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TO: Transportation Committee

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SUBJECT: E-Cargo Bike and Low-Speed Vehicle Pilot Program Status Update

OBJET : Rapport d'étape sur les projets pilotes de vélos-cargos électriques et de véhicules à basse vitesse

PURPOSE

The purpose of this report is to provide an update to Transportation Committee regarding the status of the [E-Cargo Bike Pilot Project](#) and the [Low-Speed Vehicle Pilot Project](#) as approved by Council in 2021.

BACKGROUND

In September and October of 2021, Transportation Committee approved the City of Ottawa's participation in the Province of Ontario's pilot programs for e-cargo bikes and low-speed vehicles (LSV), respectively. The provincial pilot programs required municipalities to opt-in by means of a by-law to enable both environmentally friendly vehicles to be tested on city streets. The [2021 E-Cargo Bike \(Bylaw 2021-290\)](#) and the [Low-Speed Vehicles \(By-law 2022-276\)](#) were approved by Council in September and October 2021. At the time of approval, Traffic Services agreed to provide Committee with a status update at the halfway point of the pilot projects. This report provides a high-level summary of the status of each pilot program.

DISCUSSION

As part of changes to the *Highway Traffic Act (HTA)* proposed through *Bill 282, Moving Ontarians More Safely Act in 2021*, the Province of Ontario introduced regulations to establish a new five-year pilot program (*O. Reg. 141/21*) to examine the use of e-cargo bikes. The changes to the HTA re-classify existing e-bikes over 55 kilograms as e-cargo bikes (previously permitted to be up to 120 kilograms), resulting in instances where some e-bikes are now in violation of the HTA and new legislation.

At the same time, advances in battery and electric vehicle technologies created renewed interest from the industry in the 10-year pilot program that the Province launched in 2017 to evaluate the use of low-speed vehicles as part of legislation (*O.Reg. 215/17*). The Province plans to develop a permanent framework for these vehicles that maintains road safety while promoting innovation and mobility options.

In both applications, municipalities were required to enact a by-law that permits the operation of these vehicles within the jurisdiction of use. Since the City enacted the by-laws in late 2021, the Province has sought periodic feedback from participating municipalities on various metrics including the number of vehicles in use, permitted

areas of operation, how these vehicles are being assimilated into regular traffic, and items regarding administration of the pilot programs.

The pandemic resulted in supply chain issues that caused challenges with companies being able to purchase both types of vehicles, and the subsequent period of inflation and economic uncertainty has resulted in some manufacturers reducing product line-up or closing business, and others cutting back on expenditures until demand recovers.

Provincial Regulations

The City distinguishes use between personal and commercial e-cargo bikes based on the size and weight of the vehicle, along with a restriction on their use on multi-use pathways due to the size, weight, and speed which introduces a higher level of risk to other users of multi-use pathways. The City periodically meets with other Ontario jurisdictions, namely Toronto, Hamilton, Mississauga and London, which also have enacted e-cargo bike by-laws, to discuss progress of each program and identify regulatory considerations important to each jurisdiction that could be provided to the Province for consideration when the opportunity presents itself.

There has also been a diversion between how the cycling industry categorizes different classes of e-bikes and those outlined in the provincial regulations. It is expected that the Province will update and ensure regulations can be effectively enforced while residents are protected in knowing that the vehicles they purchase meet the HTA and are safe to ride. At this time, the Province has not indicated that any pending changes to the regulations are expected in the near term, but Traffic Services will bring forth any changes required to the by-laws to adhere to the provincial pilot programs.

Public Survey

In 2021, a public survey on Engage Ottawa received 835 responses and over 91 per cent of respondents indicated support for the use of both personal and commercial e-cargo bikes. In 2024, staff conducted another survey to identify how the landscape may have changed in terms of public ownership of e-bikes and e-cargo bikes, and public sentiment towards their use for personal and commercial purposes.

A total of 451 responses were received. The responses reflect a similar level of support for the e-cargo bike pilot program, with strong continued support for both personal and commercial e-cargo bike use. Both e-bike and e-cargo bike ownership and usage saw an increase when compared to the 2021 survey results (31 per cent in 2024 versus 13 per cent in 2021). Additionally, those respondents considering a purchase skewed more

favourably towards an electrified version of bike in 2024 than in 2021. The percentage of respondents with no or a single motor vehicle grew from 60 per cent in 2021 to 78 per cent in 2024, while two vehicle households were found to have decreased by 10 per cent.

The length of a typical trip using a conventional bike remained the same from 2021 to 2024, but respondents of both e-bike and e-cargo bike trips noted taking more long trips (greater than 10 kilometres). There was no significant change in the number of days a week that respondent used their bikes. There was a significant shift of 21 per cent in the respondents' acceptance of personal e-cargo bikes to use multi-use pathways for travel and smaller increases for other active transportation facilities (e.g., separated bike lanes, cycle tracks and on-street bike lanes), which were all very strong already in the 2021 survey.

Further details of the 2024 E-Cargo Bike Survey results can be found in Document 1 which immediately follows this memo.

E-Cargo Bikes

The City's by-law separates e-cargo bikes into two categories: personal and commercial vehicles. Commercial e-cargo bikes are defined as electric bicycles that are wider than 0.95 metres, heavier than 120 kilograms or that are used in the conveyance of cargo for commercial purposes or for hire to transport people. While personal use of e-cargo bikes enables families to transport children around the city, the legislation also opens the possibility for e-pedicab/e-rickshaw uses and enables an additional mobility option for residents and tourists. All e-cargo bikes can use the roadway, on-street bike lanes, cycle tracks and separated bike lanes, personal e-cargo bikes are permitted to use the City's multi-use pathways while commercial e-cargo bikes are prohibited (except where signed), and all e-cargo bikes are prohibited from being used on sidewalks.

As a result of the approved e-cargo bike by-law, in 2023, Purolator Inc. initiated a pilot program in the Ottawa area to test how these vehicles could be integrated into its existing operations and replace regular internal combustion engine vehicles. Purolator Inc. established a new facility on Bank Street as the urban distribution centre and home to the e-cargo bikes. Currently three e-cargo bikes are in regular operation in the area south of the Golden Triangle as well as in the Glebe, each e-cargo bike travelling about 30 kilometers a day. Additional e-cargo bikes are expected to be added over time, with plans for approximately 10 to be in operation by the end of summer 2025 in the downtown core.

Initiation of Purolator's program began with studying the feasibility and reliability of vehicles from three vendors, as well as the operational changes of different carrying capacities between an e-cargo bike compared to vehicles with traditional internal combustion engines. Drivers of the e-cargo bikes were excited about the novelty of using e-cargo bikes, the added fitness, and the versatility of the bikes to navigate through the city. No issues have been encountered with regards to parking the e-cargo bikes and, although winter 2023-24 was relatively light in terms of snow events, the e-cargo bikes could operate every day without issue from road conditions. Drivers are equipped with full winter gear to deal with the elements, however consideration for future installation of a cover to protect against rain and wet snow is on-going.

Overall, Purolator has viewed the e-cargo bike pilot program a success thus far. Productivity of drivers with e-cargo bikes has shown to be on par with that of internal combustion engine vehicles, whereas the cost of the e-cargo bikes, including operational and maintenance costs, is significantly less. Sustainability and reduction in carbon emission goals is greatly amplified by e-cargo bike use. Perhaps most interesting is that there have been no collisions reported (including incidents such as scratched bumpers) with the e-cargo bike fleet which also reduces the costs of insurance and claims for the company.

Low-Speed Vehicles

Low-speed vehicles (LSV) are capable of transporting people or goods safely, efficiently and in an environmentally friendly manner at a maximum speed of between 32 and 40 kilometres per hour. Sometimes referred to as neighbourhood electric vehicles, low-speed vehicles are electric-powered vehicles that are restricted to operating on roads with a maximum posted speed limit of 50 kilometres per hour, which often limits them to urban areas and contained neighbourhoods.

As a result of the approved by-laws, companies such as Canada Post and Purolator Inc. initiated pilot programs in the Ottawa area to test how these types of vehicles could be integrated into existing operations and replace regular internal combustion engine vehicles.

Canada Post has been piloting one LSV for the past two years. It was first launched in the Westboro area, operating out of the distribution centre off Parkdale Avenue for the first year. During the 2022-2023 pilot year, the vehicle operated 121 days and delivered more than 10,000 packages, averaging approximately four kilometres of travel per day. For the 2023-2024 pilot year, the vehicle was transferred to the Sandford Fleming

Avenue facility, servicing the greater Golden Triangle area to test additional routes and receive feedback from additional staff.

Introducing a new vehicle type to the fleet requires significant evaluation from an operational, safety and useability standpoint, all of which Canada Post continues to conduct. While the vehicle was fully capable of operating during winter conditions, charging the battery in cold temperatures and the design of the engine compartment exposed it to the elements, which created some challenges and affected maintenance. The smaller vehicle footprint allowed staff to park closer to the delivery point of call without disrupting traffic (either on congested streets and in tight spaces between parked cars) and were found to have sufficient capacity for over 90 per cent of delivery days for the piloted routes. The multiple cargo doors provided easy access, and the letter carrier deemed the LSV to have successful on-street operability. Curb height and any presence of snowbanks accentuated the ergonomic issues for accessing the cargo area and posed a hazard for taller employees.

Purolator initiated operation of their LSV in July 2024 within the Centretown and Glebe areas, with two models being evaluated. While there are limited results available at this time, the LSVs have been found to be easier to park and more agile in maneuvering around the downtown core. The LSVs operate approximately 30 kilometers per day and a full charge provides 5-7 hours of operation, depending on use of AC/heater. It is expected that access to the garage for overnight storage and re-charging of the battery during lunch hour for these vehicles may provide the solution to the charging issues that were experienced by the environmental conditions faced by the Canada Post LSVs.

CONCLUSION

Staff continue to monitor the E-Cargo Bike Pilot Project and the Low-Speed Vehicle Pilot Project and continue to adjust the City's e-cargo bike and low-speed vehicle by-laws as required by Provincial changes to the pilot programs. Staff will provide a fulsome update at the conclusion of the respective pilot programs to Committee and Council in 2026 and 2027.

Regards,

Original signed by

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CC: Senior Leadership Team
Chief Communications Officer, Public Information and Media Relations
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Coordinator, Transportation Committee

SUPPORTING DOCUMENTATION

Document 1: E-Cargo Bike Engage Ottawa Public Survey Results