Subject:	Truck Bypass Camera Monitoring Pilot Project Update
To:	Committee of the Whole – Community Services & Infrastructure
From:	Public Works Department

Report Number:	PW-10-23
Wards Affected:	All
Date to Committee:	November 6, 2023
Date to Council:	November 13, 2023

Recommendation:

Receive and file Report PW-10-23, regarding Truck Bypass Camera Monitoring Pilot Project Update.

Purpose:

The purpose of this report is to update Committee on the Town's Truck Bypass Camera Monitoring Pilot Project initiative in partnership with the Ministry of Transportation (MTO).

Alignment to Council Priorities

This proposed pilot project aligns to key Council Priorities in promoting a connected community including addressing truck traffic and road safety across Lincoln.

Background:

Truck traffic safety strategies are a high priority for the Town in responding to resident's concerns to help improve road safety throughout the community.

2019

On April 15, 2019, Council passed a resolution regarding truck safety in Lincoln. The motion identified several concerns related to truck traffic and identified several action items to address the concerns. One of the key action items resulting from the motion, and the subject of this report was to begin scale/inspection station avoidance enforcement blitzes as soon as possible.

In addition, the Town's Transportation Master Plan (TMP) developed comprehensive strategies for the movement of goods in Lincoln with specific recommendations related to this report:

- *Work with MTO, NRP, and the Region to initiate frequent truck safety inspection/enforcement blitzes*

- *Develop enforcement strategies with MTO and the Region for truck traffic bypassing of the QEW inspection station*

2021

The Beamsville Truck Route Implementation Study was completed in 2021. This comprehensive study further evaluated the short-term plan as recommended in the Town's TMP to reduce truck traffic in the downtown area of Beamsville by utilizing both Bartlett Road and Durham Road as alternate truck routes; given the long-term solution is for the Region to implement a new north-south truck route escarpment crossing being the Park Road/Bartlett Avenue extension in Grimsby. In addition, the Beamsville Truck Route Implementation Study also reviewed the issue of trucks avoiding the Vineland Truck Inspection Station and recommended that in addition to an enforcement layby area on Bartlett Road, the Town should also explore camera monitoring technology to assist MTO with improved enforcement of truck traffic bypassing.

2022

The approved 2022 Capital Budget included funding for the Town to lead a Truck Bypass Camera Monitoring Pilot Project. The Town is leading this pilot project initiative in partnership with the MTO to help improve monitoring and enforcement of truck bypass traffic avoiding the Vineland Truck Inspection Station. In 2022 the project team developed the plan and initiated implementation with pole and camera installation.

2023

The Truck Bypass Camera Monitoring Pilot Project was fully implemented in Q1 2023. Beta testing occurred early in the year with the system going into full live service for the MTO enforcement team in February 2023.

Report:

Vineland Truck Inspection Station Avoidance

The MTO Vineland Truck Inspection Station (or "Scale") is located along the QEW just west of the Victoria Avenue QEW interchange between Vineland and Beamsville. The Vineland Truck Inspection Station only operates in the westbound direction with a focus on commercial vehicle/truck safety inspections. When the inspection station is in operation with flashing lights on, commercial vehicles/trucks are obligated to turn in and undergo a vehicle inspection if required, or face fines or other charges. However, a portion of truck drivers avoid or bypass the inspection station when the inspection lights are on

by exiting the QEW in advance. For example, they may turn southbound onto Victoria Avenue and then use an east/west route, typically King Street, to get back onto the QEW in Beamsville via Ontario Street, thus bypassing the inspection station. This is a significant concern for the Town in terms of bypassing truck traffic going through the downtown urban areas of Beamsville.

Truck drivers communicate quite readily with each other by radio, driver app, or other means and the word gets out quickly that the inspection station is active. As a result, this heads up allows drivers to exit the QEW in advance via Victoria Avenue avoiding the Vineland Truck Inspection Station. Truck drivers may avoid the inspection station for various reasons. Some may just find it an inconvenience to be stopped due to time constraints with their haul route, while others may have known issues that they are attempting not to have the officer discover, such as licensing issues, vehicle safety issues, etc. It is important to note that some drivers who are taking a detour from the QEW may have legitimate reasons for doing so, such as making a pick-up or delivery in Vineland, Beamsville, areas above the escarpment via Victoria Avenue, etc. Some truck traffic within the community is vital to the goods movement across Lincoln in support of our local community.

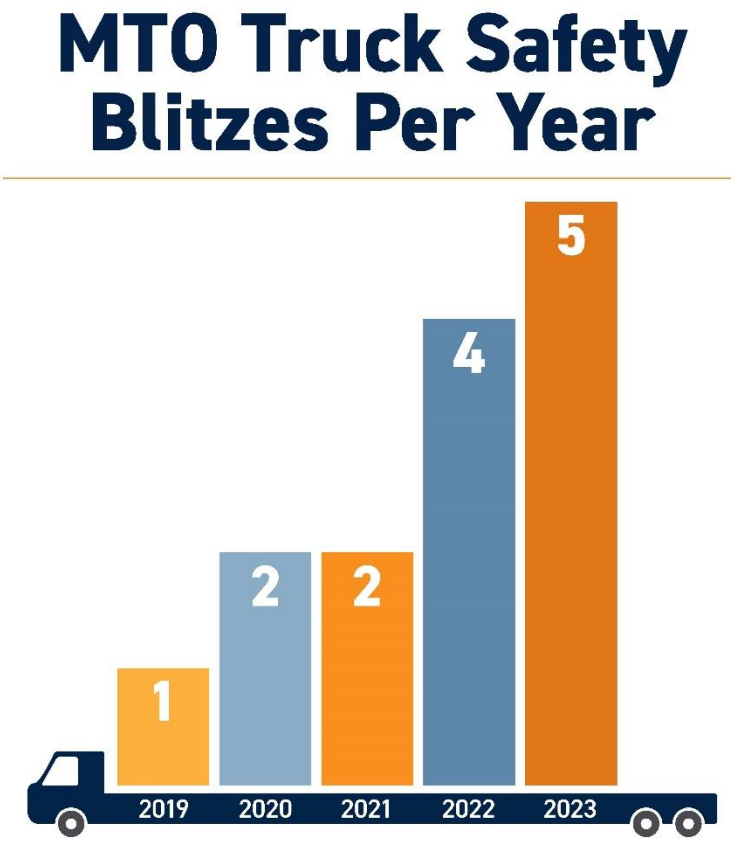
Frequent Truck Safety Blitzes – Targeting Truck Inspection Station Avoidance

In response to Council's April 15, 2019 resolution to address truck safety in Lincoln, Town staff have been collaborating with the MTO and Niagara Regional Police (NRP) with support from Hamilton Police Services, Halton Region Police Services Commercial Enforcement Unit and Niagara Parks Police Services to complete a number of regular Truck Safety Blitzes with a focus on inspection station "avoidance." During these regular occurring blitzes officers are strategically located along main routes where west bound truck traffic is known or suspected to be bypassing the Vineland Truck Inspection Station Officers also utilize the Town's Monitoring Cameras as another effective to tool to help with enforcement operations. Officers will pull over commercial vehicles who they suspect might be avoiding the inspection station. If, through their more detailed questioning, the officer determines that the driver is avoiding the inspection station, the truck is then escorted to the Vineland Truck Inspection Station for a full detailed inspection. This can result in a significant amount of time loss for the driver and the hope is that next time they decide it is better to follow the law and pull into the inspection station off the QEW.

The objective of frequent truck safety blitzes is to raise awareness around traffic safety. It is very important through these types of blitzes to get the word out that when the inspection station lights come on in the future enforcement officers are monitoring and out on Lincoln's regional and local roads and there is no benefit to the truck drivers attempting to utilize the Town's roads to avoid the Vineland Truck Inspection Station. The goal is to help to reduce the number of trucks travelling on Lincoln's roads that are avoiding the inspection station.

Staff are very pleased to advise that the number of truck safety blitzes focusing on trucks avoiding the inspection station has significantly increased since this important safety initiative for the community started. Please refer to Figure 1.

Figure 1: MTO Blitzes Per Year



Camera Monitoring Pilot Project Plan

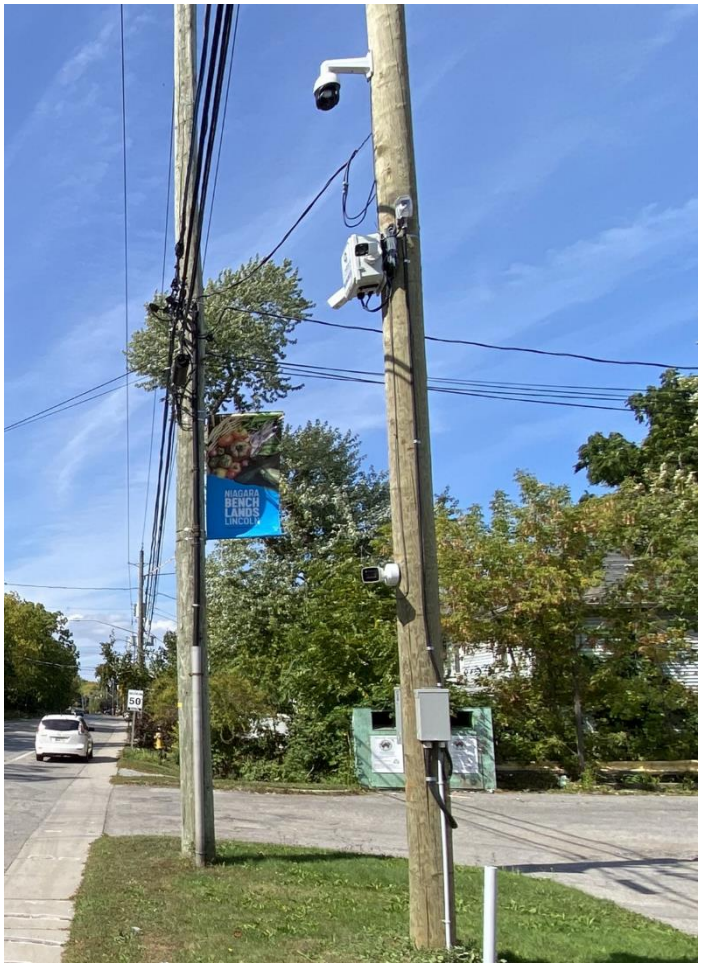
The pilot project plan was developed through significant collaboration with the project team. The project team is comprised of Town of Lincoln Public Works Staff, MTO enforcement representatives, Rogers (service provider) and Caliber (camera system technology).

Some highlights of the camera monitoring pilot project:

- Two smart surveillance cameras are installed on the main known bypass route: one installed at the Victoria Avenue QEW exit and another on King Street west of Victoria Avenue. Please refer to Figure 2.
- The camera monitoring system uses innovative AI technology that can effectively help detect potential bypass truck traffic using the following strategies.

- Automatically sends MTO officers a notification that the same truck has been detected on both cameras.
- Provides images of the truck (company name).
- Provides license plate reader capability which is a significant benefit for MTO enforcement to learn more about the truck, where it is from, any other safety violations on file, etc.
- The system detects a running total of how many times a particular truck has bypassed, allowing MTO to focus on repeat offenders.
- The system only records large size vehicles (not smaller size passenger vehicles) and the windshields are blurred to comply with privacy requirements.
- The camera data is only accessible to the MTO enforcement team.

Figure 2: Caliber Smart Surveillance Camera



- Two traffic counters are installed on suspected bypass routes. One installed on Greenlane Road west of Victoria Avenue and one on Jordan Road just south of

the North Service Road. These counters monitor and collect data on truck traffic. Please refer to Figure 3.

Figure 3: Black Cat Radar



MTO Enforcement Plan

Feedback from the MTO enforcement team has been very positive in terms of the cameras assisting them to target trucks bypassing the station. Potential enforcement strategies include the following examples:

- MTO enforcement officers receive a notification that a truck has been detected on both cameras.
- The officer can view images of the truck to help determine if the name of the company shown on the side of the commercial vehicle is a local known business that they are familiar with or is it an out-of-Town company for example from the USA, GTA area, etc., being suspected by-passers.
- MTO officers can run the plate reader of a suspected bypassing commercial vehicle and obtain important background information such as company origin/ jurisdiction, any license or safety violations on record, etc.
- If the truck is suspected to be a potential by-passer, the officer pursues and intercepts the commercial vehicle on route, stops the truck and engages in a conversation with the driver to learn more.
- If gathered facts are suspect for inspection station avoidance, the officer will escort the commercial vehicle back to the Vineland Truck Inspection Station for a further detailed inspection.
- If safety defects are found and depending on the severity the driver and carrier company is fined and the vehicle maybe placed out of service as a result.

- The commercial vehicle cannot leave until defects have been repaired for out of service defect conditions found. This is a significant deterrent for companies based on the financial impact for their load not being delivered on time, the cost associated with repairing the vehicle on site and towing costs if repairs are extensive.

- If towing is required, the vehicle must be unloaded thereby adding even more of a financial burden to companies/drivers choosing to bypass with serious defects.

- The commercial vehicle inspection report will document that the vehicle was found on a known bypass route. This will allow another officer in the future to be able to see this information in case the same company is stopped again for suspected bypassing to better tackled repeat offenders.

Recommended Additional Camera

Based on feedback from the MTO enforcement team, they are also observing truck traffic bypassing on King Street east of Victoria Avenue from the Jordan Road QEW exit. As such the MTO enforcement team are recommending that the Town consider installing another camera along King Street east of the Victoria Avenue area, providing a good coverage zone of desirable bypass routes in this area of the community. More importantly, targeting and reducing bypass truck traffic through Jordan Station along Jordan Road, Jordan Village, Jordan Hollow, and downtown Vineland all located along King Street is a high priority for the Town.

The Town's service provider Rogers has also offered to cover the cost of installing this recommended additional camera for 6 months of free service as a partner in helping the Town focus on traffic safety and trucks bypassing the inspection station in Lincoln.

Staff are recommending that Council consider expanding the pilot project scope to include an additional monitoring camera on King Street east of Victoria Avenue to help further address trucks using the Jordan Road exit to bypass the inspection station. Staff advise that this additional camera combined with the two currently installed provides a good coverage zone for monitoring, collecting data and enforcement of the truck traffic avoiding the inspection station using the Jordan Road QEW exit. In the interim, staff have just recently installed a traffic counter on Jordan Road like the one being used on Greenlane to collect data in order to gain a better understanding of truck traffic volumes and potential bypassing on Jordan Road.

Initial Data Collection Results

The project team has been collecting data from the camera monitoring technology for approximately the past six months. The initial data collected to date is showing the following:

- An average daily increase in truck traffic (potentially bypassing) of 26% (41 trucks) on King Street when the Vineland Truck Inspection Station is on. Refer to Appendix A.

- An average daily increase in truck traffic (potentially bypassing) of 17% (4 trucks) on Greenlane Road when the Vineland Truck Inspection Station is on. Refer to Appendix B.

- On King Street truck traffic volumes in general decrease by 96% on weekends.

- On Greenlane Road truck volumes in general decrease by 91% on weekends.

- More data collection and assessment are needed to monitor over a longer period of time.

- Truck Bypass Traffic Volumes when the station is on seem to be higher mid-to end of week.

While the data collected in this short amount of time is promising, the initial findings show varied results with no real comparative data at this time to be able to develop a baseline and trends. Staff advise that the pilot project is still early on in its operation and more data collection is needed to gain a better understanding of the truck traffic patterns throughout the year regarding to the Vineland Truck Inspection Station avoidance situation.

Financial, Legal, Staff Considerations:

Financial:

The total estimated costs for the Truck Bypass Camera Monitoring Pilot Project are summarized in Table 1.0 below.

Table 1.0 – Pilot Project Cost Summary

Pilot Project Cost Summary 2023	
Approved 2022 Project Budget Allocation	$40,000.00
Total Estimated 2023 Pilot Project Cost (Year End)	$34,500.00
Estimated Total Pilot Project Cost Summary 2024	
Total Estimated 2024 Pilot Project Cost (Power supply, monitoring camera rentals/service provider (3 cameras), etc.)	$37,500.00 (excluding HST)

Staff will be requesting additional funding for Council's consideration as part of the proposed 2024 budget for continued rental/service provider costs for the 2024 year and additional funds for the third camera on King Street, east of Victoria Avenue.

Staffing:

This important pilot project is being managed by the Public Works Department.

Legal:

Public Works staff have worked closely with the Town's legal counsel to ensure that the pilot project complies with applicable privacy and data sharing legislation.

Public Engagement Matters:

The Town's Speak Up-Lincoln Truck Traffic page provides information on the Town's Truck Bypass Camera Monitoring Pilot Project and is updated with results after every MTO Truck Blitz.

Conclusion:

The Truck Bypass Camera Monitoring Pilot Project in partnership with MTO is a significant step forward in our continued efforts to address truck safety in Lincoln in response to Council's April 15, 2019 resolution. This project continues to support our efforts to identify trucks avoiding the Vineland Truck Inspection Station and help reduce unnecessary truck traffic in downtown Beamsville.

Respectfully submitted,

Dave Graham
Director of Public Works
905-563-2799 ext. 275

Appendices:

Appendix A - Average Daily Truck Traffic on King Street
Appendix B - Average Daily ruck Traffic on Greenlane Road

Report Approval:

Report has been reviewed and/or approved by Director of Public Works. Final approval is by the Chief Administrative Officer.