

What is Bus Rapid Transit?

Bus Rapid Transit (BRT) is an innovative and efficient transit solution that combines the features of light rail with the flexibility of the bus. BRT operates in mixed traffic and dedicated lanes, offering a fast, reliable, and frequent service. BRT is tailored to each community's needs, providing significant infrastructure improvements and shorter travel times, making it a safe and convenient option for all users.

Purpose and Need:

Bus Rapid Transit in Bellingham will address challenges faced by high-frequency routes, including difficulties with mid-route transfers, limited connections, and rising congestion. BRT has the potential to enhance mobility, alleviate delays, and provide essential support for affordable housing development in key areas while improving the speed and reliability of transit services.



Faster, more reliable service



Better access to transit for all

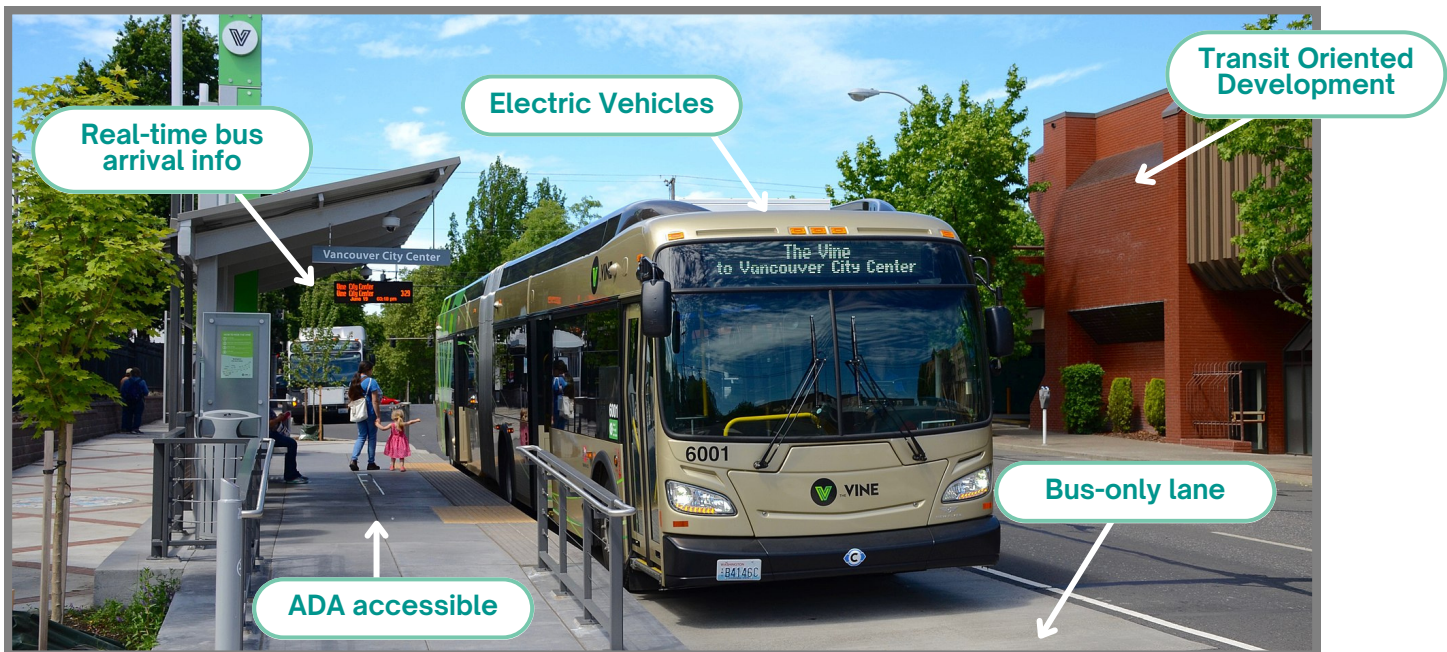


Enhances connections system-wide



Fewer greenhouse gas emissions

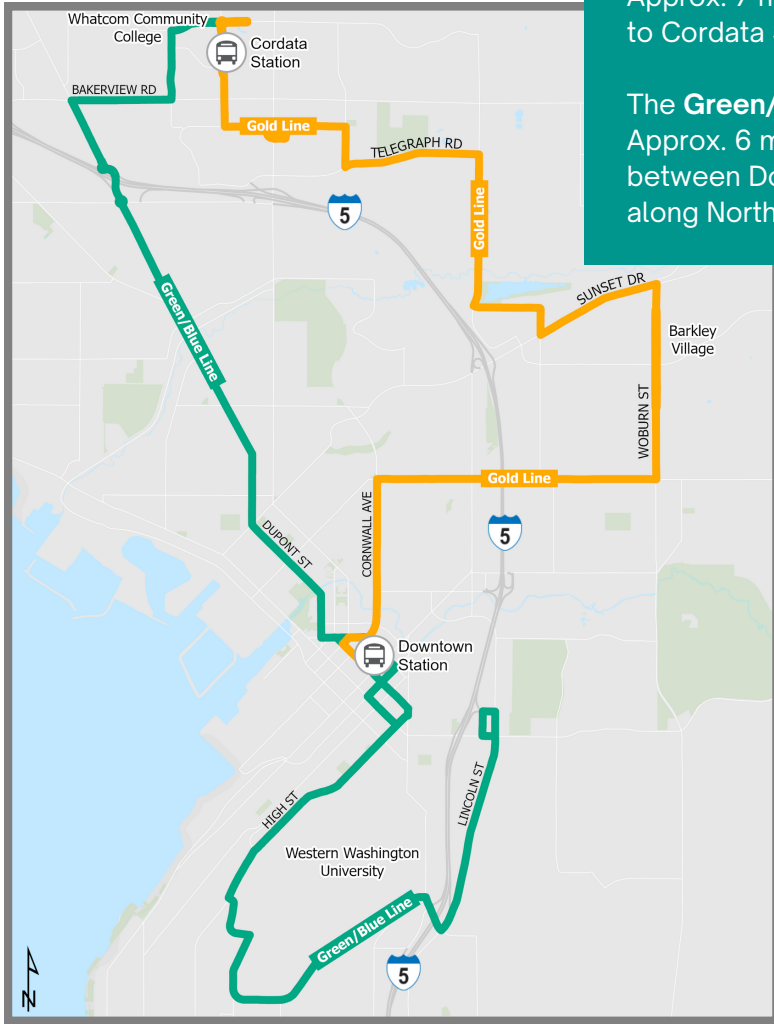
The Benefits and Features of BRT



The Vine, C-Tran Vancouver



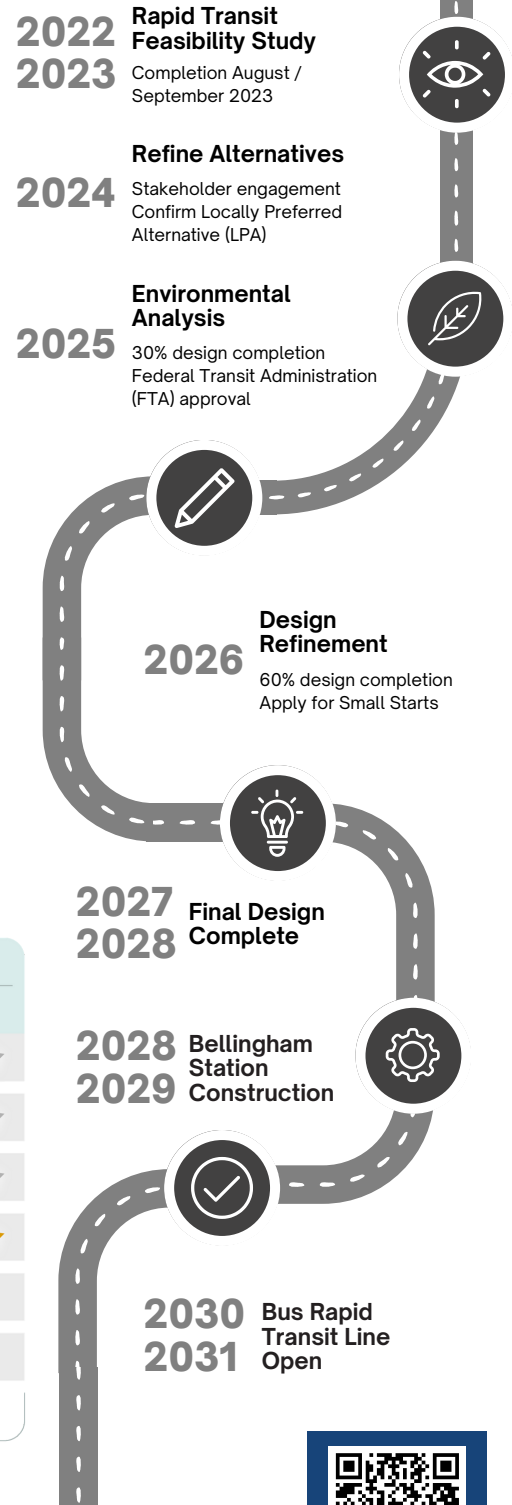
Proposed Routes:



The Gold Line (Route 331)
 Approx. 7 miles connecting the Downtown Bellingham Station to Cordata Station at Whatcom Community College

The Green/Blue Lines (Route 232 and WWU Routes)
 Approx. 6 miles serving Western Washington University between Downtown and Lakeway, and Downtown to Cordata along Northwest Avenue

Timeline:



Project Goals and Evaluation Measures:

GOALS

To increase safety and comfort, efficiency, and access to opportunity.

MEASURES

MEASURES	GOLD			GREEN/BLUE		
	1	2	3	1	2	3
Reduce Transit Conflicts with Other Modes	★			★	★	★
Pedestrian Access	★			★	★	★
Increase Transit Speed and Reduce Run Time	★	★		★	★	★
Increase Ridership	★	★		★	★	★
Transit-Supportive Land Use	★	★	★	★	★	
Non-Motorized Oriented Design	★	★	★	★	★	
	11.3 TOTAL			14 TOTAL		





Bellingham Station Visioning Study

Visioning Study Overview

Whatcom Transportation Authority’s (WTA) downtown Bellingham Station is currently operating at full capacity. WTA must expand Bellingham Station to allow for increased transit service and to accommodate zero-emission bus charging infrastructure. Given the need for expansion, WTA sought to engage the community and explore additional ways Bellingham Station could enhance and benefit the surrounding neighborhood. This community engagement, called the Bellingham Station Visioning Study, resulted in **key findings**, a **unified vision statement**, and a **high-level design concept**.

Visioning Study Findings

During a series of interviews and workshops, several themes emerged. Stakeholders expressed a desire for a community-centered, mixed-use hub with welcoming pedestrian and bicycle facilities. There was strong interest in Bellingham Station serving as both a destination and a gateway, for residents, businesses, and visitors. The future Bellingham Station was envisioned as an efficient transit hub at the center of a vibrant Transit Oriented Development project. It would include community open space, community services, and housing, and would enhance both transit operations as well as the surrounding businesses.



Unified Vision Statement

“Our vision for Bellingham Station is to provide a safe, reliable, and efficient transit hub that supports multimodal transportation. The station will be complemented by robust community and mixed-use spaces that energize and strengthen local businesses, residents, and visitors. The Bellingham Station and surrounding area will help shape the character of downtown and connect people to opportunities and each other by providing a community destination that supports a diverse, vibrant, and friendly neighborhood.”

Project Timeline



Design Elements

As depicted in the conceptual rendering, the future Bellingham Station is envisioned to incorporate the following elements:

- First floor primarily dedicated to bus operations with an open-air feel and cantilevered canopy along Railroad Avenue to improve protection from the elements while maintaining and open and inviting area for passengers.
- In line with existing Downtown height trends, a building structure up to 6 stories with varying heights throughout and setbacks on the upper floors to provide relief in the building structure.
- Building design that evokes “Pacific Northwest” in the application and use of materials including brick, wood, metal, and glass and design queues such as exposed joinery and shed-style roofs.
- Re-envisioned Railroad Avenue to include a cycle track or shared-use path and a bicycle parking structure.

Supportive Uses



Goals

The vision for Bellingham Station and the surrounding neighborhood aims to support these goals.

- **Provide** sufficient space to accommodate increased transit service and expanded facilities for employees.
- **Prioritize uses** that serve the neighborhood, support community needs and promote downtown as a destination.
- **Prioritize** pedestrian, bicycle, and public transit modes.
- **Create** a vibrant, pedestrian-friendly, and accessible place by incorporating attractive open space, active uses on the ground floor, and pedestrian and bicycle connectivity.

For more information:

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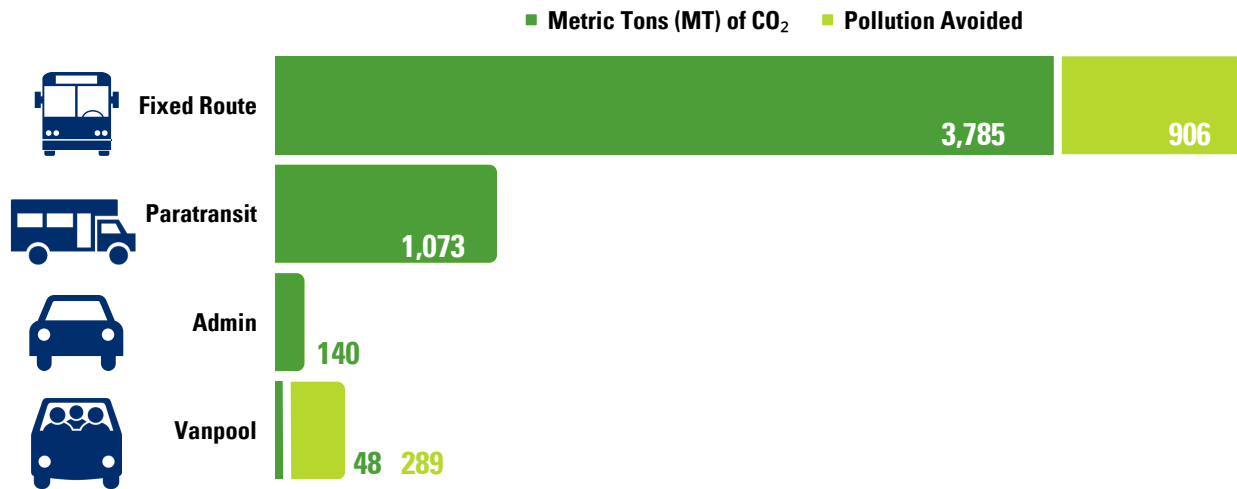
Whatcom Transportation Authority is committed to reducing greenhouse gas emissions from our vehicle fleet and administrative operations.

Our 2023 Sustainability Plan encompasses an inventory of energy, water, and fuel use, and associated emissions from 2009 to 2021, as well as goals and strategies to minimize our environmental impact.

Transit plays a crucial role in reducing GHG emissions. While our operations do generate emissions, we also help individuals reduce their personal emissions when they choose to ride the bus instead of driving. One of the most effective ways for us to offset our emissions is to encourage more people to use public transit more frequently.

Vehicles are our main source of emissions




2021 numbers







WTA owns seven properties: four transit stations, and three sites used for administrative operations and bus maintenance.

Greenhouse gas emissions are produced from the generation of electricity and the burning of Natural Gas. WTA participates in Puget Sound Energy’s Green Power Program to offset most of the Carbon Dioxide equivalent (CO₂e) emissions generated from our electricity use.

In 2021, WTA used:

-  **1.47 million kilowatt hours of electricity.** The generation of that electricity emitted 60 MT of CO₂e, 538 MT of CO₂e were offset through the purchase of green power
-  **25,690 Therms of Natural Gas,** emitting 1.62 MT of CO₂
-  **16,612 Centum Cubic Feet of water** (12,426,639 gallons)

GOALS

1 	INCREASE SUSTAINABLE TRANSPORTATION MODE-SHARE	2 	REDUCE ENVIRONMENTAL IMPACTS AS AN ORGANIZATION
3 	TRANSITION TO ZERO-EMISSION FLEET AND FACILITIES	4 	PREPARE FOR CLIMATE CHANGE RESILIENCY

TARGETS*

- Reduce Administrative building kWh of electricity per employee by **40%**
- Reduce emissions associated with electricity generation by **100%**
- Reduce employee generated waste that is sent to the landfill by **30%**
- Reduce CCF of water per employee by **50%**
- Reduce Natural Gas therms per building square feet by **30%**
- Increase the number of trips made by walking, biking, riding the bus and carpooling in Whatcom County to **40%**

**By 2030, targets based off of statistics from baseline year 2009*

Transition entire fleet to zero-emission by 2040

As an organization, WTA is dedicated to implementing sustainable practices, transitioning to zero-emission technologies, and preparing for the impacts of climate change. We are committed to achieving our sustainability goals and contributing to a more environmentally responsible transportation system in Whatcom County.

ZERO-EMISSION Bus (ZEB) Transition Study



OUR GOAL: To operate a fully zero-emission fleet by 2040

Benefits of a zero-emission fleet



reduce greenhouse gas emissions and improve air quality



reduce noise pollution



hit local/regional/state climate goals

CURRENT FLEET by the numbers

	Diesel	Hybrid	Electric
2023	52	8	4
2024	41	11	15

COMPARING Technologies

There are 2 viable options based on today's technology.



Battery-Electric Bus



Hydrogen Fuel-Cell Bus

	Battery-Electric Bus	Hydrogen Fuel-Cell Bus
Fuel Type	Electricity	Hydrogen
Cost	\$1.1 M/bus \$22 M for infrastructure	\$1.25 M/bus \$7 M for infrastructure
Range	125-175 miles per charge	~260 miles
Fuel Time	Multiple Hours	A Few Minutes
Adoption Challenge	Cost, Range, Charge Time, New Technology Reliability	Cost, Availability of Hydrogen, New Technology Reliability

COST

Transitioning to a fully Zero-Emission fleet adds

65%

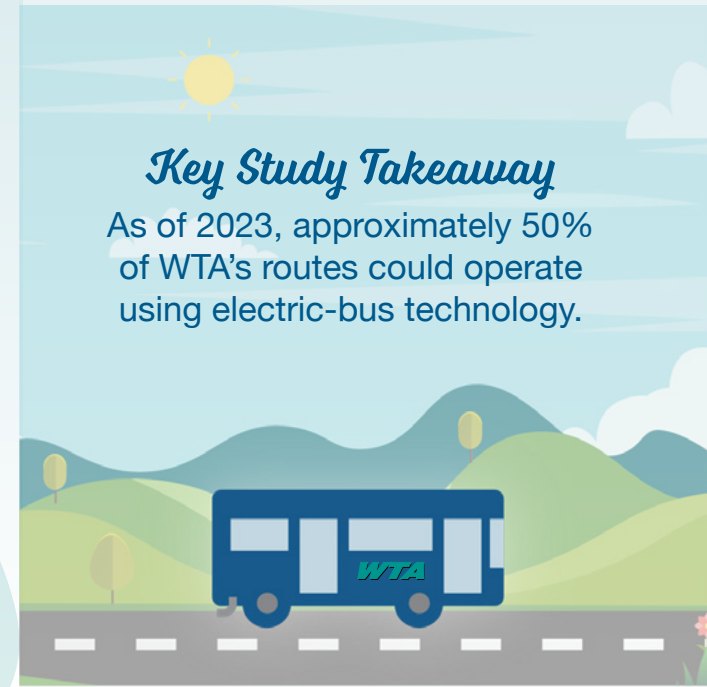
to WTA's cost between now and 2040.

FUNDING

WTA does not have the funds to transition its fleet to ZEBs. WTA will compete for state and federal grants, matched by an unknown portion of the cost by local funds.

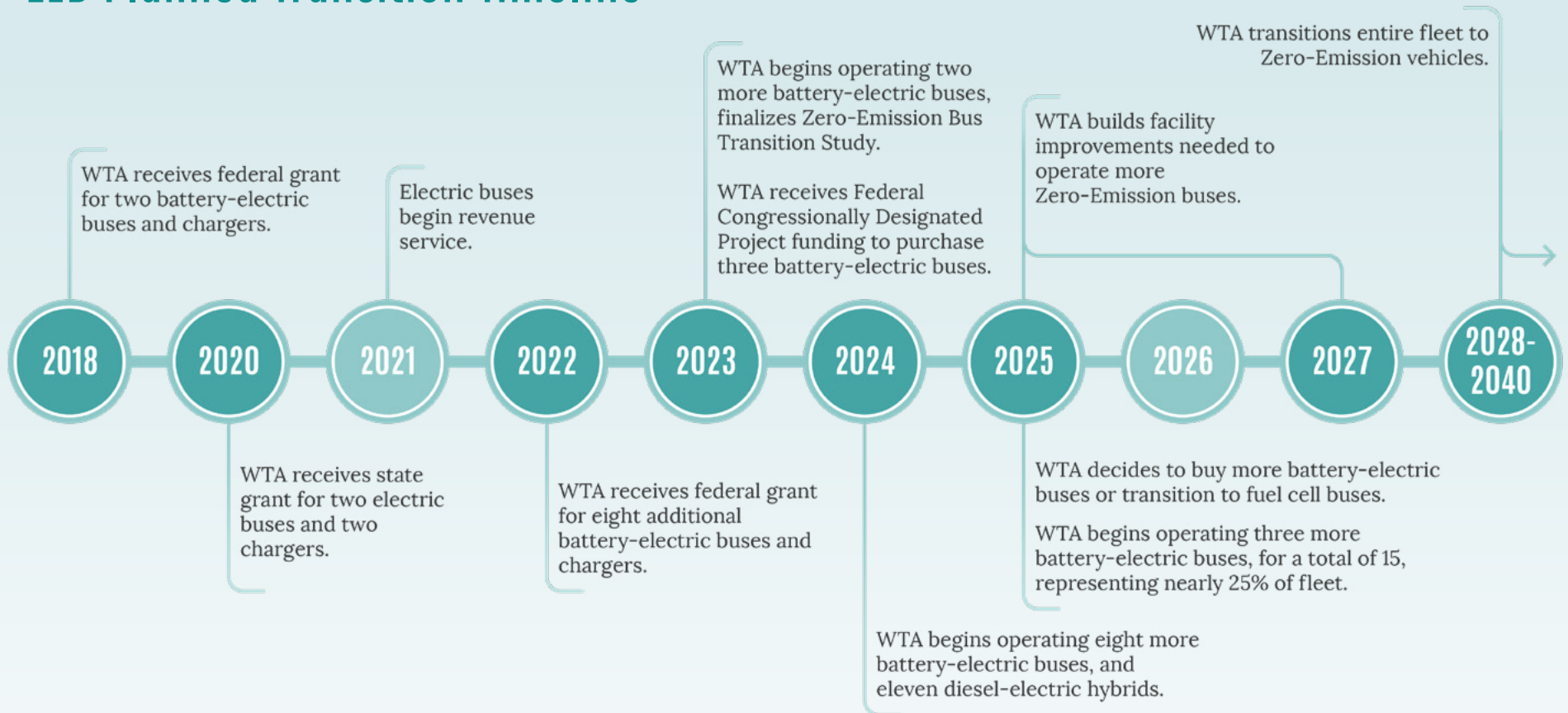
Key Study Takeaway

As of 2023, approximately 50% of WTA's routes could operate using electric-bus technology.



ZERO-EMISSION Bus (ZEB) Transition Study

ZEB Planned Transition Timeline



Transition Challenges

- Electric bus range is limited.
- There are GHG emissions associated with both electricity and hydrogen production.
- New technologies do not yet have the same reliability as diesel buses.
- ZEBs vs. service improvements: which has greater benefit to the community?
- Electric capacity is insufficient at WTA's base to support more electric buses.

