

Transition to Zero Emission Bus Program

Hydrogen Production &
Dispensing Infrastructure
Design Build Proponents Conference

May 2, 2023

Winnipeg, Manitoba



Bus Electrification Program

Land Acknowledgement

Winnipeg is located in Treaty One Territory, the home and traditional lands of the Anishinaabe (Ojibwe), Ininew (Cree), and Dakota peoples, and in the National Homeland of the Red River Métis. Our clean drinking water comes from Shoal Lake 40 First Nation, in Treaty Three Territory. The electrical and natural gas systems that we rely on are located and operate across Manitoba, in Treaty 1, Treaty 2, Treaty 3, Treaty 4 and Treaty 5 Territory. The City of Winnipeg recognizes the important contributions of First Nations, Inuit, and Métis Peoples connected to the founding of our city and in the ongoing growth and prosperity of our communities.

Bus Electrification Program

Safety Orientation

- Washrooms
- Emergency Exits
- Muster Point
- Personal Protective Equipment for Site Tour
 - Steel-toe boots/shoes
 - High Visibility Vest



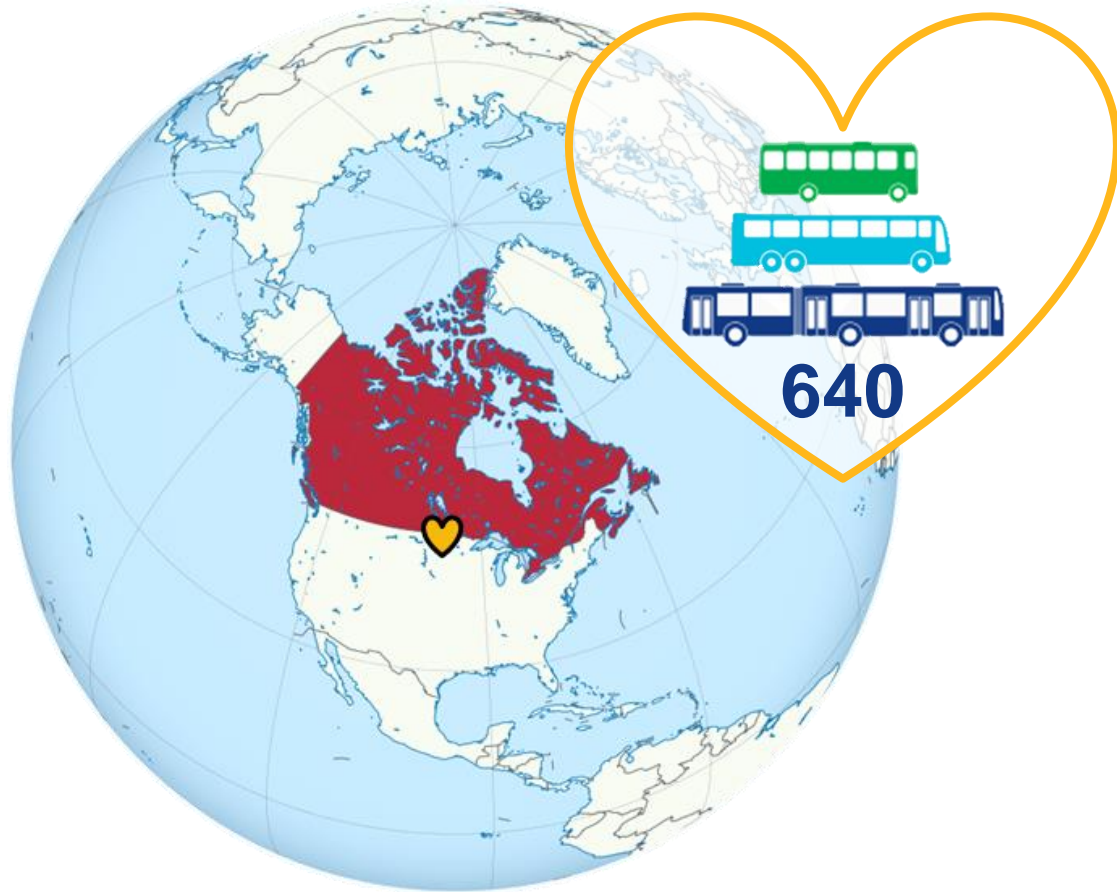
Bus Electrification Program

Agenda

- Project Background
- Project Overview
- Procurement Process Overview
- Procurement Schedule
- RFQ process
- Q&A
- Site Tour Overview
- Site Tour

Bus Electrification Program

Winnipeg, Manitoba Canada



- City of Winnipeg is a vibrant and growing community in the heart of the Canadian prairies
- Largest city in Manitoba, with 749,607 residents
- Population expected to exceed one million citizens within 25 years
- Winnipeg Transit current provides over 30 million kilometers of service each year

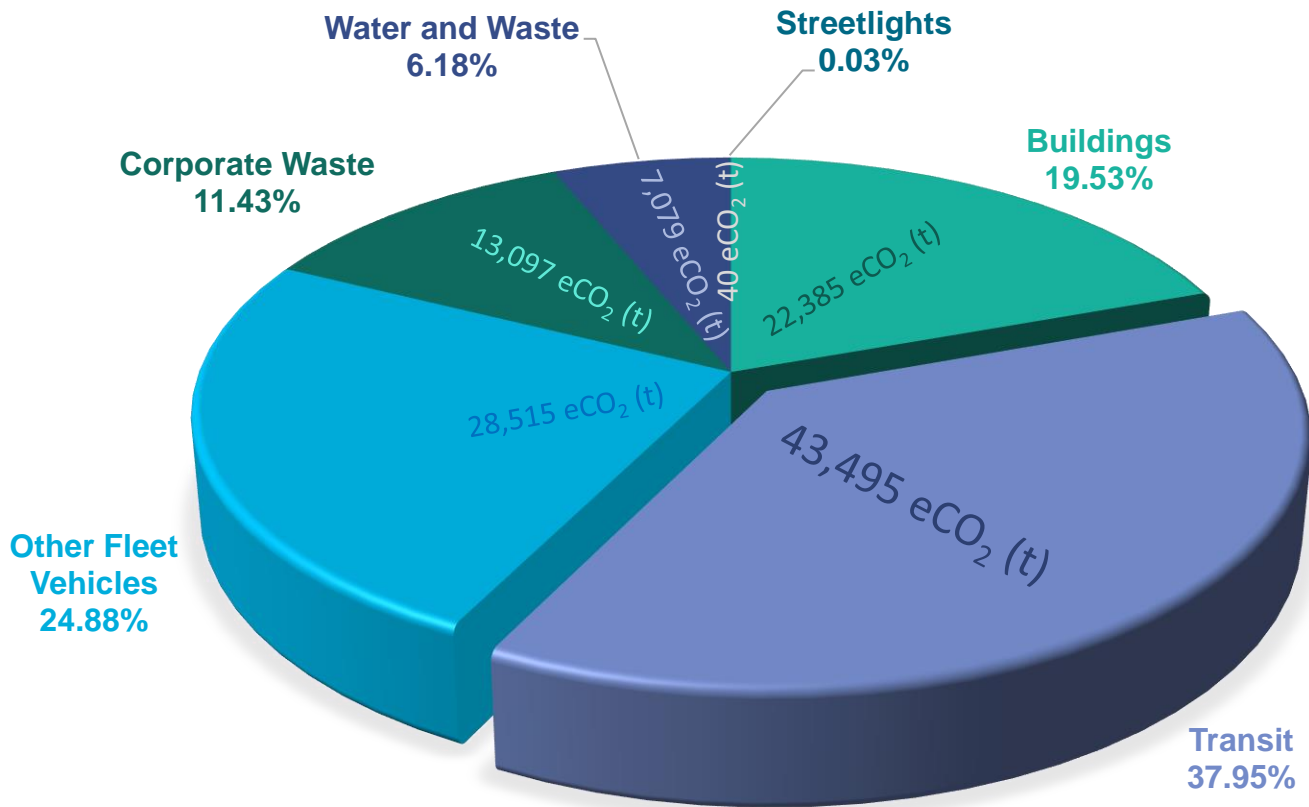
Bus Electrification Program

Winnipeg Transit Master Plan

- A long term vision for Transit in Winnipeg
 - Provide better transit options
 - Simpler more efficient and more accessible system
 - Become peoples first choice for travelling around Winnipeg
 - Help the city achieve its climate targets

Bus Electrification Program

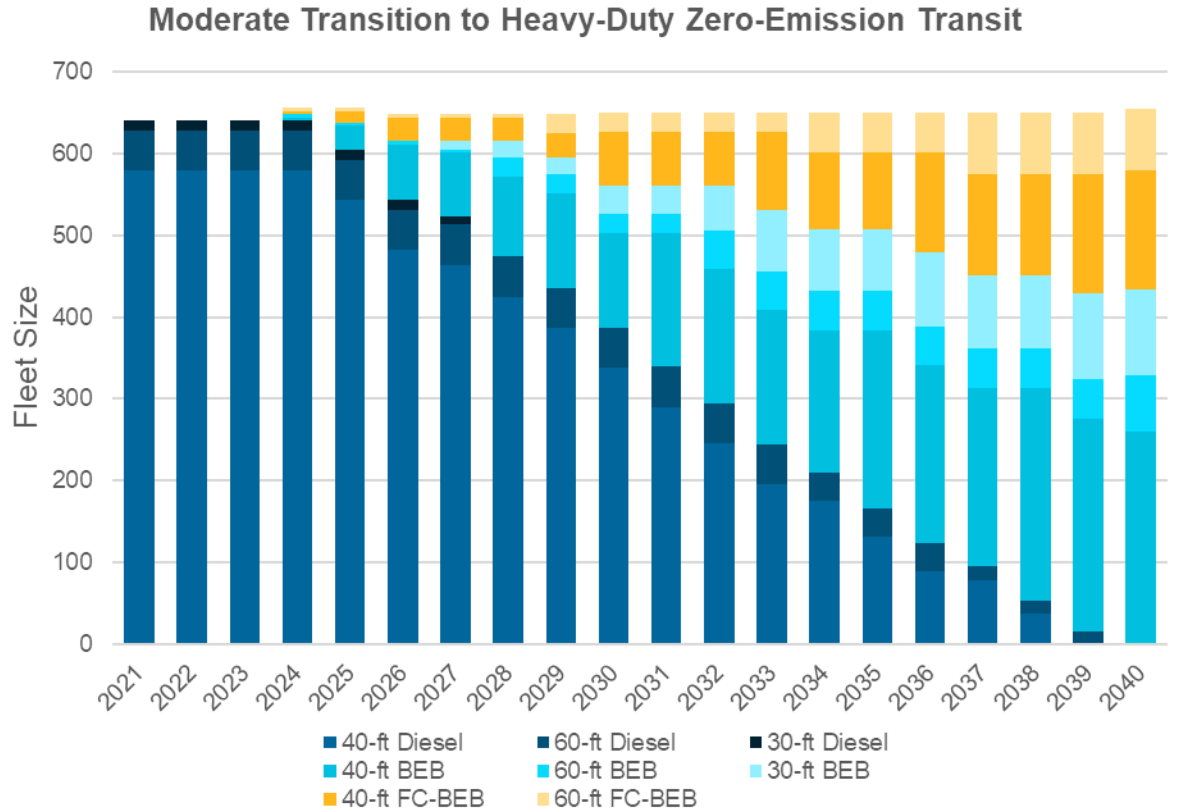
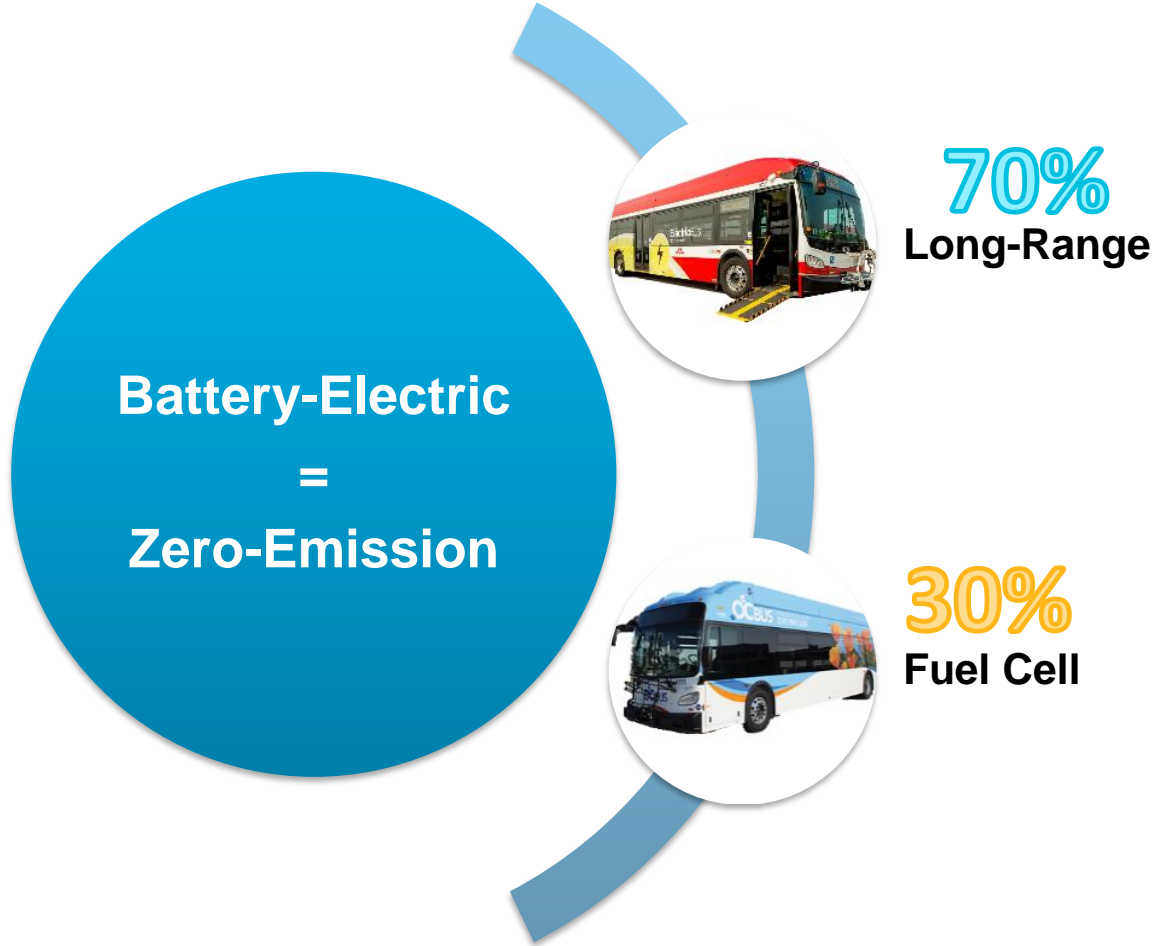
Transition to Zero-Emission Bus Program



- Buses are largest source of Corporate GHG emissions
- Technology selection is entirely within the City's control
- Creates Operational Savings
 - Replace diesel with electricity
 - Lower vehicle Maintenance
- City leadership in electrification encourages others to transition

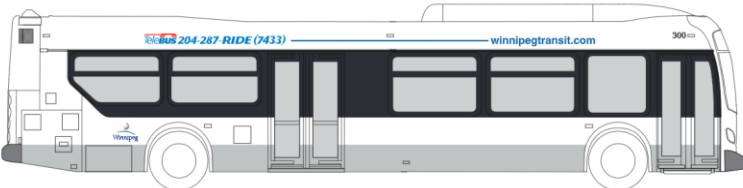
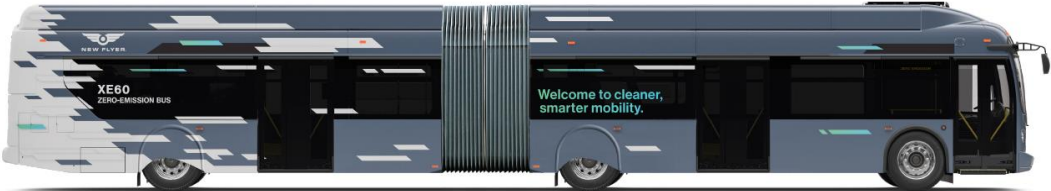
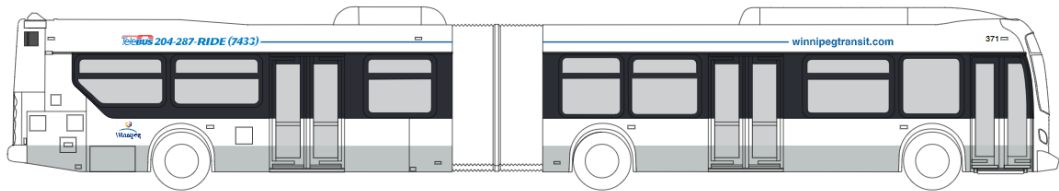
Bus Electrification Program

Main Outcome of ZEB Feasibility Study



Bus Electrification Program

Transition to Zero Emission Bus Program



Transit Bus Program

Bus Electrification Program

Fuel Cell Bus Fleet

- Range 300-450 km
- All-electric heat
- 37.5 kg @ 350Bar
- Avg. usage 23.54 kg/day
- TN1 & TN5 fill receptacle
- TN1 with IrDA transmitter
- QTY 25

XHE40



- Range 275-425 km
- All-electric heat
- 56 kg @ 350Bar
- Avg. usage 36.52 kg/day
- TN1 & TN5 fill receptacle
- TN1 with IrDA transmitter
- QTY 4

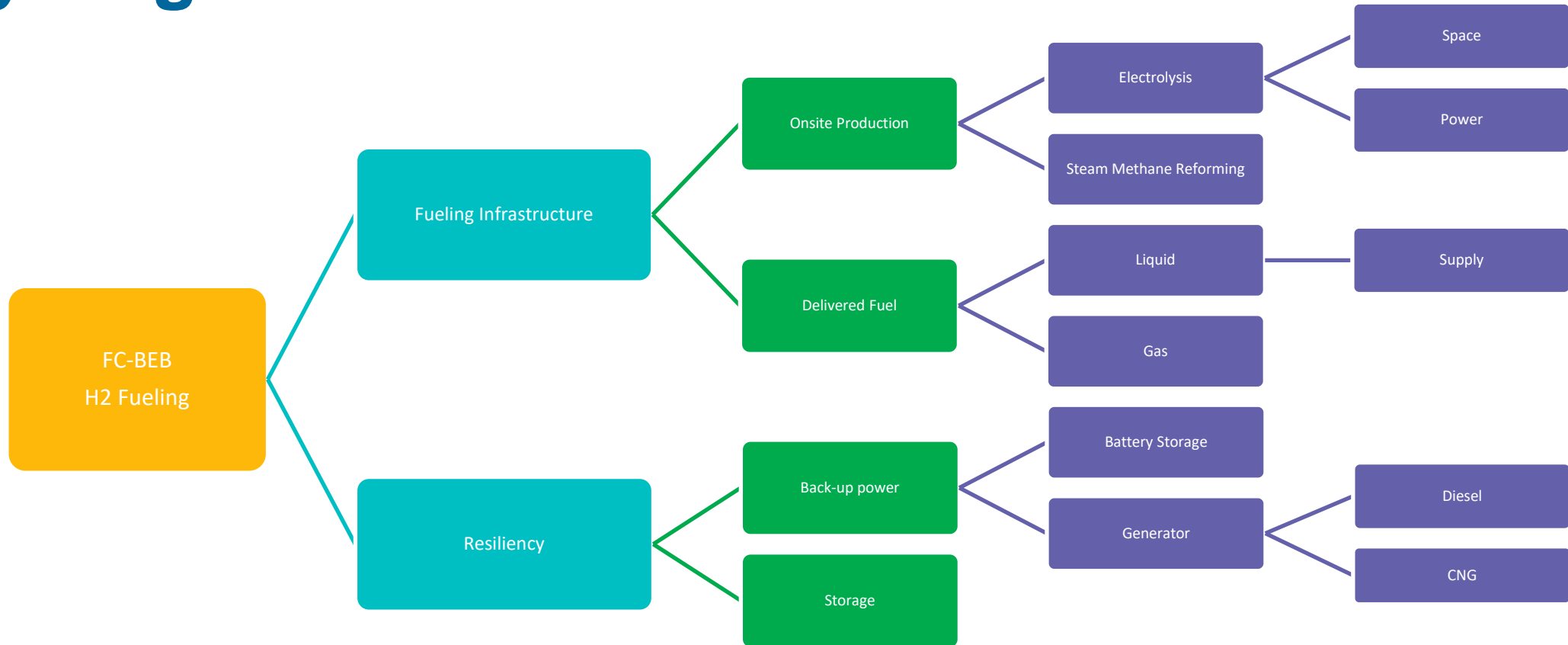
XHE60



Arriving Q3 2024

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Hydrogen Considerations



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Project Overview

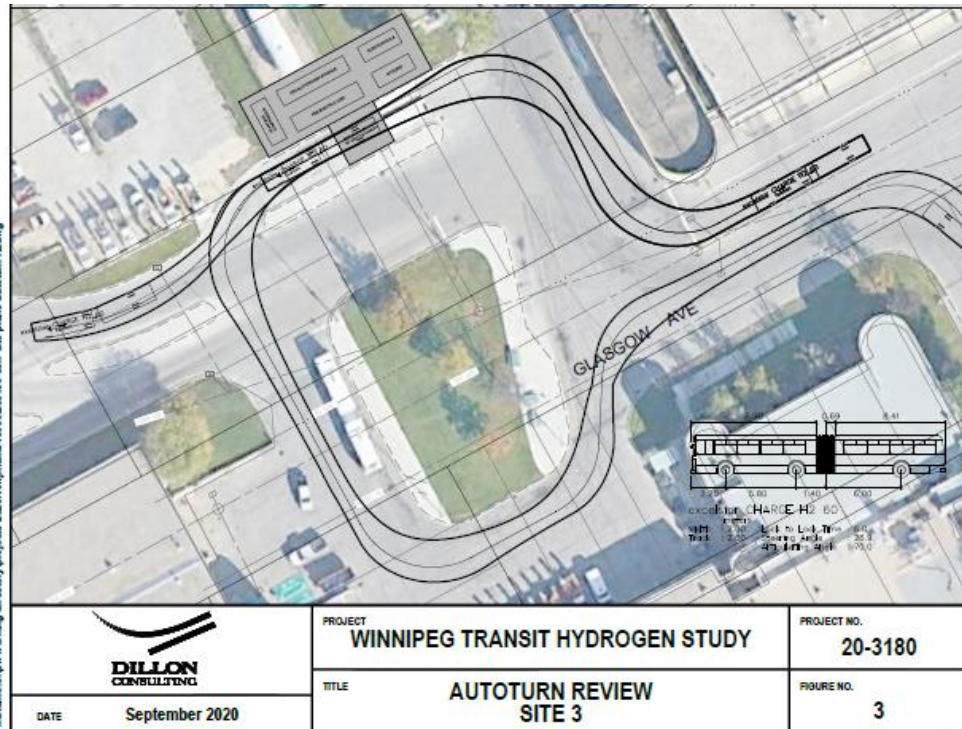


- Design and Build of new Hydrogen Fueling Station with production and dispensing capacity
- Station performance monitoring
- 2 years of maintenance and operation services

Bus Electrification Program

Site Selection at Fort Rouge Garage

- Site is on a gravel PayByPhone parking lot; previously a propane refueling station
 - Site preparation & grading
 - Construct Pad, Fence, Canopy
 - Electrical Service Updates
 - Power, water, & Internet to site
 - Sanitary and Stormwater drainage connection
 - Soil Remediation



Bus Electrification Program

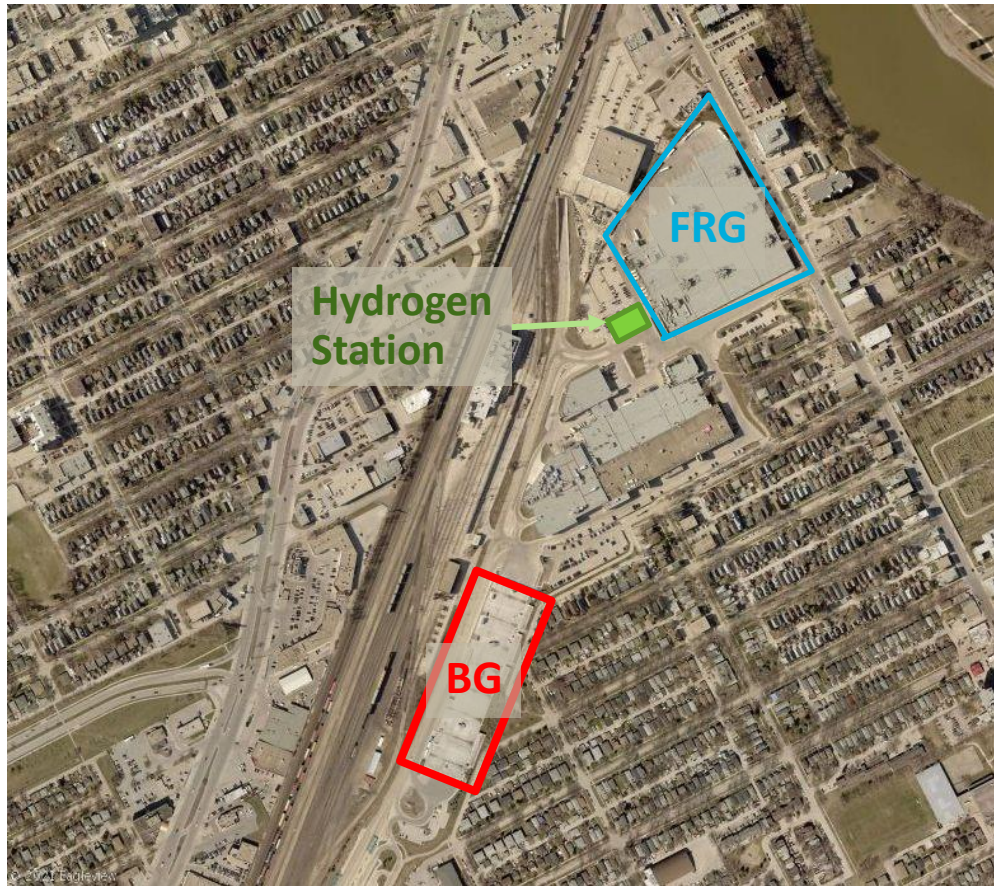
Project Overview

- Fort Rouge Garage Site
 - 25 kV service
 - City owned transformation equipment
 - Maximum contract load of 3600kVA
 - Current facility load between 1350 - 1750 kVA



Bus Electrification Program

Project Overview



- Buses initial to be stored at Brandon Garage (BG)
- Buses will transition to Fort Rouge Garage (FRG) in 2027
- Approximately 0.60 km to and from BG to Hydrogen Station

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Project Overview – Design Considerations

- Bus working pressure of 350 Bar
- SAE J2719 grade hydrogen required
- Temperatures in Winnipeg vary from -40°C to +40°C
- Fueling station shall accommodate fueling of both 40ft and 60ft buses
- Hydrogen storage and provisions for delivery of gaseous fuel are need for resiliency

Bus Electrification Program

Procurement Process

- City Objectives
 - Fair and competitive selection process
 - Project on schedule with minimal disruption
 - Innovative technical approach
 - Project design and built in efficient and quality manner

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Procurement Process

- Two stage procurement process
 - Request for Qualifications (RFQ)
 - Maximum of 3 shortlisted firms (Prequalified Proponents)
 - Request for Proposals (RFP)
 - Issued to Prequalified Proponents
 - Select the Preferred Proponent

Request for
Qualifications

Request for
Proposals

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Submission Honorarium and Break Payment

- RFQ:
 - None
- RFP:
 - Proposal Submission Fee (honorarium) for proposal development costs
 - Break Payment for cancellation of Procurement Process after issuance of RFP
 - Additional details will be provided in the RFP



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Procurement Schedule

Event	Date/Time
Release of RFQ	April 21, 2023
Conference & Site tour	May 2, 2023
Last day to request permission to participate in more than one Proponent Qualification Submission as set out in B20.4	May 5, 2023
Last day for submission of information related to eligibility as set out in B22.4.	May 5, 2023
Last day for submission of information related to early assessment of a Conflict of Interest as set out in B17.4.	May 5, 2023
Last day for RFIs as set out in B13.1.	May 15, 2023
Last day for City to issue Addenda as set out in B16.2.	May 19, 2023
Submission Deadline	May 26, 2023
Last day for submission of business information as set out in B36.2.	June 9, 2023

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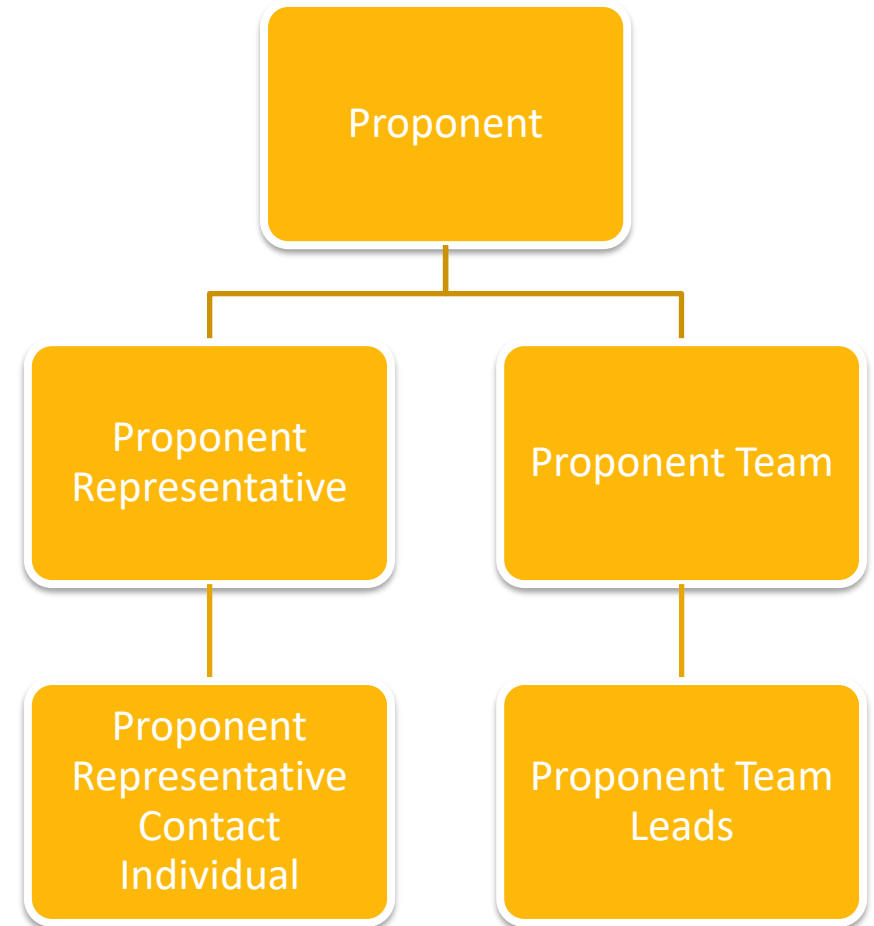
Procurement Schedule

Event	Date/Time
Checking References	June 2023
Shortlist of Prequalified Proponents	June 2023
RFP Issued	June 2023
Commencement of Work	September 2023

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RFQ Process

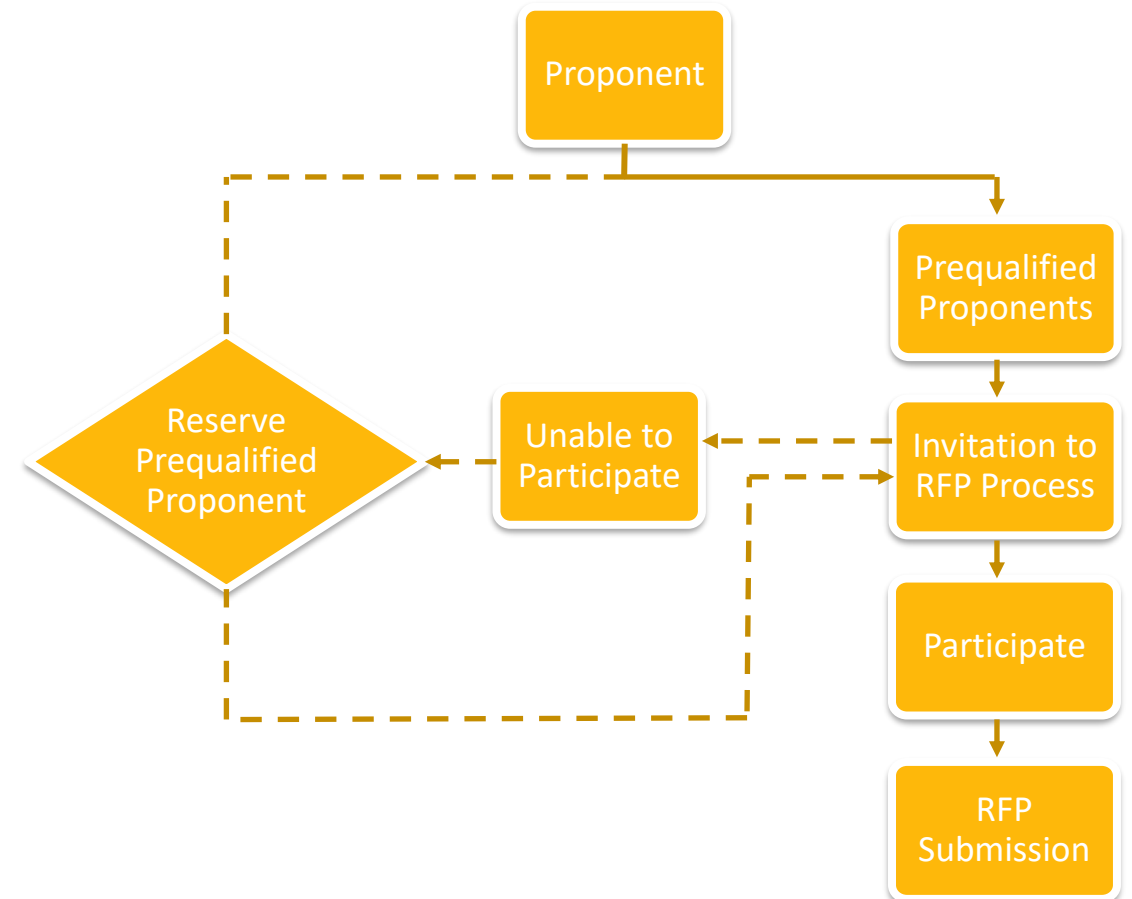
- Each firm that submits a Qualification Submission is referred to as a “Proponent”
- Each Proponent must have a Proponent Representative
- Sub-consultants and and Sub-contractors to the Proponent are referred to as “Proponent Team Members”
- Proponent Team Leads manage and are responsible for each team



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RFQ Process

- The shortlisted Proponents become the Prequalified Proponents and will be invited to participate in the RFP process
- The other Proponents become Reserve Prequalified Proponents
- Reserve Prequalified Proponents can replace a Prequalified Proponent in RFP process if one of the Prequalified Proponents is unable to participate



Bus Electrification Program

RFQ Process – RFP Procedure

- RFI Form emailed to Contact Person (Kevin Sim)
- One request per form
- All RFIs and responses will be posted on **Merx Website (revised)**
 - Identifying information will be redacted
- Responses:
 - Do not amend the RFQ
 - Are non-binding
 - Cannot be relied on by Proponents
- The response to an RFI may trigger an Addendum

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RFQ Process - Addenda

- Addenda are the only method to amend the RFQ
- Current Addenda deadline is **May 19, 2023**
- City may issue at any time prior to Submission Deadline
 - If City issues Addenda after May 19, 2023, the Submission Deadline will be extended

Bus Electrification Program

RFQ Process - Addenda

- Addenda will be posted on **Merx website (revised)**
 - Proponents advised to check site regularly
 - Proponents should acknowledge each Addendum on Form A-1 Master RFQ Submission Form

- (j) the Proponent agrees that the City is not obliged, in any way whatsoever, to carry out further clarifications, verifications or investigations of any Qualification Submission;
- (k) the Proponent understands that any omission or failure to substantially complete the Qualification Submission or failure to substantially comply with a requirement included in the RFQ may result in the Proponent being disqualified;
- (l) the Proponent understands that it must submit a substantially complete Qualification Submission in accordance with the timelines and requirements of the RFQ and a failure to do so may result in disqualification of the Proponent;
- (m) the Proponent understands that the RFQ is not an offer to enter into any contract of any kind whatsoever and is not intended to create a bidding contract (often referred to as "Contract A");
- (n) the Proponent understands that the RFQ does not constitute any offer of work by the City;
- (o) the Proponent acknowledges B18 of the RFQ and understands that the Proponent may be disqualified if the Proponent or any Proponent Team Member breaches the provisions of B18, or has been convicted of carrying out inappropriate bidding or procurement practices or engaging in unethical behaviour in relation to a procurement process in Canada;
- (p) the Proponent confirms that the Proponent and each Proponent Team Member has conducted itself with integrity and propriety and has not engaged in any inappropriate bidding practices or unethical behaviour in the course of this RFQ Process, and there are no charges or investigations by a public body or convictions related to inappropriate bidding practices or unethical behaviour by the Proponent or any Proponent Team Member in relation to a tender or procurement in any Canadian jurisdiction that:
 - (i) are related to the Project;
 - (ii) may compromise the reputation or integrity of the City so as to affect public confidence in the Project; or
 - (iii) would contravene any applicable law or could have a material adverse effect on the Proponent or any Proponent Team Member in a way which could impair the Proponent or any Proponent Team Member's ability to perform its obligations under the Design Build Agreement;
- (q) The Proponent certifies that the following addenda have been received by the Proponent and agrees that they shall be deemed to form a part of its Qualification Submission:

Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____

Bus Electrification Program

Site Tour Overview

- Appropriate clothing for outdoors
- PPE Required
 - Steel-toe boots
 - High visibility vest
- Be aware of surroundings including buses and other vehicles



Bus Electrification Program

Site Tour Overview

- Fueling Site
- Fort Rouge Garage Electrical Room
- Photographs and videos of site, building and equipment are permitted
- Do not photograph staff

Questions?



Transition to Zero Emission Bus Program

Thank you

winnipeg.ca/transit

ecooke@winnipeg.ca