

Staff Memorandum



To	Mayor A. Nuttall and Members of Council
Subject	Battery Electric Bus (BEB) Pilot Program Update
Date	July 9, 2025
Ward	All
From	B. Forsyth, Director of Transit and Parking Strategy
Executive Member Approval	R. Reid, General Manager of Access Barrie
CAO Approval	M. Prowse, Chief Administrative Officer

The purpose of this memorandum is to provide members of Council with an update concerning the pilot of two (2) Battery Electric Bus (BEB). The BEB's, as well as the charging infrastructure were funded in part by the **Housing, Infrastructure and Communities Canada's - Zero Emission Transit Fund (\$1.65M)** grant with the remaining costs funded by the **City of Barrie (\$1.7M)** for a total project budget of **\$3.35M**.

It's anticipated that the pilot program itself will run for an initial 12-month period, where staff will evaluate the performance of the BEB's by operating them throughout the transit network. This approach will enable staff to assess vehicle performance under varying seasonal weather and road conditions, as well as fluctuations in ridership that impact BEB performance. This is an important approach as it will also support the development of Standard Operating Procedures (SOPs) for BEB operations, helping to establish an operational framework to guide successful future transit electrification efforts.

Staff will continuously monitor operational impacts and performance data throughout the pilot program, while tracking Key Performance Indicators (KPI's) to determine the real-world performance of the BEB's. Some of the KPI's that will be measured include the following:

- Vehicle Range
- Overall Energy consumption (kWh)
- Energy Efficiency (kWh/km)
- Cost of the energy consumed (\$)
- \$/km Diesel versus \$/km BEB

As the pilot program advances, KPIs may be revised to more accurately capture the BEB's performance and inform decisions regarding operational considerations and further electrification.

At the time of preparing this memo, staff continue to collaborate with the transit service provider, who are providing additional training for staff, recognizing that driver behaviour can significantly influence the performance of BEB's. The vehicles have also gone through initial on-road baseline testing and began operating in revenue service in early Summer.

Staff will continue to provide quarterly updates to Council, while planning to provide a more fulsome report back to Council at the end of the pilot program.

Appendix:

Not Applicable

Memo Author:

Evan Chen, Manager of Transit Fleet, Barrie Transit

File #:

Pending #:

Not Applicable