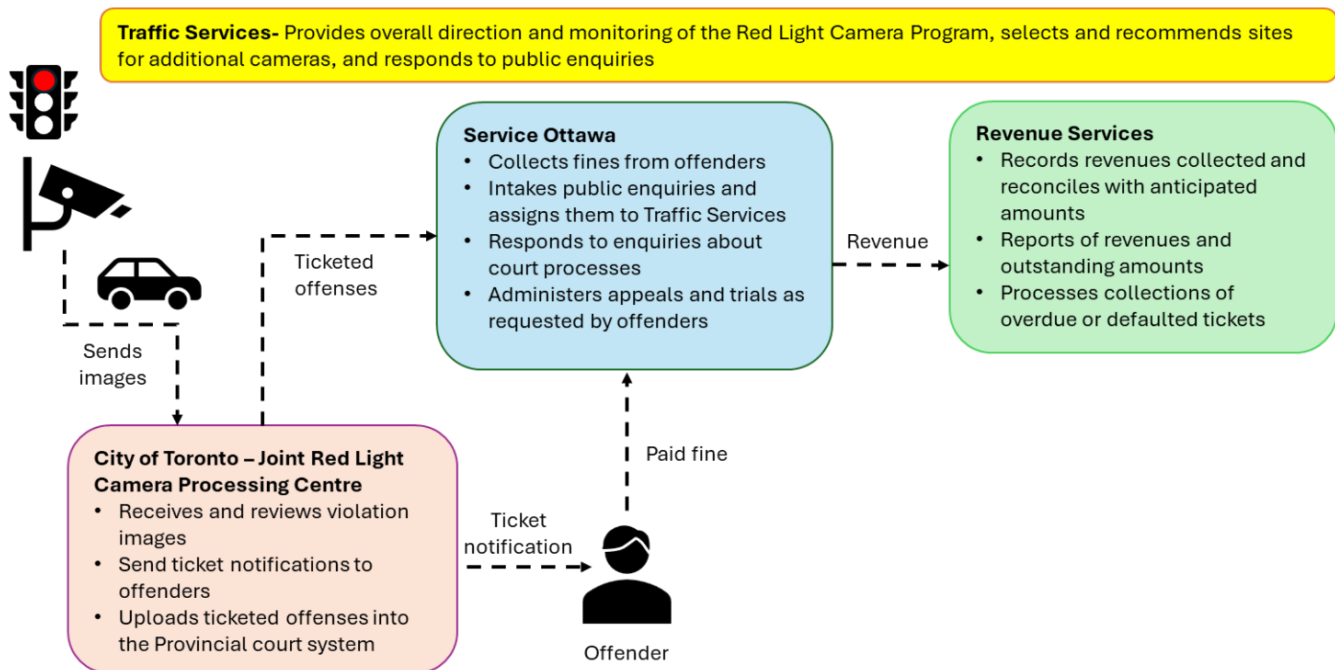
Table 1: Red Light Camera Statistics – 2020 to 2024

	2020	2021	2022	2023	2024
Active Cameras	57	65	80	82	77
Annual Violations ¹	35,557	53,956	45,723	56,475	42,495
Annual Revenue	\$6,666,863	\$7,188,646	\$10,558,302	\$12,275,021	\$11,287,177

¹ Based on data on red light camera violations (i.e. tickets issued) published through Open Ottawa Portal.

The Red Light Camera program involves shared roles and responsibilities across multiple City departments. **Illustration 1** below illustrates the process flow and key responsibilities. The Joint Processing Centre, hosted by the City of Toronto Transportation Services, plays a central role in processing red light camera tickets for 16 Ontario municipalities, including Ottawa.

Illustration 1: Process Flow and Key Roles Involved with Red Light Cameras



Automated Speed Enforcement Program

Automated speed programs are used in Ontario municipalities to improve road safety by addressing speeding in high-risk areas, such as school zones and community safety zones. Under the *Highway Traffic Act*, municipalities are permitted to implement automated speed cameras in these zones, which are designated due to heightened safety concerns like proximity to schools, parks, and high collision areas.

The City of Ottawa (the City) launched a pilot project in 2020 with eight (8) cameras at school sites to assess effectiveness, costs, and resource needs. Based on the results, Council approved the expansion of the Automated Speed Enforcement program in 2021, with 15 additional cameras planned for 2022 and up to 25 more each year through 2026. By the end of 2024, 57 cameras were in operation, with another 24 planned for 2025. Most cameras are near schools or playgrounds/parks, except for four (4) on high-speed roads.

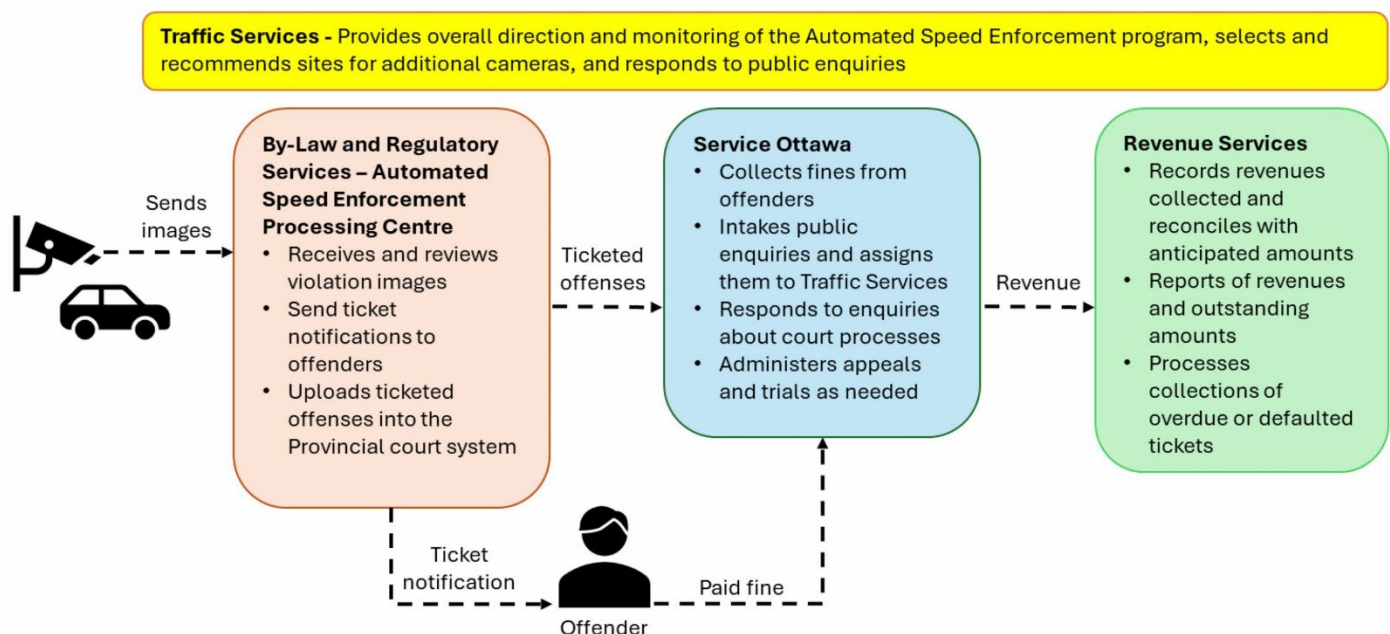
Table 2 below shows the number of automated speed cameras in operation and the number of violations captured each year since the pilot began in 2020. Revenues generated through the Automated Speed Enforcement program are intended to cover program costs, with the remainder to be transferred to the Road Safety Reserve Fund and used to fund road safety initiatives including those set out in the City's Road Safety Action Plan and the supporting Implementation Plan.

Table 2: Automated Speed Camera Statistics – 2020 to 2024

	2020	2021	2022	2023	2024
Active Cameras	8	8	17	28	57
Annual Violations²	50,143	80,944	127,939	220,789	383,830
Annual Revenue	\$2,555,757	\$5,616,451	\$8,459,343	\$14,345,208	\$29,038,280

Roles and responsibilities for the Automated Speed Enforcement program are shared across multiple City departments. **Illustration 2** below illustrates the process flow and responsibilities involved as of February 2024 when the City opened its own automated speed processing centre taking over this responsibility from the City of Toronto.

Illustration 2: Process Flow and Key Roles Involved in Automated Speed Enforcement



² Based on data for automated speed camera violations (i.e. tickets issued) published through Open Ottawa Portal.

Audit Objective and Scope

The objective of this audit was to assess the efficiency and effectiveness of the City's Automated Speed Enforcement and Red Light Camera programs; specifically, how these programs are aligned with Council direction and are implemented and monitored, including alignment with the Road Safety Action Plan.

The audit covered the period from January 1, 2023 to September 30, 2024. As it relates to the processing of offences, the audit did not directly assess the Joint Processing Centre in Toronto utilized by the City to support the programs; however, it considered processes in place within the City to monitor this service provider. Refer to [Appendix 1](#) for additional details on the objective, criteria, and approach to the audit. This audit was conducted in conformance with the Institute of Internal Auditors International Standards for the Professional Practice of Internal Auditing³.

Conclusion

The Red Light Camera program is very mature with formalized processes and controls. Automated Speed Enforcement, while more recently introduced and continuing to grow, also has embedded standardized processes and controls.

Through benchmarking conducted against other municipalities, we observed multiple best practices imbedded within the City's programs, including the use of a data driven site selection methodology for determining placement of cameras. The City also commenced operations of its own processing centre for automated speed infractions and, despite it only being in operation since February 2024, the processing centre has formalized processes, embedded controls and an effective quality assurance process.

Our audit identified opportunities to improve effectiveness of the programs along with improvements in demonstrating how the programs are supporting the overall objectives of improved road safety within the City. This included opportunities to review key performance indicators and associated reporting of the programs as well as elements of the Automated Speed Enforcement program; specifically, the site selection methodology as the program evolves and technologies available for improving the efficiency of the processing centre.

Additionally, our audit found that revenue generated from red light cameras installed subsequent to 2020 have not been allocated to the Road Safety Reserve Fund, as required by a Council direction ([ACS2019-TSD-TRF-0009](#)). Each finding in this report

³ <https://www.theiia.org/globalassets/site/standards/mandatory-guidance/ippf/2017/ippf-standards-2017-english.pdf>.

has been assigned a rating that prioritizes the associated remediation. Rating definitions are provided in [Appendix 2](#).

Value of Audit: The audit provides insights into the efficiency and effectiveness of the Red Light Camera and Automated Speed Enforcement programs. The audit has made recommendations to improve the effectiveness as well as performance monitoring and reporting of these programs to continue to support the overall objectives of improving road safety within the City.

Audit Findings and Recommendations

1.0 Use of Revenues

The City is committed to improving road safety through the development and ongoing implementation of the Road Safety Action Plan, which aims to reduce the average annual rate of fatal and major injury collisions across the City. This strategy is supported by the Road Safety Reserve Fund which was established to ensure sustained investment in road safety initiatives. The Road Safety Action Plan outlines a series of actions that address key safety concerns such as speeding and the safety of all road users. The associated Annual Implementation Plan, designed to guide the execution of the Road Safety Action Plan, details specific projects, timelines, and performance measures. Together, these elements reflect the City's proactive approach to fostering safer roads for all residents and visitors.

1.1 Revenue generated from red light cameras is not being allocated to the Road Safety Reserve Fund.

Priority
Rating: Moderate

The [Road Safety Action Plan](#) (2020-2024), approved by Council in December 2019 ([ACS2019-TSD-TRF-0009](#)), included a recommendation related to red light camera revenue and what would be allocated to the Road Safety Reserve Fund for dedicated use towards road safety initiatives. The Council recommendation stated "that all revenue from automated enforcement, including automated speed enforcement, automated license plate recognition devices and school bus cameras, as well as any future new forms of automated enforcement, in addition to revenues from new red-light cameras installed beyond 2020, be allocated to the Road Safety Action Plan Program for implementation of countermeasures identified in the 2020-2024 Road Safety Action Plan report".

Since that Council direction, no revenues from net new red light cameras has been allocated to the Road Safety Reserve Fund. The audit found revenue generated from the Red Light Camera program is exclusively allocated to the City's operating budget along with an annual transfer to the Ottawa Police Service. **Table 3** provides a breakdown of the revenue allocations subsequent to 2020.

Table 3: Red Light Camera Revenue Allocations – 2021 to 2024

Year	Red Light Camera Revenue Transferred to City's Operating Budget	Red Light Camera Revenue Transferred to Ottawa Police Service	Total Red Light Camera Revenue
2021	\$5,723,646	\$1,465,000	\$7,188,646
2022	\$8,407,205	\$2,151,097	\$10,558,302
2023	\$9,789,388	\$2,485,633	\$12,275,021
2024	\$8,987,582	\$2,299,595	\$11,287,177
TOTAL	\$32,907,821 (80%)	\$8,401,325 (20%)	\$41,309,146 (100%)

Management indicated that when the Road Safety Action Plan was developed in 2019, a baseline revenue target for the Red Light Camera program was established outlining the amount to continue to allocate to the City's general operating budget. They internally set a baseline at \$11.75M which was calculated using average revenue expected from each red light camera installed pre-2020. For ease of tracking, management determined that, annual revenues above this amount (excluding the allocation to Ottawa Police Services) would be allocated to the Road Safety Reserve Fund to align with Council's direction.

Additionally, management indicated a decision was made when the Road Safety Action Plan was developed in 2019 to allocate red light camera revenue (estimated at \$3M annually) to the Ottawa Police Service to help close a funding gap. Given the nature of the transfer, the City did not have an expectation that the funds would specifically be used for road safety.

Despite the fact that post 2020 has seen an increase of 24 red light cameras, the audit found that the program has fallen short of the established baseline target of \$11.75M set by management since 2021. Management has indicated that this was caused by a combination of changes in driver behaviour and the result of the pandemic, with less cars on the road. As noted, no revenue has been transferred to the Road Safety Reserve Fund from the Red Light Camera program. As can be seen above in **Table 3**, this also impacted the amount of funds from the Red Light Camera program going to City operations and to the Ottawa Police Service.

Management has indicated that it was assumed that Council's direction would not have an impact on the operating budget and that unless the established target was met, no red light camera revenues would be transferred to the Road Safety Reserve Fund. Based on our own analysis of ticket volume generated by new red light cameras introduced after

2020, approximately \$10.7M⁴ in gross revenue has been generated by these cameras that could have been transferred to the Road Safety Reserve Fund (not taking into account uncollectible amounts).

Not allocating net new revenues generated from new red light cameras installed after 2020 to the dedicated Road Safety Reserve Fund means that these funds will not be used exclusively for road safety initiatives. This can impact the level of public trust in the program as well as limit road safety outcomes that could be achieved through road safety initiatives funded by red light camera revenues.

RECOMMENDATION 1 – REVISIT APPROACH FOR ALLOCATING RED LIGHT CAMERA PROGRAM REVENUES

The General Manager, Public Works, in collaboration with the General Manager, Finance and Corporate Services, should revisit the approach for allocating revenues from the Red Light Camera program to the Road Safety Reserve Fund to ensure alignment with Council's expectations. The recommended allocation should be presented back to City Council for approval.

MANAGEMENT RESPONSE 1

Management agrees with this recommendation. The General Manager, Public Works and General Manager, Finance & Corporate Services, will review how revenues from the Red Light Camera program are allocated to the Road Safety Reserve Fund - to ensure they are in alignment with current base budget allocations and Council's expectations. The approach will be presented to City Council in Q4 2025 as part of the 2025 Road Safety Action Plan report or when the 2026 Draft Budget is tabled. This recommendation will be completed by Q4 2025.

2.0 Program Reporting

Traffic Services presents an Annual Report to the Public Works and Infrastructure Committee (formerly the Transportation Committee) which provides an update on the progress of the Road Safety Action Plan. This includes an update on the status and types of various road safety initiatives undertaken within the year, as well as planned initiatives and how road safety funding will be allocated within the next year.

This report also includes progress against expected outcomes for the Road Safety Action

⁴ This represents potential gross revenue from all net new cameras post 2020; not accounting for uncollectible amounts.

Plan; specifically, with respect to its goal of a 20% reduction in the average annual rate of fatal and major injury collisions by 2024. Based on the 2024 Annual Report, most of the reported fatal and major injury-related metrics have seen downward trends in recent years, indicating the achievement of positive outcomes.

The Annual Report also includes a limited discussion of the Automated Speed Enforcement program and its performance but does not include any discussion of the Red Light Camera program. Besides statistical data available on Open Ottawa, the Annual Report is the main communication mechanism for both programs.

2.1 Program measures and reporting do not fully demonstrate contributions of the Automated Speed Enforcement and Red Light Camera Programs to the broader Road Safety Action Plan goals.

Priority
Rating: Moderate

Key performance indicators are metrics used to assess the effectiveness and efficiency of the Automated Speed Enforcement and Red Light Camera programs. Key performance indicators for these types of programs typically include metrics such as the number of violations detected, reduction in traffic collisions, the percentage of vehicles exceeding speed limits or changes in traffic flow patterns before and after camera installation. In addition, factors such as the degree of change in community attitudes toward speeding and change in behaviours within the broader road network are often considered when evaluating the performance of such programs.

Automated Speed Enforcement

The City's Automated Speed Enforcement program has established key performance indicators which focus on the percentage of drivers that comply with posted speed limits, instances of high-end speeding (i.e. greater than 15 km/hour above the posted speed limit) and 85th percentile speeds (i.e. the speed at or below which 85% of vehicles travel under free flow traffic conditions at camera locations compared to baseline data prior to the cameras being installed).

The 2024 Road Safety Action Plan Annual Report included reporting against the key performance indicators for the Automated Speed Enforcement program. While these indicators demonstrate that drivers are slowing down at camera sites, by only focusing on reduction in speed, they do not provide a complete picture of the Automated Speed Enforcement program's contribution to broader road safety outcomes (e.g. reduction in collisions). Representatives from other municipalities are at varying stages of reporting impacts of their automated speed programs. Where reporting is taking place, indicators being tracked include speed reduction at sites, number of tickets issued, level of public

support for automated speed enforcement (as part of the results of a public opinion survey on the awareness of the Automated Speed Enforcement program and attitudes toward speed reduction and road safety) and safety performance of road segments. These types of indicators are currently not being reported by the City. It should be noted that some of this data is made available to the public through Open Ottawa.

We understand from management that all net revenues from the Automated Speed Enforcement program are allocated to the Road Safety Reserve Fund to be used for initiatives identified in the Annual Implementation Plans. This totaled over \$5 million in 2023 and \$29 million for 2024. However, the amount of net revenues actually being generated from the program and transferred to the Road Safety Reserve Fund to be used for road safety initiatives is not being reported in the Road Safety Action Plan Annual Report.

Formal reporting of the amount of automated speed net revenues used to support road safety initiatives would increase transparency and better demonstrate the value of the program and how it is contributing to the overall goal of improved road safety. Further, we understand that City Council approved an annual transfer \$1M from automated speed revenues to the Ottawa Police Service commencing in 2025. This places even greater importance on monitoring and reporting of the use of funds transferred to others.

Red Light Cameras

We understand that the Red Light Camera program has not established any formal key performance indicators to demonstrate its impact on program outcomes. Additionally, the audit found that no formal reporting is in place for the Red Light Camera program, either within the Road Safety Action Plan Annual Report or through other mechanisms. Representatives from other municipalities indicated that they are reporting on the impacts of their red light camera programs within overall road safety reports. Indicators they are tracking include reductions in angle collisions at intersections with cameras, which is aligned with researched best practices for red light camera programs.

Not establishing and reporting on a fulsome set of performance indicators impacts the ability of the City to demonstrate the program's contribution to road safety outcomes.

RECOMMENDATION 2: UPDATE AUTOMATED SPEED AND RED LIGHT CAMERA PROGRAM MEASURES AND REPORTING

The General Manager, Public Works should review and update both Automated Speed Enforcement and Red Light Camera program measurement and reporting,

through the Road Safety Action Plan annual reporting process, to ensure each fully demonstrates their contributions to expected outcomes including:

- Establishing and reporting against performance indicators for the Red Light Camera program.
- Expanding reporting against a broader set of performance indicators for the Automated Speed Enforcement program.
- Reporting on the amount of revenues generated that were transferred to the Road Safety Reserve Fund to support road safety initiatives.
- Reporting on the amount of Automated Speed Enforcement revenue transferred to the Ottawa Police Service.
- Working collaboratively with Ottawa Police Service's Traffic Services Unit to establish a reporting mechanism on how funds transferred are being utilized; specifically, those expected to be used towards road safety.

MANAGEMENT RESPONSE 2

Management agrees with the recommendation. The General Manager, Public Works will review and update the measurement and reporting for both the Automated Speed Enforcement and Red Light Camera Programs – which is currently underway. Traffic Services staff has already met with Ottawa Police Service to establish a reporting protocol and any updated reporting metrics will be utilized beginning with the 2025 Road Safety Action Plan Annual Report. This recommendation will be completed by Q4 2025.

3.0 Opportunity for Continuous Improvement

As the Automated Speed Enforcement program is early in its evolution and maturity, the audit identified the following opportunities improvement. The observations noted below would result in improved efficiencies and/or program outcomes.

3.1 As the automated speed program evolves, there are opportunities to review the site selection methodology to better align with road safety goals.

Priority
Rating: Moderate

While it is not mandated, Ontario municipalities generally follow the guidelines established by the Ontario Traffic Council when selecting automated speed camera sites. The Ontario Traffic Council guidelines emphasize a data-driven approach,

recommending a balanced consideration of multiple factors (i.e. traffic volume and speeding patterns, collision history, zone environment/road conditions, traditional enforcement, proximity to vulnerable road users and local community concerns) designed to ensure that automated speed enforcement systems are deployed in locations with the greatest potential to enhance road safety.

Pilot Project - Early Focus on Speed Reduction in School Zones

At the time the City launched the automated speed pilot in 2020, Council provided direction to focus the placement of the first eight (8) cameras within school zones due to the heightened safety risks that excess speeding poses to vulnerable road users, such as children, pedestrians, and cyclists. This approach was specifically taken because the focus was to reduce speed and change behaviours in these areas.



To select automated speed camera locations within school sites, the City established a formal methodology that incorporated factors such as speed limit compliance, speeding patterns (at least 15 km/h over the posted speed limit), student pedestrian activity, and collision history. The audit found that the City's site selection methodology for school zones places a heavy emphasis (i.e., 85% of the weighting) on the number of excess speeders and student pedestrians at each site. This is determined by using a formula of traffic volume multiplied by the percentage of vehicles exceeding the posted speed limit by 15 km/h or more, as well as the number of students walking to school.

Permanent Speed Camera Program Site Selection Methodology

At the time the automated speed program was approved to be operationalized in 2021, Council direction was to continue to expand into school zones and as of 2023, add playgrounds/parks. At the same time, Council approved a pilot project to install automated speed cameras in high-speed areas that were not near schools – in order to address the dangers of road racing. This pilot project expanded the program into areas that traditionally experience more severe collisions with four (4) cameras installed in 2024. Additionally, in 2024, Council approved a pilot project to introduce speed cameras in rural areas. Four (4) rural locations have been identified for installation in 2025.

For selecting automated speed camera sites in high-speed areas and playgrounds/parks, the City engaged an external consultant to develop criteria for selecting the sites. The consultant's report applied a more balanced weighting across the selection factors,

compared to the methodology used for school zones. Consistent with the approach to school zones, the City's internally developed criteria for selecting sites for cameras for the rural pilot project is heavily weighted towards exposure value (i.e., traffic volume x drivers over 15 km/hr over posted speed).

Based on benchmarking against other municipalities within Ontario, the audit noted there are a variety of methods used for determining potential camera sites along with the criteria used to select the sites. All site selection methodologies incorporated speed as a factor; however, the amount of weighting applied was less significant than that used by the City.

While the City's current focus on speeding and traffic volume is an important consideration in determining where to place automated speed cameras, it can result in a disproportionate weighting of traffic data, leaving other critical safety factors; such as the number and severity of historical collisions underrepresented, and predictive crash modelling (i.e. statistical techniques and data analysis to forecast the likelihood and severity of road crashes) and zone environment conditions excluded.

As the City continues to evolve the automated speed program outside of school zones and playgrounds, there is an opportunity to seek out additional reliable data points on potential locations and holistically review the site selection methodology for application across these potential sites. This will help ensure that sites across the road network are selected that will most meaningfully contribute to the overall objective of the road safety action plan (i.e., 20% reduction in the average annual rate of fatal and major injury collisions).

RECOMMENDATION 3 – REVIEW SPEED CAMERA SITE SELECTION METHODOLOGY

The Director, Traffic Services should review and update the City's automated speed site selection methodology to incorporate a more balanced approach across all potential site locations; with consideration given to increasing the weighting of factors such as collision history, predictive crash modeling and zone environment; alongside traffic volume and speeding data. This should consider the City's ability to gather reliable data across the road network.

MANAGEMENT RESPONSE 3

Management agrees with this recommendation. The Director, Traffic Services, will review the Automated Speed Camera site selection methodology and make any necessary modifications to ensure it incorporates a balanced approach across all potential site locations and considers the reliability of data gathered across the City's

road network. The review will be completed in Q4 2026 in time for site selection for 2027 implementation. The review of Automated Speed Camera site selection methodology will continue to be ongoing as part of our commitment to continuous improvement.

3.2 Opportunities exist for increased automation to improve efficiency at the City's automated speed processing centre.

Priority
Rating: Low

Up until February 2024, the City relied on Toronto's Joint Processing Centre to process infractions generated by the City's Automated Speed Enforcement program. However, due to the growing volume of infractions resulting from additional speed camera installations, the City experienced processing capacity constraints by the Toronto Joint Processing Centre. As a result, some infractions were not processed within the required timeframes, resulting in a loss of potential fine revenue for the City. In 2023, a total of 73,428 Ottawa violations were not processed by the Toronto Joint Processing Centre due to the limitation period being exceeded.

To address these processing capacity limitations, the City established its own processing centre, dedicated to handling infractions from its speed cameras. The City's processing centre was modelled after the Toronto Joint Processing Centre which effectively minimized the amount of time needed to scale operations to meet the City's needs. Despite only being in operation since February 2024, the processing centre has formalized processes, embedded controls and established an effective quality assurance process.

Since its inception, the transition to the new processing centre has resulted in significant efficiency improvements, including enhanced charge rates and all tickets being processed within the 30-day limitation period. The processing centre currently has adequate capacity—both in terms of facility space and staffing—to meet the City's present needs, and it is well-positioned to scale operations as demand increases.

Benchmarking against other municipalities has highlighted opportunities to continue to improve efficiency within the processing centre through automation. Specifically, automating administrative tasks such as printing, folding, and mailing tickets could significantly reduce the manual workload, freeing up City staff to focus more on core ticket processing duties. As the City is considering expanding its services, potentially offering speed enforcement joint processing for other municipalities and managing a greater number of its own automated speed cameras, investments in these automation improvements could enable the maintenance of efficiency and supporting future growth.

Upcoming Implementation of an Administrative Penalty System

It should be noted that changes to the *Municipal Act* along with the *Highway Traffic Act* has allowed municipalities to implement an Administrative Penalty System (APS) for minor offences, including automated speed and red light camera violations. Approved by City Council in May 2024, the APS allows defendants to pay fines or request a review by City employees or an independent Hearing Officer. This system is expected to improve efficiency by removing reliance on limited provincial resources, with phased implementation starting with parking offences in Q2 2025, followed by automated speed and red light camera offences in Q4 2025. This will support continuous improvement and enhanced efficiencies.

RECOMMENDATION 4 - EXPLORE AUTOMATION TECHNOLOGIES FOR THE PROCESSING CENTRE

The Director, Traffic Services, in collaboration with the Director, By-Law and Regulatory Services, should explore automation technology opportunities within the processing centre to streamline administrative processes, enhance operational efficiency, and better position itself for future growth and expanded services.

MANAGEMENT RESPONSE 4

Management agrees with the recommendation. The Director, Traffic Services, will work collaboratively with the Director, By-law and Regulatory Services, to explore new/emerging technologies related to enhancing operational processes and efficiency within the Processing Centre. The review is continually underway with some proposed technology changes planned for implementation in Q4 2025. The review of new and emerging technologies will be ongoing as part of our commitment to continuous improvement.

Appendix 1 – About the Audit

Audit Objective and Criteria

The objective of the audit was to assess the efficiency and effectiveness of the City's Automated Speed Enforcement and Red Light Camera programs. More specifically, the audit assessed how these programs are aligned with Council direction and are implemented and monitored, including alignment with the Road Safety Action Plan.

Criteria listed below were developed from our assessment of key risks related to the Automated Speed Enforcement and Red Light Camera programs and in consultation with subject matter expertise.

1. Aligning Programs to Road Safety Action Plan and Selecting Camera Sites	
1.1	The programs are aligned with the Road Safety Action Plan.
1.2	Camera site selection processes are data driven and based on established criteria.
2. Processing, Collection and Use of Revenue	
2.1	The City has implemented efficient and effective systems and processes to meet the programs capacity and processing needs.
2.2	The City effectively monitors the offences processing led by external service providers (i.e., Toronto Joint Processing Centre).
2.3	Automated Speed Enforcement processing centre staff involved in adjudicating offences within the City's processing centre consistently follow established procedures.
2.4	Quality assurance processes for adjudicating speed enforcement offences within the City's processing centre, including roles and responsibilities, have been established, documented and consistently applied.
2.5	The City has implemented efficient and effective mechanisms to ensure timely collection of fine revenue generated from the programs.
2.6	The City is using net revenues generated from the programs for road safety initiatives in alignment with the Road Safety Action Plan.
3. Measurement Against Program Objectives	
3.1	Appropriate key performance indicators have been established to measure achievement of program objectives.

3.2	Relevant information is gathered, analyzed and shared (internally and with relevant program partners) to determine whether cameras are achieving program objectives.
3.3	The programs have enabled redeployment of resources supporting road safety (e.g. Ottawa Police Service, Ottawa Paramedic Services).
3.4	Progress towards program objectives are periodically reported to stakeholders.

Audit Approach and Methodology

Audit staff performed the following procedures to complete this audit:

- Reviewed relevant documents;
- Performed interviews and/or walkthroughs with key City personnel;
- Tested a sample of camera site selections;
- Performed site visit to observe and confirm existence and effectiveness of controls related to ticket processing;
- Comparisons with other Ontario municipalities, where relevant;
- Utilized a subject matter expertise in the area of road safety, where deemed applicable; and
- Perform other analysis and tests, as deemed necessary.

Appendix 2 – Rating Scale for Audit Findings

The following rating definitions were used to assign priority to the findings associated with this audit.

Priority Rating	Description
Critical	The finding represents a severe control deficiency, non-compliance or strategic risk/opportunity and requires an immediate remedy. If left uncorrected, this could have a catastrophic impact on the achievement of the City's strategic priorities, its ongoing business operations, including the risk of loss, asset misappropriation, data compromise or interruption, fines and penalties, increased regulatory scrutiny, or reputation damage.
High	The finding represents a significant control deficiency, non-compliance or strategic risk/opportunity and requires prompt attention. If left uncorrected, this could have a significant impact on the achievement of the City's strategic priorities, its ongoing business operations, including the risk of loss, asset misappropriation, data compromise or interruption, fines and penalties, increased regulatory scrutiny, or reputation damage.
Moderate	The finding represents a moderate internal control deficiency, non-compliance or is a risk/opportunity to business operations that should be addressed timely. If left uncorrected, this could have a partial impact on business operations, resulting in loss or misappropriation of organizational assets, compromise of data, fines and penalties, or increased regulatory scrutiny. Typically, these issues should be resolved after any high-priority findings.
Low	The finding should be addressed to meet leading practice or efficiency objectives. Remediation should occur as time and resources permit. While it is not considered to represent a significant or immediate risk, repeated oversights without corrective action or compensating controls could lead to increased exposure or scrutiny.