TOWNSHIP OF ESSA STAFF REPORT

STAFF REPORT NO.: C001-25

DATE: February 5, 2025

TO: Committee of the Whole

FROM: Lisa Lehr, Manager of Legislative Services / Clerk

SUBJECT: Automated Speed Enforcement Program Evaluation

RECOMMENDATION

That Staff Report C001-25 be received for information.

BACKGROUND

Automated Speed Enforcement (ASE) is an automated system that uses a camera and a speed measurement device to capture images of vehicles that are driving in excess of the posted speed limit. The intent behind ASE is to help improve road user safety by increasing speed compliance, alter driver behavior and increase public awareness about the critical need to slow down in designated school zones and community safety zones. ASE is proven to effectively enforce speed limits, increase driver awareness and decrease injuries and fatalities that result from motor vehicle collisions.

Images that are obtained from an ASE system are reviewed by a Provincial Offences Officer to ensure that all evidentiary requirements are met before a Penalty Order is issued.

The purpose of this Report is to provide Council with a measurement on the effectiveness of Automated Speed Enforcement Program following the first twelve months of operation in the Township of Essa.

COMMENTS AND CONSIDERATIONS

Throughout 2024, Essa had a total of 6 cameras in operation at varying times throughout the year. The methodology utilized by Essa Township in site selection was that of a data-driven approach involving the analysis of speed and collision data. To ensure longer-lasting road safety benefits such as reduced speed behavior by motorists, it was intended for the ASE systems to be deployed for a minimum of 3 months before the ASE systems were rotated to different community safety zones within Essa's boundaries.

Locations

Site Specific Location ID	Community Safety Zone	Direction of Travel for Contravention	Activation Period
X001	5th Line between 30th Sideroad and County Road 90	Northbound	2024-01-11 to 2024-07-02
X002	5th Line between 30th Sideroad and County Road 90	Southbound	2024-05-04 to Present
X003	25th Sideroad between 9th Line and 10th Line	Westbound	2024-01-01 to 2024-02-25
X011	Centre Street between Stringer Avenue and the 5th Line, capturing speeding contraventions of vehicles travelling eastbound	Eastbound	2024-07-03 to Present
X015	County Road 21 (Murphy Road) between a point 200 m east of Denney Drive to a point 800 m west of Denney Drive, Baxter	Eastbound	2024-10-24 to Present
X017	County Road 21 (Robert Street) between County Road 27 and the 11th Line (Thornton)	Eastbound	2024-10-23 to Present

Outcome Measurement

Terminology:

- *85th Percentile: the speed at or below which 85 percent of all vehicles are observed travelling on a road segment*
- *Average Speed: the average speed travelled for all observed vehicles*
- *% Above Posted Speed Limit: the proportion of vehicles travelling above the posted speed limit.*

Speed Data (prior to ASE being deployed vs after ASE was deployed):
The following is a summary of Speed Data that has been collected for the period of January 1 to December 31, 2024:

Location ID X001 – 5th Line between 30th Sideroad to CR 90 Northbound Posted Speed Limit – 60 km/h Activation Period: January 11 2024, to July 2, 2024							
Speed Data Prior to Enforcement				**Speed Data with Enforcement**			
Observation Period	**85th Percentile (km/h)**	**Average Speed**	**% Above Speed Limit**	**Observation date**	**85th Percentile**	**Average Speed**	**% Above Speed Limit**
August 2023	**72.9**	**63**	**37**	**Jan-July 2024**	**57**	**58.53**	**6.37**

***Note:* The average 85th percentile speed dropped from 72.9km/hr to 57km/hr and the average speed dropped from 63km/hr to 58.5km/hr after the implementation of ASE on this road segment.**

Location ID X002 – 5th Line between CR 90 to 30th Sideroad Southbound Posted Speed Limit – 60 km/h Activation Period: May 4, 2024 to Present							
Speed Data Prior to Enforcement				Speed Data with Enforcement			
Observation Period	85th Percentile (km/h)	Average Speed	% Above Speed Limit	Observation date	85th Percentile	Average Speed	% Above Speed Limit
August 2023	72.9	63	37	May to December 2024	61	54.73	15.4

***Note:* The average 85th percentile speed dropped from 72.9km/hr to 54.8km/hr and the average speed dropped from 63km/hr to 61km/hr after the implementation of ASE on this road segment.**

Location ID X003 – 25th Sideroad between 9th Line and 10th Line Westbound Posted Speed Limit – 60 km/h Activation Period: January 1, 2024 to February 25, 2024							
Speed Data Prior to Enforcement				Speed Data with Enforcement			
Observation Period	85th Percentile (km/h)	Average Speed	% Above Speed Limit	Observation date	85th Percentile	Average Speed	% Above Speed Limit
August 2023	78.9	64	49	January to February 25, 2024	65	54.14	24.11

***Note:* The average 85th percentile speed dropped from 78.9km/hr to 65km/hr and the average speed dropped from 64km/hr to 54km/hr after the implementation of ASE on this road segment.**

Location ID X011 – Centre Street from Stringer Avenue to 5th Line Eastbound Posted Speed Limit – 50 km/h Activation Period: July 3, 2024 to Present							
Speed Data Prior to Enforcement				Speed Data with Enforcement			
Observation Period	85th Percentile (km/h)	Average Speed	% Above Speed Limit	Observation date	85th Percentile	Average Speed	% Above Speed Limit
April 2024	101.3	89.6	99.8	July to December 2024	53	47.33	25.99

***Note:* The average 85th percentile speed dropped from 101.3km/hr to 53km/hr and the average speed dropped from 89.6km/hr to 47.3km/hr after the implementation of ASE on this road segment.**

Location ID X015 – CR 21 (Murphy Road) between a point 200 m east of Denney Drive to a point 800 m west of Denney Drive (Baxter) Eastbound Posted Speed Limit – 50 km/h Activation Period: October 24, 2024 to Present							
Speed Data Prior to Enforcement				Speed Data with Enforcement			
Observation Period	85th Percentile (km/h)	Average Speed	% Above Speed Limit	Observation date	85th Percentile	Average Speed	% Above Speed Limit
June 2024	66	55	72.5	October to December 2024	53	44	27.03

***Note:** The average 85th percentile speed dropped from 66km/hr to 53km/hr and the average speed dropped from 55km/hr to 53km/hr after the implementation of ASE on this road segment.*

Location ID X017 – Robert Street (CR21) from 11th Line to CR27 (Thornton) Eastbound Posted Speed Limit – 50 km/h Activation Period: October 23, 2024 to Present							
Speed Data Prior to Enforcement				Speed Data with Enforcement			
Observation Period	85th Percentile (km/h)	Average Speed	% Above Speed Limit	Observation date	85th Percentile	Average Speed	% Above Speed Limit
June 2024	63	60	60	October to December 2024	53	45.84	26.5

***Note:** The average 85th percentile speed dropped from 63km/hr to 53km/hr and the average speed dropped from 60km/hr to 45km/hr after the implementation of ASE on this road segment.*

Key Findings

Based on the data collected, the cameras have been successful in achieving significant reductions in speeding within the first twelve months of deployment (when compared to the speed data prior to deployment). As can be seen from the speed data, there were significant changes in driver behaviour:

- **The percentage of drivers exceeding the posted speed limit decreased significantly in all zones after ASE devices were deployed.**
- **Analysis of ASE data reveals an average 29% reduction in average speed data across targeted locations.**
- **Analysis of ASE data reveals an average of 26% reduction in 85th percentile speeds travelled by motorists across targeted locations.**
- **Speed compliance among motorists increased by 38% after the installation of ASE cameras across targeted locations.**
- **Preliminary collision data shows a reduction to zero % speed related collisions at ASE-monitored sites.**
- **No fatal or severe injury collisions have been reposted across ASE targeted locations.**

The data confirms that Automated Speed Enforcement has had a significantly positive impact on municipal road safety by reducing speeding incidents and related preliminary collisions at ASE-monitored sites. Furthermore, ASE has proven to be a cost-effective alternative to traditional enforcement, freeing up OPP resources for other critical tasks while revenues generated through ASE fines will be reinvested into road safety programs and infrastructure projects. These findings support continued use and potential expansion of ASE to other high-risk areas within the municipality.

Staff will continue to monitor ASE program performance and report annually to Council on key metrics, including speed compliance, and the opportunity to launch a Community Awareness Campaign (targeted education campaign to enhance public understanding of ASE and its role in road safety and preventing accidents).

FINANCIAL IMPACT

This Report focuses solely on the evaluation of Essa's ASE Program based on speed data that was collected during the first twelve months of deployment. It is being provided for Council's information.

Manager of Finance

SUMMARY/OPTIONS

Council may:

1. Take no further action, thereby receiving the Staff Report for information only.
2. Direct Staff as Council deems appropriate.

CONCLUSION

This Report has been provided to Council for information, in an effort to keep Council up to date on the effectiveness of Essa's Automated Speed Enforcement Program.

Respectfully submitted by:

Lisa Lehr
Manager of Legislative Services / Clerk

Reviewed by:

Michael Mikael, P.Eng
Chief Administrative Officer