MANAGEMENT REPORT

Date: April 11, 2024
To: Community Services Sub-committee
From: Michael Mousley, Manager of Transit
Report Number: COM24-002
Attachments: Feasibility Study

Title: Transit Bus Electrification Feasibility Study Results

Objective: To provide information regarding the results of the Bus Electrification Feasibility Study that was performed by the consultant HDR Inc., to transition from fossil fuel to battery electric buses.

Background: At the October 25, 2021 Stratford City Council meeting, a resolution was passed to mandate a 30% reduction in GHG's by 2030 to eventually reach an overall target of net zero emissions by 2050.

Also in 2021, the Federal Government announced funding opportunities for transit agencies that wanted to start the process of transitioning from fossil fuel buses to zero emission buses (ZEBs) or battery electric buses (BEBs). A $1.65 billion federal funding stream was created under the banner of Zero Emission Transit Fund (ZETF).

Funding applications included allowable cost claims for transition feasibility studies, the purchase of BEBs or ZEBs, and any infrastructure required related to moving towards electrification of the fleet, including charging station infrastructure.

In the summer of 2022, Stratford Transit applied and was accepted through ZETF to procure a consultant to perform transition studies. Metrolinx Transit Procurement Initiative (TPI), which Stratford is a member of, and 12 other smaller transit agencies were involved in tendering an RFP to secure a consultant and awarded HDR Inc. to perform the study. Stratford's funding application included total costs for this study of $120,000. The Federal funding (ZETF) covers 80% and the City of Stratford's portion is 20%, or $24,000, which is funded through our annual Provincial Gas Tax allocation.

Late in 2023 Stratford submitted an EOI (Expression of Interest) application to ZETF, which was approved, to begin next steps for applying for the bus electrification funding.

ZETF invited the City of Stratford to submit the formal funding application (and GHG data module) which is in the process of being completed.

Analysis: As the study outlines, Stratford Transit, based on current operations, has a few options regarding the transition over the next couple of decades. It is important to note that this transition has many large and new "upfront" capital costs not previously incurred when procuring transit fleet and its infrastructure. Today's market pricing of buses is as follows:

- Standard 40' Diesel bus - $680,000
- Standard BEB 40' 525kw bus - $1,200,000
- Standard BEB 40' 675kw bus - $1,500,000

These costs for battery-electric buses do not include charging infrastructure which is an additional estimated $250,000 per charging unit, plus additional costs for building upgrades and infrastructure upgrades. It is projected two charging units would be required to start.

At this stage, until funding, costing and timelines are confirmed, this report is for information. The study is attached for review.

Financial Implications:

Financial impact to current year operating budget: None as this report is being provided for information only.

Financial impact on future year operating budget: If further transition from fossil fuel to battery electric for transit fleet is directed by Council, there will be significant infrastructure investment required to install the charging infrastructure that may or may not be fully funded from federal or provincial sources. Gradual financial savings will be noticed over time from operating and maintenance costs, primarily in the difference between the cost of fossil fuels and the cost of electricity. Substantial savings will be recognized once half the fleet is replaced, and the volume impact of the fossil fuel reduction can be determined.

It is estimated that the total cost of the project/transition over the 20-year timeframe would be approximately $25 million (in present dollars). Approximately $6 million would be the City's contribution to the project**.**

Link to asset management plan and strategy: The current lifecycle of transit fleet is approximately 10 years. Electric fleets are anticipated to have a similar estimated useful life. It is expected that the transition would occur as the current fleet reaches the end of useful life, with replacement occurring at that time. Therefore, the estimated impact to the ten-year capital forecast is spending totalling $1.1 million annually from 2024-2030, which includes the costs of the charging infrastructure. The impact to the

City may change due to expected revisions to the Provincial Gas Tax structure that are unknown at this time.

Alignment with Strategic Priorities:

Mobility, Accessibility and Design Excellence
Improving ways to get around, to and from Stratford by public transit, active transportation and private vehicle.

Developing our Resources
Optimizing Stratford's physical assets and digital resources. Planning a sustainable future for Stratford's resources and environment.

Alignment with One Planet Principles:

Health and Happiness
Encouraging active, social, meaningful lives to promote good health and wellbeing.

Travel and Transport
Reducing the need to travel, encouraging walking, cycling and low carbon transport.

Zero Waste
Reducing consumption, reusing and recycling to achieve zero waste and zero pollution.

Staff Recommendation: THAT the Transit Bus Electrification Study Results (COM24-002) be received for information;

AND THAT staff provide updates on the project to Council when available.

Prepared by:	Michael Mousley, Manager of Transit
Recommended by:	Tim Wolfe, Director of Community Services
	Joan Thomson, Chief Administrative Officer