

Green Fleet Strategy

2024 eMV Pilot (Battery Electric Van)



PILOT OVERVIEW

The City of Calgary's eMV Pilot tested the technical capabilities of the eMV607, an electric cube van. Through data collection and analysis, along with feedback from operators and foremen, The City evaluated the vehicle's range, charge times, payload capacity, and overall performance. This pilot sought to identify any potential shortcomings or challenges, including range limitations, charging infrastructure requirements, and maintenance needs.

What

The pilot tested a 2024 International eMV607 battery-electric cube van (eMV) for transporting supplies to various City sites, comparing it with a diesel counterpart.

When

June 6 to July 11, 2024

Where

Based out of Manchester Operations Workplace Centre

How

The eMV was charged overnight and used by operators for delivery tasks. The Green Fleet team managed the pilot, collecting data on distance, energy use, and payload. Operator feedback on usability and comfort was gathered and analyzed by the engineering team to compile the report.

KEY TAKEAWAYS

The pilot demonstrated the electric van's capability to replace a diesel unit in summer conditions. There were notable emissions reductions of 0.75 tCO₂e as well as sufficient range and payload capacity throughout the pilot.

NEXT STEPS

- Assess a partner organization's experience with an eMV during winter to determine if a City of Calgary-specific winter pilot is needed.
- Explore options for level 2 charging and improved tailgate specifications.
- Reassess the total cost of ownership and the improvements needed to consider proof of concept.

RESULTS



Performance

- The eMV607 completed 14 trips, covering 979 km and consuming 1014 kWh of energy.
- The unit averaged a range of 206 km during the pilot period (June/July).
- It had lower-than-expected maintenance costs compared to diesel units, although there were two downtime events related to the 12V battery system.



Operator feedback

- Operators provided positive feedback on the driving experience, ease of use, and sufficient range for daily operations.



Payload capacity

- The payload capacity was adequate for daily operations. Improvements could be made with a stronger tailgate.



Emissions reductions

- The pilot demonstrated emissions reductions, with the eMV607 preventing 0.75 tCO₂e from entering the atmosphere during the pilot period.



Cost

- While the operating costs (fuel & maintenance) for the eMV is significantly lower than that of the diesel equivalent, the total cost of ownership remains higher due to the capital cost.



Operator experience

- Operators reported a smooth driving experience, sufficient power and torque, and no significant range anxiety.