

# Previous Council Direction, Background

## Bus Electrification Implementation Strategy

### Context

In November 2021, City Council declared a Climate Emergency making climate change a strategic priority by accelerating the timelines for climate action to reduce greenhouse gas (GHG) emissions. The Notice of Motion (EC2021-1525) requires Administration to present a plan to retrofit and update all City-owned assets with clean energy infrastructure and for business units to build carbon targets and actions into their 2023-2026 business plans and budgets.

Since the beginning of 2017, The City has been working to complete the necessary steps to begin the transition to a zero emission bus fleet. Several reports over the years have been developed to aid Calgary Transit in transitioning to an electric bus fleet. These past studies can be viewed as phases of a roadmap to help Calgary Transit determine the technology feasibility and analyze the impacts to transit costs and service, before embarking on a pilot and ultimately transitioning to an electric fleet.

#### Electrification Feasibility Study (WSP, 2017)

In 2017, a study was undertaken to determine the feasibility of implementing electric transit technology into Calgary Transit's operations. The study provided a comprehensive industry market scan, developed high level conceptual plans for infrastructure improvements required to support 100% electric fleet conversion, and developed detailed site plans and cost-estimates for select candidate route identified for electrification.

#### Electrification Operational Analysis (WSP, 2018)

Building on the 2017 feasibility study, a third-party consultant conducted an operational impact analysis to help Calgary Transit develop a deeper understanding of the impacts that various electrification infrastructure strategies may have on transit operations. This included on-route and depot charging station conceptual designs and project scope definition for the introduction of electric buses to the fleet, a transit operations impact assessment to estimate relative impacts to labour efficiency and scheduling flexibility, and a transmission and distribution rate structure analysis. The study helped to facilitate discussions with regulatory bodies and the utility to determine opportunities for improving electrical rates for transit and transportation electrification.

#### ETransit Pilot Planning and Deployment (WSP, 2020)

In 2020, Calgary Transit initiated a pilot program to introduce 14 battery electric buses to their fleet of 30-foot community shuttles. A third-party consultant supported the project through pilot visioning, program design and evaluation, route selection and service planning guidelines, procurement and technical design support, engineering advisory services for construction project delivery, and ultimately pilot monitoring and reporting.

In 2020 Calgary Transit initiated a battery electric bus pilot project after receiving a grant from Emissions Reduction Alberta (ERA). The project will deploy 14 battery electric 30 ft shuttles with the goal of building capacity and collecting lessons learned on operating an electric fleet. Construction of indoor plug-in charging infrastructure started in September 2022 and buses are expected to be deployed in Summer 2023. As part of the agreement with the ERA, after a one-year data gathering pilot period, The City will report on the pilot findings including operational impacts as well as GHG reductions achieved by the project compared to the base case gasoline shuttle fleet.

## Previous Council Direction

DATE	REPORT NUMBER	DIRECTION/DESCRIPTION
10/18/2022	EC2022-1159	Canada Infrastructure Bank Zero Emission Bus Financing Directed Administration to report back to the Executive Committee of Council prior to signing definitive agreements with the Canada Infrastructure Bank, with a comprehensive report communicating bus electrification details and seeking necessary remaining approvals.
03/29/2022	C2022-0372	Council's Strategic Direction 2023-2026 Council approved key focus areas for the 2023-2026 business cycle including the conversion of 300 diesel buses to battery electric and the modernization of facilities by installing charging infrastructure.
7/5/2022	CD2022-0465	Calgary Climate Strategy – Pathways to 2050 The Calgary Climate Strategy affirms The City's commitment to climate resilience and mitigation. This document provides direction to corporate strategies and plans that include the Green Fleet Strategy.
11/16/2021	EC2021-1525	Notice of Motion - Declaration of Climate Emergency In November 2021, Council declared a Climate Emergency for the City of Calgary. The Declaration resulted in an increase in targets for The City and a commitment to "becoming the global centre of excellence in energy transition by leveraging best practices and capital investment."