Zero-Emission-Vehicle Awareness Initiative (ZEVAI)

Knowledge Series 03

Canadian Transit Providers Perspective

4 / 7 / 23

NRCan – ZEVAI Project

Zero Emission Vehicle Awareness Initiative

This Zero Emission Bus Knowledge series is supported by the Natural Resources Canada (NRCan), Zero Emission Vehicle Awareness Initiative (ZEVAI), Project# PCA-032_CA.

The aim is spread Zero Emission Vehicle Awareness within the transit community through a set of Knowledge series presentations, webinar, and reports.

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What we will share today

Transit Providers Perspective

Data Collection

Main Themes of Transit Providers

Key Messages

Transit Providers Perspective

Speaking with you about low carbon technologies

- Solicited interview requests to **50 agencies** to understand their low-carbon transit technology adoption outlook (March – May 2022).

- Interviews were conducted with transit managers, directors, and fleet supervisors.

- **19 agencies** interviewed; representing large, medium, and small organizations;
    - Captured more than 75% of transit ridership in Canada.

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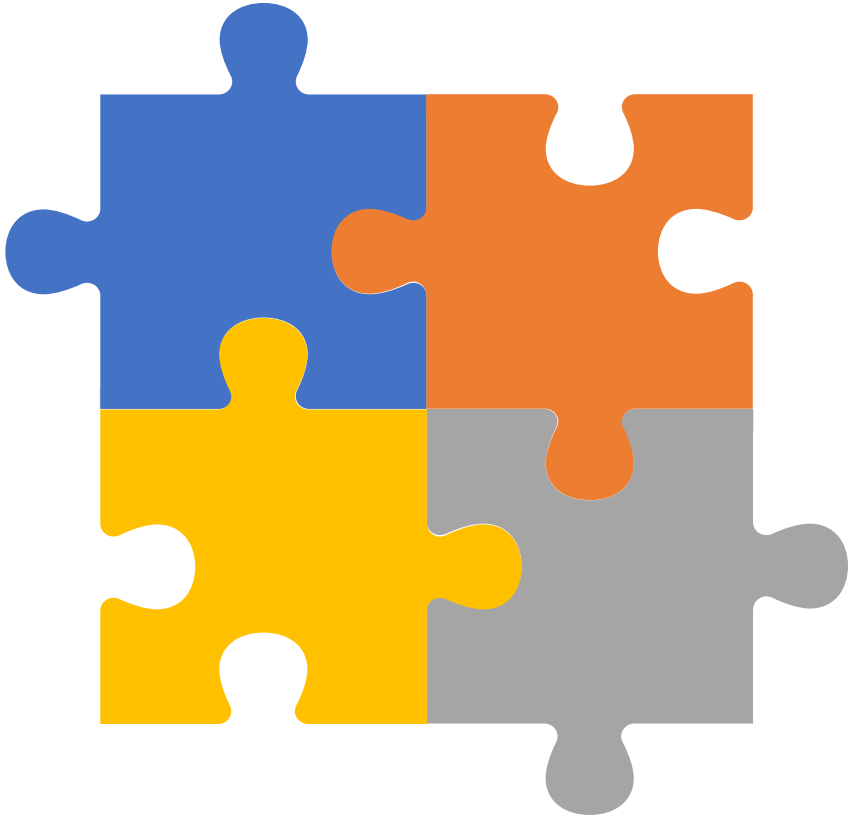
Transit Providers Perspective

Speaking with you about low carbon technologies

Attitude towards low-carbon technologies

Access to **knowledge resources** & **awareness**



Enablers and **barriers** associated with **acquisition**, **maintenance**, & **operation**

Decision-making: policy, process & research

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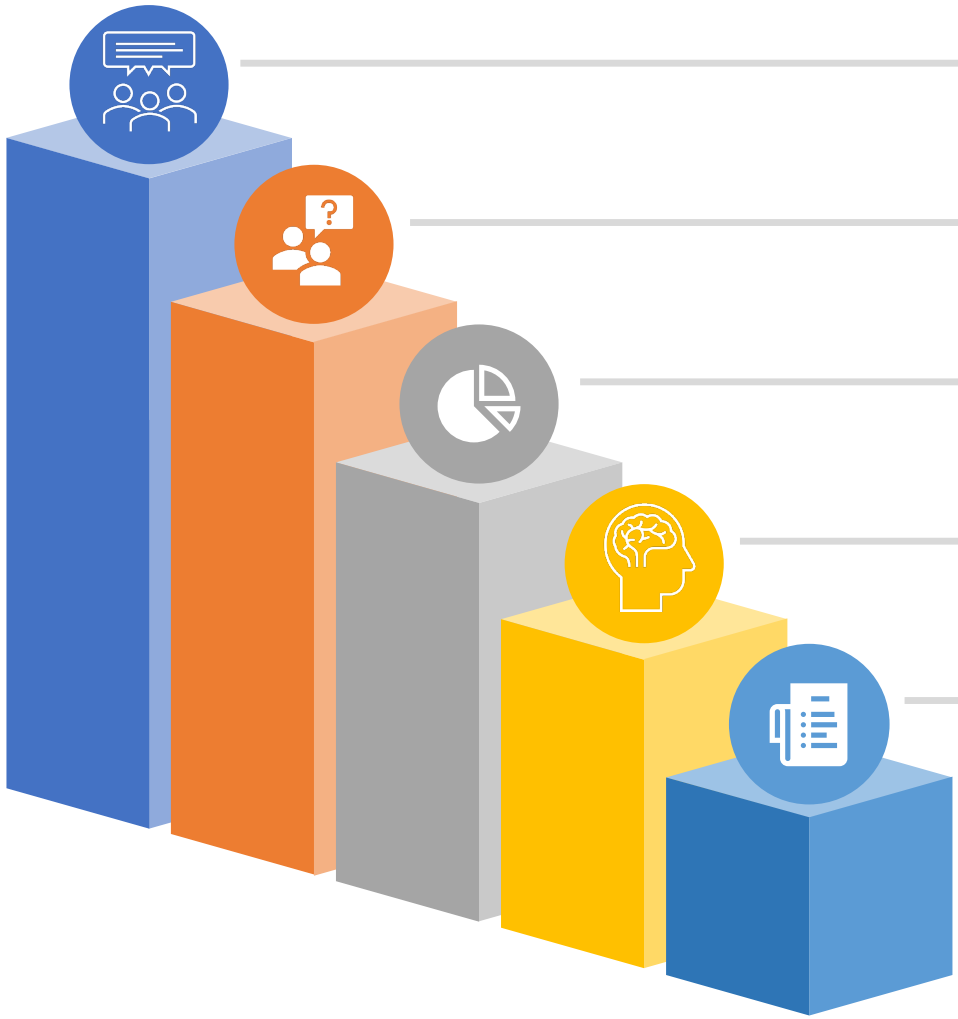
Data Collection



19 Canadian transit agencies

1-hour interviews

Quarter of a million words

3 main themes

3 key remarks

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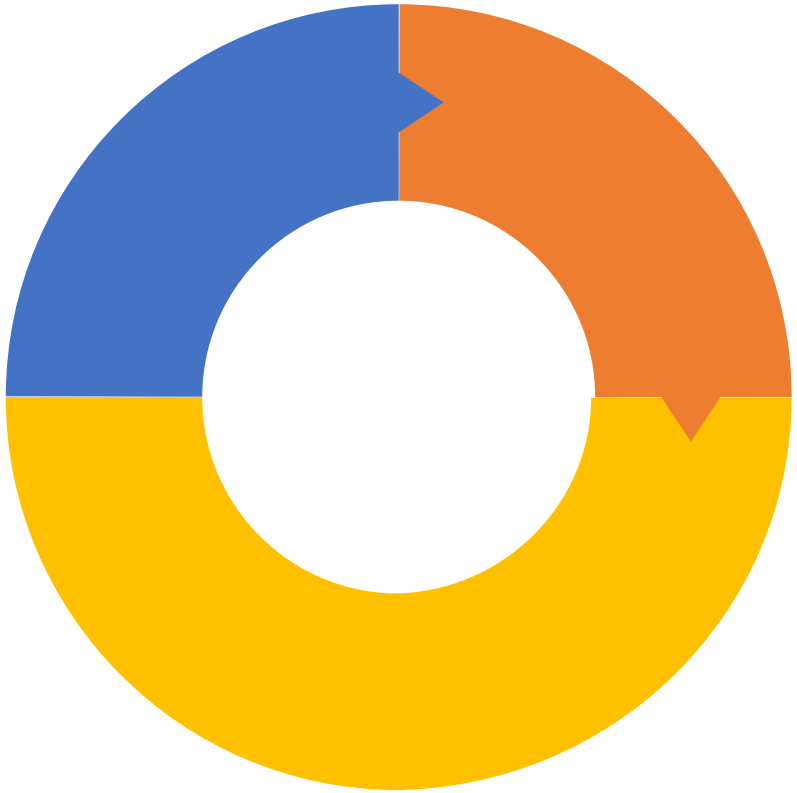
The Emerged Themes

How transit agencies perceive low carbon technologies

Uncertain technology & ambitious policy

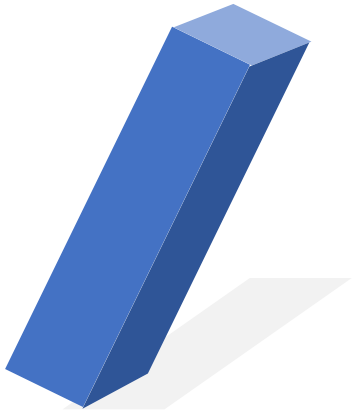


Internal knowledge gaps

The missing links to move forward

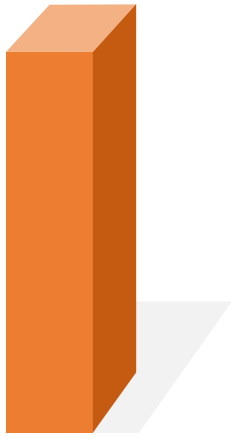
Uncertain Technology & Ambitious Policy

Ready or not, here ZEBs come!



A “forced learning experience”

- Frustration: ZEB are an emerging technology, not diesel buses.
- Uncertainty in fulfilling council mandates; fear of failure.
- Feeling rushed to apply-now and figure out later; the transition does not feel gradual.



A new way of doing business but…

- Existing provider organization creates barriers; i.e., rigid divides between operating and capital budgets.
- Expectations of council can be out-of-touch.
- ZEB in-house expertise is missing.

Uncertainties are piling up.

- Feeling constrained: must re-shift priorities to support ZEB adoption.
- Unknown current, back-up, and future energy supply.
- ZEB pilots do not capture the full picture; what about other low-carbon technologies?
- Hiring consultants to answer unknown unknowns.

Internal Knowledge Gaps

Different knowledge level – the same objective

	Smaller Agencies	Medium Agencies	Larger Agencies
Motivation	**Federal grants; sustainability.**	Council targets; large agencies “doing it”.	Beyond motivation; meeting targets; operating their existing ZEB fleet.
Knowledge Sources	**OEM sales pitches; pilots; agency-to-agency discussions.**	CUTA, CUTRIC, OPTA, larger agency reports, research papers, external consultants.	Internal permanent teams dedicated to ZEB transition.

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Internal Knowledge Gaps

Different knowledge level – the same objective

	Smaller Agencies	Medium Agencies	Larger Agencies
Learning Methods	Feeling "left in the dark".	Agency-to-agency advice; learning from others who learned by doing. Hiring consultants; some hire a single contract internal PM.	Internal expertise Working with OEMs – applied troubleshooting Acknowledging their role as a leader and sharing knowledge.
Perception of Risk	Unknown: missing council buy-in so no ZEB adoption.	Sensitive: know enough to know they do not know enough.	Less sensitive: learn by doing on a larger scale.

The Missing Links to Move Forward

What is hindering the shift to ZEB electrification?

Transit Agencies 🤝 **Transit Agencies**

Current knowledge exchange is lacking structure & coordination.

Transit Agencies 🤝 **Utility Companies**

Lacking buy-in and knowledge exchange with local utilities.

Missing sufficient electric technologies training across staff involved in transition.

Transit Agencies 🤝 **Data**

Unclear how to effectively analyze and operationalize available ZEB data – *especially full fleet electrification.*

Data resolution restrictions limit how data can be operationalized.

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Key Remarks

Our recommendations on how to progress the ZEB transition

Education

01 Creation of a Canada-wide peer-to-peer education platform to host the “one-stop-shop”. Support the development and connection with institutions that offer ZEB- and low-carbon technology related education programs.

Research & Development

02 Grants for research funding partnerships with universities, research centers, and research-oriented consultants.

Implementation

03 Sponsored full network ZEB implementation in a few agencies across Canada.

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Coming soon

Knowledge Series 04
Roadmap for Zero Emission Canadian Transit

The Way Forward!

hank you

TRiP

Transit Research-Informed Practice

Contact Us

Webinar: URL