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**2022 Capital Budget Amendment – Hydrogen Bus Shelter****Report Purpose**

To amend the 2022 Capital Budget to purchase a Quonset-style of shelter for the hydrogen bus purchased as part of the Alberta Zero Emission Hydrogen Transit project.

**Recommendation**

THAT an amendment to increase the 2022 Capital Budget in the amount of \$180,000 to purchase a Quonset-style hydrogen bus shelter, to be funded from Municipal Reserves, be approved.

**Our Prioritized Strategic Goals**

Goal 2 - Manage, invest and plan for sustainable municipal infrastructure

Goal 3 - Cultivate economic diversification, within the petro-chemical industry and beyond, through a business-friendly environment

Goal 4 - Ensure effective stewardship of water, land, air and energy resources

**Report**

Strathcona County is participating in the Alberta Zero Emission Hydrogen Transit (AZEHT) project that will test two hydrogen fuel cell electric buses (FCEB). As part of the project, Strathcona County purchased one of the hydrogen transit buses under the 2022 annual transit fleet replacement program (as a pilot), to determine the effectiveness of the technology in Alberta. The City of Edmonton has purchased the second bus for the project.

The AZEHT project will use the two hydrogen fuel cell electric buses (FCEB) in road trials in Edmonton, Strathcona County and Calgary. The AZEHT project will give the municipalities hands-on experience with the FCEB technology and position them to prepare strong proposals for future federal or provincial funding opportunities as well as for applications to the transit electrification program of the Canadian Infrastructure Bank or similar agencies.

Assuming a positive experience, this initiative will increase demand for hydrogen and support the deployment of economically viable fueling stations and distribution systems in the province. This is necessary in a transition to a hydrogen economy that will achieve emission reductions, economic growth, and job creation.

Storage is a challenge that has been identified with hydrogen bus technology. Currently there are no hydrogen safety codes for the storage of a hydrogen fueled bus. As a result, the closest safety code we can reference is compressed natural gas systems, which require different ventilation and safety devices than we currently use for our diesel fleet. Another challenge is presented by our northern climate, as a hydrogen bus should not be stored below freezing temperatures.

The best option to store the new bus is to purchase and install a fabric Quonset-style shelter complete with a heating system and required safety controls. This shelter would be erected just north of the main bus barn building in the outdoor storage yard. The cost to supply and install this shelter is estimated at \$180,000.

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Administration is currently working with AZEHT to confirm whether this expenditure will be considered an acceptable project expenditure. In discussions with the program manager, this may be a reimbursable expenditure if funding is available in the program. It is possible that the program may reimburse a portion of the expense with a final determination to occur in late July 2022.

Due to the delivery timelines, administration requests Council’s approval to purchase the shelter so that it arrives in time for the bus to be stored properly when the cold weather begins in October.

Year	2022	2023	2024	Total
Expenditure by Year	\$180,000	\$	\$	\$180,000

**Council and Committee History**

December 2, 2021 Council approved the 2022 Capital Budget

**Other Impacts**

**Policy:** FIN-001-024: Financial Reserves; FIN-001-027: Tangible Capital Assets Financial Reporting Policy

**Legislative/Legal:** N/A

**Financial/Budget:** If municipal reserve funds ultimately pay for this project, it will reduce the amount of reserve funding available for other priorities.

**Interdepartmental:** Transit, Fleet and Facility Services, Financial and Strategic Services

**Master Plan/Framework:** N/A