

## Toronto Paramedic Services - Climate Report

**Date:** October 1, 2024  
**To:** General Government Committee  
**From:** Chief & General Manager, Toronto Paramedic Services  
**Wards:** All

### SUMMARY

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This report responds to the motion brought forward at General Governance Committee on December 6, 2023. The motion requested the Chief, Toronto Paramedic Services to explore the feasibility of purchasing zero-emission ambulance vehicles for future procurement, examine opportunities to reduce the carbon footprint of Toronto Paramedic Services operations and name a Climate Champion for Toronto Paramedic Services.

Toronto Paramedic Services provides pre-hospital and out-of-hospital paramedic care in the City of Toronto 24 hours a day, seven days a week and 365 days a year. Toronto Paramedic Services responds to over 320,000 emergency calls every year and has 45 stations across the city to serve the emergency medical needs of residents and visitors.

The facility maintenance for these stations is managed by Corporate Real Estate Management. Currently, buildings are the primary source of emissions at Toronto Paramedic Services. These emissions stem mainly from the combustion of fossil fuels for heating. Toronto Paramedic Services works closely with Corporate Real Estate Management and Environment and Climate to examine opportunities to reduce the carbon footprint of Toronto Paramedic Services' operations for all current and future facilities.

Toronto Paramedic Services manages the division's fleet of approximately 400 vehicles, made up of ambulances, rapid response/supervisor vehicles, and support vehicles. While there are no electric ambulances that currently meet the Ministry of Health's stringent certification requirements for use in Ontario, Toronto Paramedic Services has installed green technology (anti-idle systems and solar panels) on all ambulances and is replacing end-of-life administrative and non-emergency internal combustion engine vehicles with electric and/or hybrid vehicles. Toronto Paramedic Services continues to evaluate opportunities to green the fleet, including exploring electric ambulances that comply with the Ministry of Health's certification requirements.

## **RECOMMENDATIONS**

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The Chief, Toronto Paramedic Services recommends that:

1. The General Government Committee receives this report for information.

## **FINANCIAL IMPACT**

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Projects included in the 2024 - 2033 Capital Budget and Plan for Toronto Paramedic Services (TPS) provide funding to support the upgrades to reduce the program's carbon footprint discussed in this report, with the 2024 Capital Budget for TPS including \$1.787 million for ERV vehicles.

The 2025-2034 Capital Plan Submission for TPS includes \$7.8 million for ERV vehicles, with funding of \$0.780 million per year.

The 2024 Operating Budget for TPS's vehicles includes funding of \$13.8 million for operating costs for the division's fleet, with the 2025 Operating Budget Submission including a budget of \$12.4 million for these costs.

The 2024 Operating and Capital Budgets for TPS include sufficient funding to maintain the program's infrastructure; as well, the 2025 Operating Budget and Capital Plan and future-year Submissions include sufficient funding to support the costs of maintaining the infrastructure referred to in this report.

Should additional upgrades be recommended to reduce the program's carbon footprint, these costs will be included for consideration in future years' budget submissions for TPS.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the information as presented in the Financial Impact Section.

## **DECISION HISTORY**

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On December 6, 2023, the Chief, Toronto Paramedic Services advised of the results of Request for Quotation Ariba Document Number 3763162663 for the non-exclusive supply and delivery of new ambulances for the Toronto Paramedic Services Division and sought authority to award a contract to the lowest bidder. The total potential contract value exceeded the \$20 million limit of the Bid Award Panel.

[Agenda Item History - 2023.GG8.10 \(toronto.ca\)](#)

## **COMMENTS**

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## Facilities

Toronto Paramedic Services continues to support initiatives to reduce its carbon footprint. Since 2017, in partnership with Corporate Real Estate Management and Environment and Climate, Toronto Paramedic Services has installed photovoltaic (solar) panels in eight (8) ambulance stations and Tesla Powerwall batteries in two (2) ambulance stations. Work is underway to retrofit additional stations with technology that aids in reducing greenhouse gas emissions. Toronto Paramedic Services continues to examine further opportunities to reduce its carbon footprint.

Toronto Paramedic Services is in the process of building a Multifunction Paramedic Station in Scarborough, located at 300 Progress Avenue. The building is targeting Net Zero Energy and Net Zero Carbon through a highly insulated and airtight building, high performance windows, triple glazing, well calibrated window-to-wall ratio, building placement and orientation to optimize solar gains, use of low embodied carbon products and materials, carbon neutral/negative carpet tiles, ground source heat pump for heating and cooling, solar-wall air pre-heating system, radiant in-floor heating and low-velocity displacement air distribution, energy recovery ventilators, electric charging, bike parking and charging facilities. Some of the resiliency features will include renewable energy, energy storage, backup power, and a photovoltaic canopy in the parking lot that is expected to generate 800 megawatt hours annually. The building will also feature mass timber construction, which will reduce embodied carbon, as the project targets Canada Green Building Council Net Zero Carbon certification.

Emergency Services Headquarters, located at 4330 Dufferin Street, is a critical facility for the City of Toronto. It serves as the main administrative building for Toronto Paramedic Services and Toronto Fire Services, and houses their respective communication control centres that are operational around the clock, every day of the year. Through a comprehensive deep energy retrofit project, Emergency Services Headquarters has become one of the most energy-efficient buildings in the City. A solar photovoltaic array, situated atop the parking garage, will stand as the City of Toronto's largest solar photovoltaic carport. Once completed, it will produce 660,000 kilowatt hours of clean electricity annually, equivalent to 15 per cent of the building's total usage - equal to the electricity used in 50 single-family homes.

The City's first solar photovoltaic and energy storage project was installed at Toronto Paramedic Services Station 46, located at 105 Cedarvale Avenue. The system offsets a portion of the site's electricity consumption and provides back-up power in the event of a power outage. The system comprises 10 kilowatts of solar capacity on the south-facing wall and rooftop, and 27 kilowatt hours of stored energy in two Tesla Powerwall batteries. Excess electricity generated by the site is exported to the hydro-electric grid. The City is looking to install similar projects in other City-owned buildings. This will help meet the TransformTO Net Zero Strategy target of 37 megawatts of renewables by 2030.

Toronto Paramedic Services will also be partnering with Corporate Real Estate Management to conduct net-zero feasibility studies at Station 26, located at 4331 Lawrence Avenue East and Station 30, located at 100 Turnberry Avenue. These stations were selected due to their carbon footprint. The net-zero feasibility study will examine utility data, equipment efficiency, and building information (envelope materials,

etc.) and will use that information to develop a baseline energy model for the site. This study will help evaluate opportunities to reduce emissions, implement technologies such as heat pumps, extra insulation, solar photovoltaic panels, and lighting retrofitting, and determine energy and greenhouse gas savings. This work is anticipated to begin in Q4 of 2024.

Toronto Paramedic Services remains committed to collaborating with the City's Corporate Real Estate Management and Environment and Climate divisions for current and future buildings. By integrating innovative technologies, Toronto Paramedic Services aims to minimize our environmental impact, ensuring that our operation aligns with the highest standards of climate responsibility. This ongoing effort reflects our dedication to fostering a sustainable future for Toronto Paramedic Services and the city it serves.

## **Fleet**

Municipalities in Ontario are responsible for providing land ambulance services, which must comply with provincial standards and regulations. The Ministry of Health's Ontario Provincial Land Ambulance and Emergency Response Vehicle Standard sets out specific requirements for ambulance and emergency response vehicles, including the equipment they must carry, their design, and maintenance requirements. Ambulances must meet specific design and construction standards to ensure they are safe and functional for transporting patients and can only be purchased from vendors certified by the Ministry of Health to supply ambulances for use in Ontario.

Toronto Paramedic Services' fleet includes ambulances, non-emergency vehicles and support vehicles. The fleet consists of 234 ambulances, 56 rapid response vehicles/supervisor vehicles, and 105 support vehicles. Given the Ministry of Health's stringent regulatory compliance requirements, procurement and preventative maintenance of the fleet are managed by Toronto Paramedic Services.

All emergency vehicles have anti-idle systems and solar panels. The anti-idle system activates when the vehicle is placed into park, and will turn the vehicle off after three-minutes. The vehicle will then restart if the voltage drops or the temperature fluctuates beyond set parameters. Solar panels conserve fuel by charging the vehicle batteries and maintaining charge levels at optimum levels, preventing additional use of the vehicle alternator.

Toronto Paramedic Services is replacing administrative and non-emergency internal combustion vehicles that are at end-of-life with electric and/or hybrid vehicles. Since 2022, 14 sport utility vehicles and four (4) utility terrain vehicles have been replaced with fully electric vehicles which are primarily used by administrative staff and special events.

Currently, there are no electric ambulances available in the market that are certified for use in Ontario by the Ministry of Health. As a result, this has slowed the transition to electric ambulances in the province. The Ministry of Health maintains strict regulations regarding safety, performance, and operational standards that emergency vehicles must meet to be approved for use. While electric vehicle technology has advanced significantly, the market has yet to produce an ambulance that meets all certification requirements, such as sufficient range, rapid recharge capability, and the ability to carry

all necessary medical equipment and personnel. Toronto Paramedic Services will continue to explore the market for opportunities to green the fleet, including electric ambulances that comply with the Ministry of Health's certification requirements.

## **Climate Champion**

Toronto Paramedic Services has identified Atif Sharif, Acting Commander, Policy, Projects and Process Improvement in the Office of the Chief as the divisional Climate Champion. The Climate Champion will drive and coordinate climate action within Toronto Paramedic Services, advocating for climate policies, and leading efforts to meet climate goals.

## **CONTACT**

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## **SIGNATURE**

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Bikram Chawla  
Chief, Toronto Paramedic Services

## **ATTACHMENTS**

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