

E-Mobility Technical Study

2024-SEP-09

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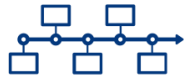
Purpose

- Better understand the current state and desired future state
- Identify barriers and opportunities
- Explore potential role of the City



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Approach

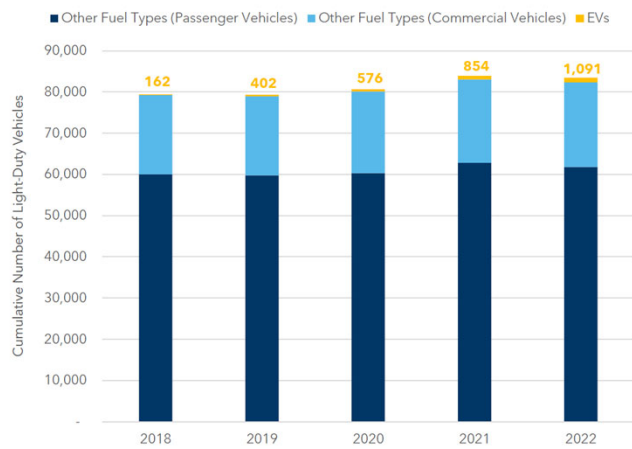


E-mobility interest, barriers, and potential roles for the City were explored through a multi-part process, including:

<p>Research & modelling</p> <p>Forecasting using Dunsky's EVA™ model</p>	<p>Mail Survey</p> <p>292 responses from City residents.</p> <p>Statistics accurate within 5.7% 19 times out of 20</p>	<p>Public Survey</p> <p>248 responses via Get Involved Nanaimo</p>	<p>Interviews</p> <p>Engaged with three equity-deserving groups</p> <p>Interviewed seven e-bike users and non-users</p>	<p>City staff workshop</p> <p>Seven staff participated across multiple departments</p>
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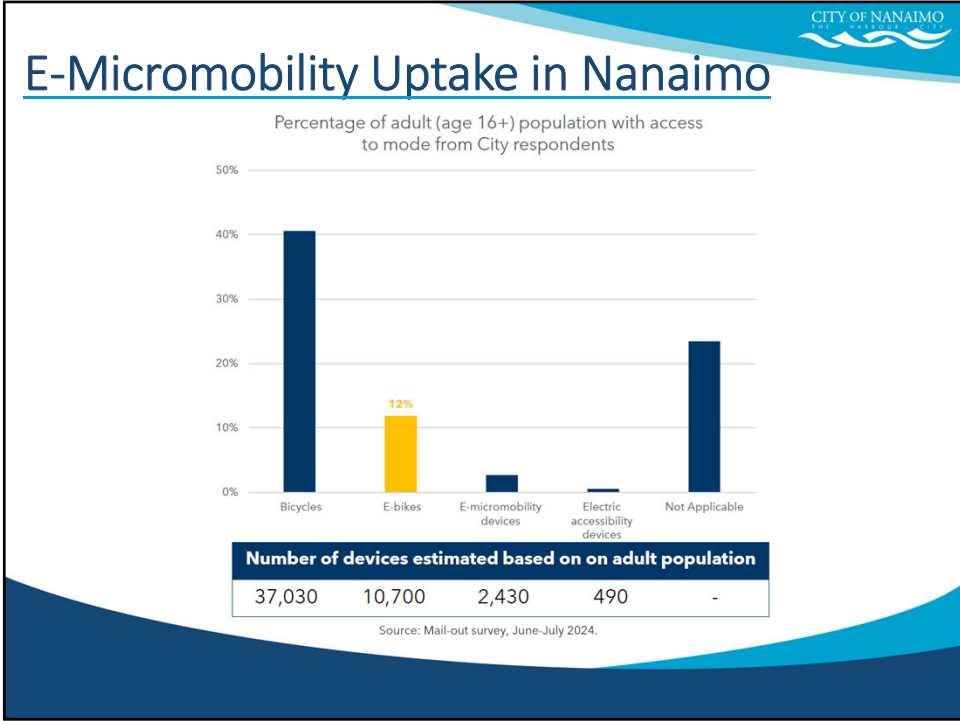
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EV Uptake in Nanaimo

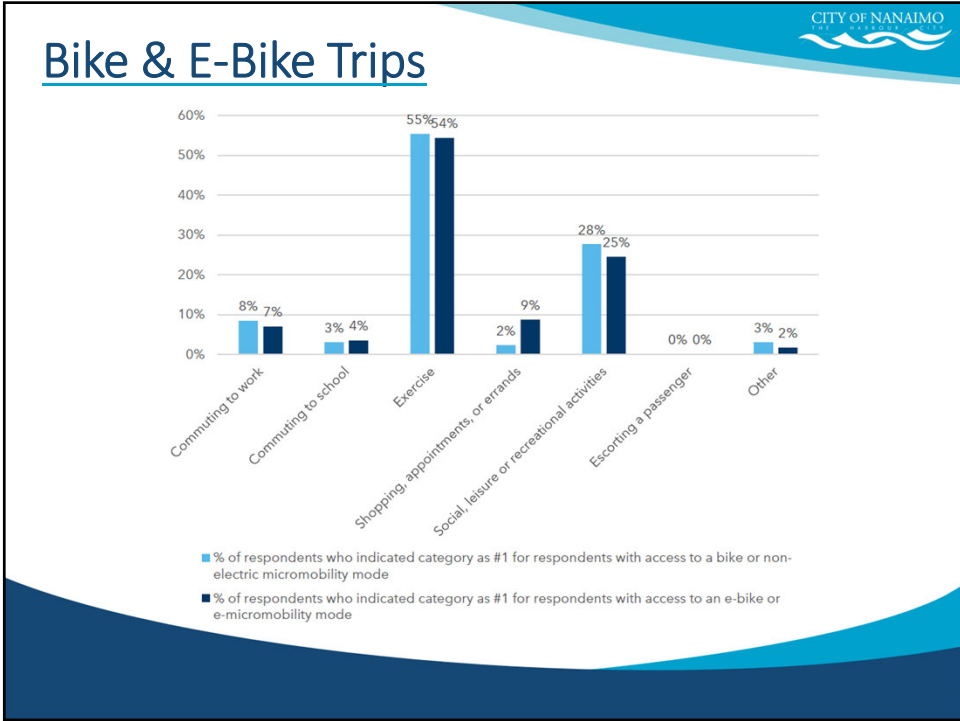


Source: Insurance Corporation of British Columbia. June 29, 2023. *Vehicle Population Intro Page.*

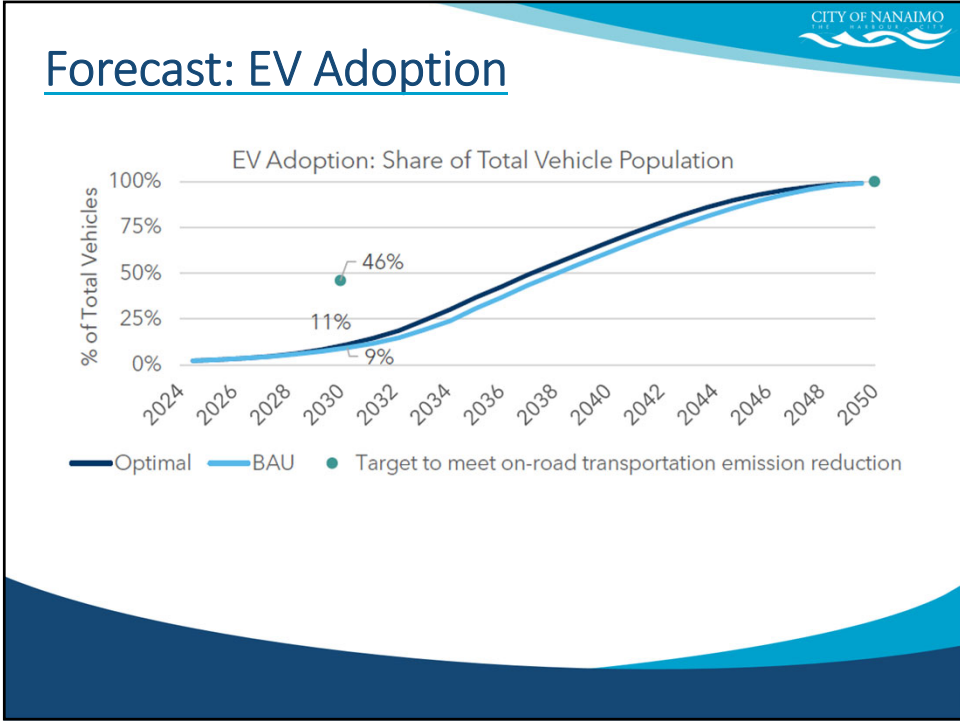
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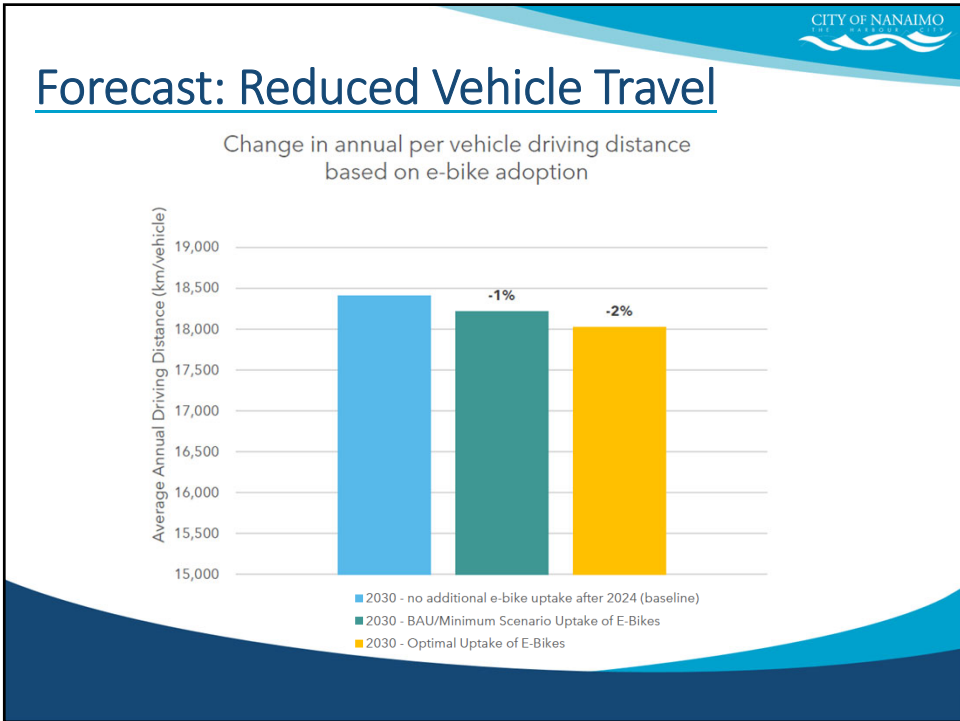
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Summary of Barriers in Nanaimo

E-micromobility Barriers		Rating	EV Barriers		Rating
	A Affordability	●		A Affordability	●
	B Accessibility, comfort, ability, and familiarity	●		B Availability of new and used EVs	●
	C Access to secure parking and charging	●		C Availability of EV models to persons with disabilities	●
	D Access to travel routes and infrastructure designed for micromobility	●		D Lack of knowledge and experience with EVs	●
	E Access to safe and appropriate travel routes and infrastructure	●		E Ability to install home charging	●
	F Uncertainty, lack of awareness of definitions, regulations and legislation	●		F Ability to access EV-charging support programs	●
	G Automobile-dominant culture (culture and perceptions)	●		G Ability to use public charging	●
	H Travel conditions (challenging weather or terrain)	●		H Cost and time burden to use public charging	●

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Equity

Cars, electric or otherwise, remain out of reach for many.

Equity-deserving group representatives were united in the **need to prioritize e-micromobility over EV investment to support equity-deserving communities.**

Benefits

Lower transportation costs is identified as a top benefit of using an EV or E-bike.

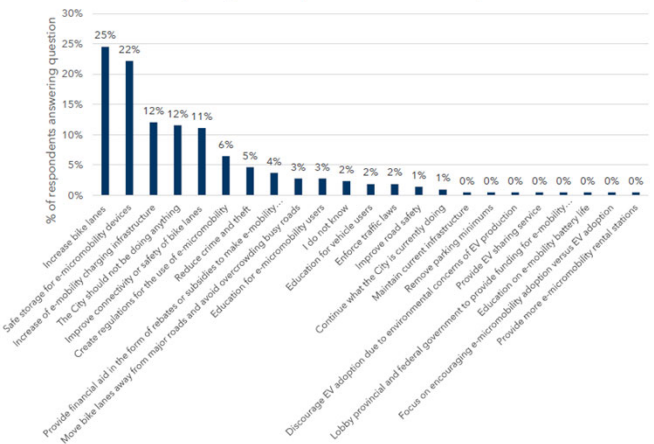


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Role of the City

Public Survey

Role of the City categorized open feedback from respondents



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Recommended Approach

	Nanaimo Barriers	Rating ¹	Barriers Addressed	
			1. Lead in the gaps (recommended)	2. Lead on e-mobility
E-Micromobility Barriers	A. Affordability	●		<input checked="" type="checkbox"/>
	B. Accessibility, comfort, ability, and familiarity with mode	●	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	C. Access to secure e-micromobility parking and charging	●	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	D. Access to travel routes and infrastructure designed for micromobility	●	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	E. Access to safe and appropriate travel routes and infrastructure	●	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	F. Uncertainty/lack of awareness on definitions/regulations/legislation	●		<input checked="" type="checkbox"/>
	G. Automobile-dominant culture	●		<input checked="" type="checkbox"/>
	H. Travel conditions (challenging weather or terrain)	●		<input checked="" type="checkbox"/>
EV Barriers	A. Affordability	●		
	B. Availability of new and used EVs ²	●		
	C. Availability of EV models to persons with disabilities	●		
	D. Lack of knowledge and experience with EVs	●		
	E. Ability to charge at home ³	●	<input checked="" type="checkbox"/>	
	F. Ability to access EV-charging support programs	●		
	G. Ability to use public charging	●		
	H. Cost and time burden to use public charging	●		

1. Rating system: critical, moderate, low
 2. Barrier is critical for used EVs, low for new EVs; 3. Barrier is critical for multi-family buildings.

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Update on Provincial E-Bike Incentive Program

The 2023 provincial e-bike incentive program provided a total of 112 rebates to Nanaimo residents with the following breakdown:



Rebate Amount	Number of Rebates Granted
\$350	6
\$1,000	14
\$1,400	92
Total	\$144,900

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Recommendation

That Council:

1. adopt a “Lead in the Gaps” approach on e-mobility as recommended in the E-Mobility Landscape and Options for Nanaimo Technical Report (Attachment A); and,
2. direct staff to identify key actions to address all critical barriers identified in the E-Mobility Landscape and Options for Nanaimo Technical Report and report back to Council for consideration, and as a first step:
 - a) prepare a business case for consideration for the 2025-2029 Financial Plan to provide long-term, sustainable resources to improve active transportation networks; and,
 - b) leverage external funding and partnerships to expand and improve electric vehicle charging infrastructure in the role of a facilitator, partner, and/or landowner.



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