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

COMPARING *Technologies*

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

	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.

CURRENT FLEET *by the numbers*

	Diesel	Hybrid	Electric
2023	52	8	4
2024	41	11	15

Key Study Takeaway

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

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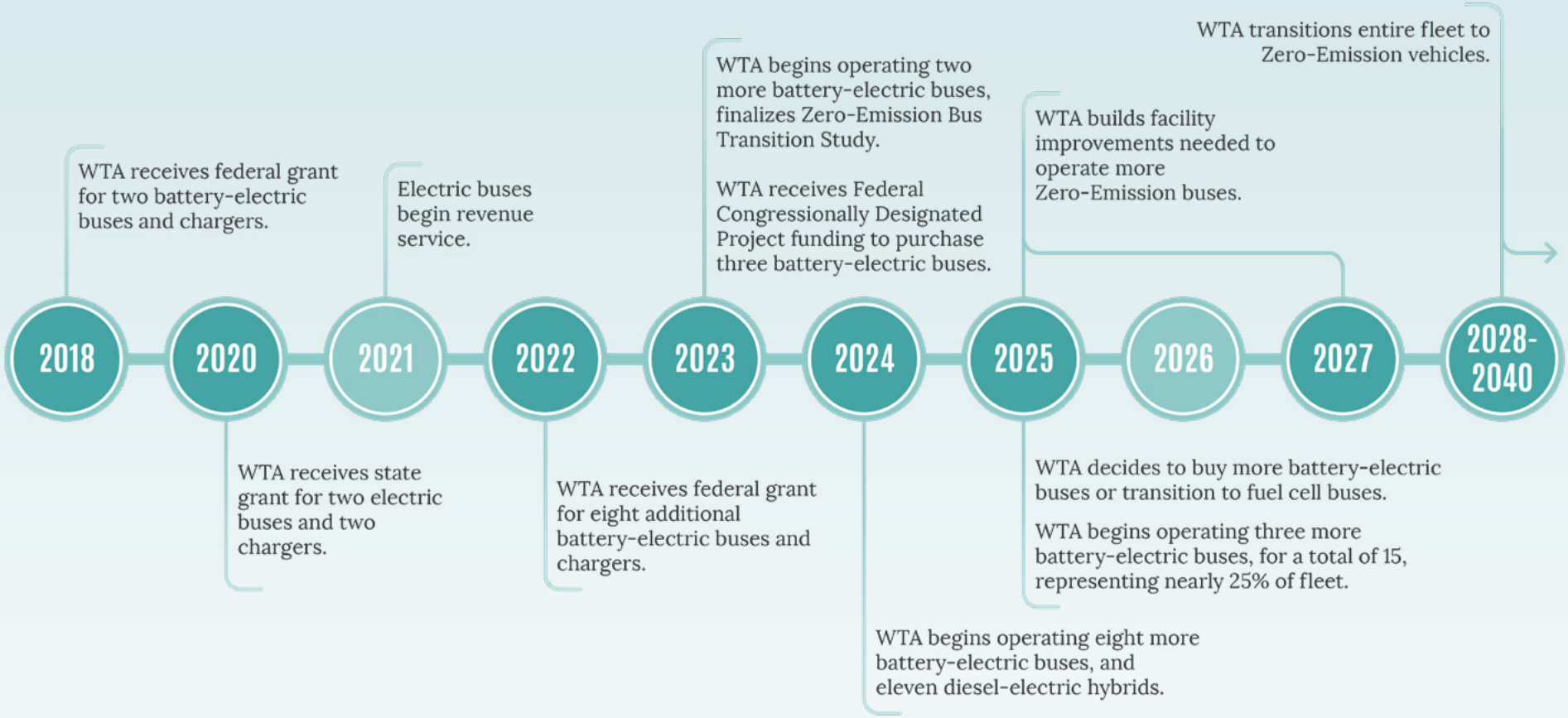
ZEB Planned Transition Timeline



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.

WTA

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