Community-Based Planning & Design for the Electrification of Transport Systems in Rural Municipalities

Low Carbon Communities Program, Nova Scotia Department of Energy

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Interactive Workshop #2 – June 15th, 2025 | Yarmouth, NS

NOVA SCOTIA

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What We Heard:

Nova Scotia Travel Activity Survey (2023)

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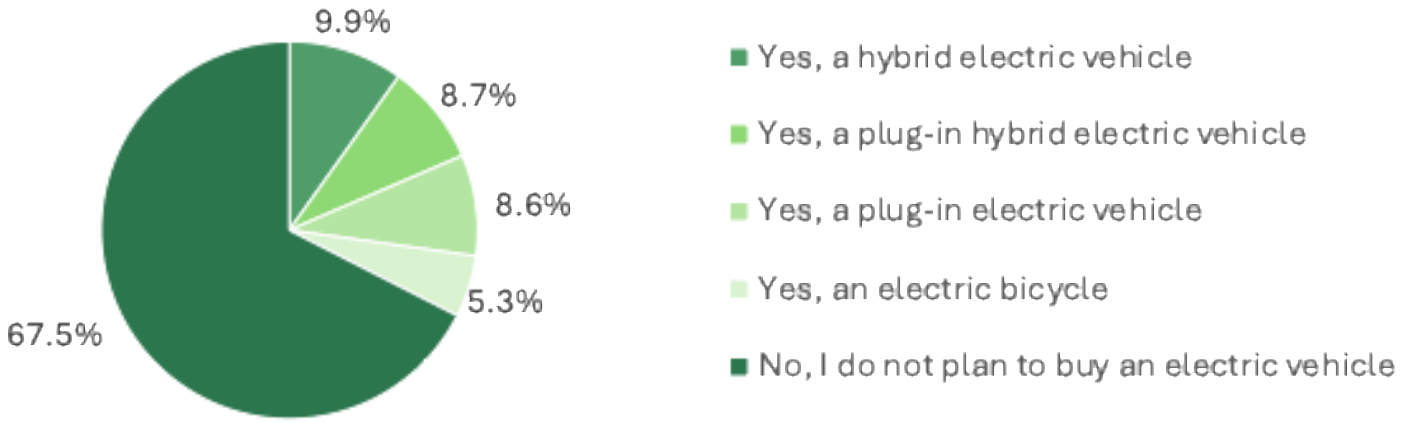
8.6%

are interested in purchasing a plug-in electric vehicle within the next 5 years

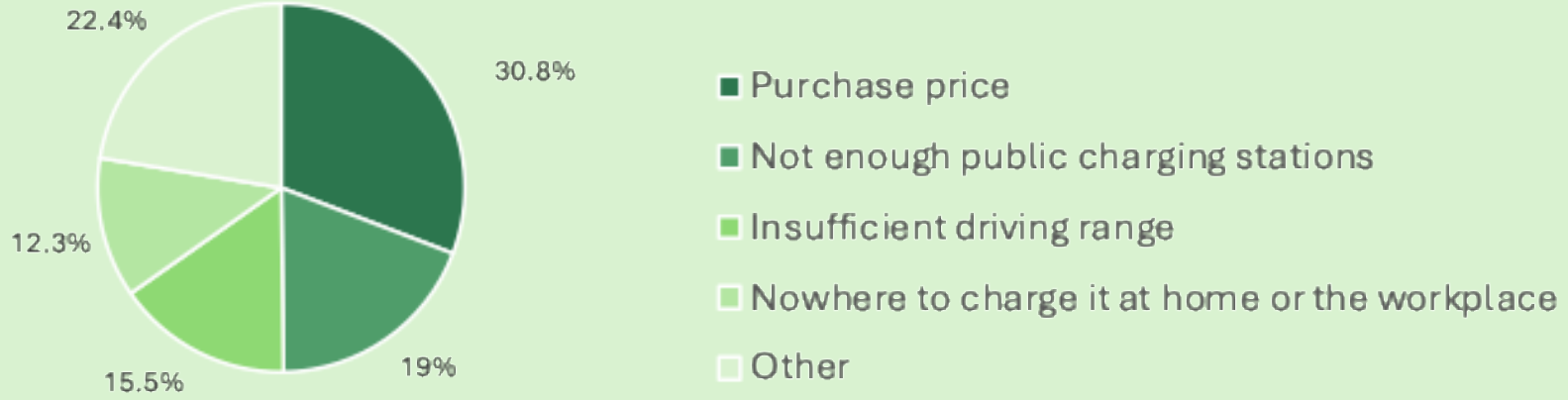
Intention to Purchase an Electric Vehicle within Five Years



19%

identified 'not enough public charging stations' as a barrier for EV ownership

Reasons for Not Owning an Electric Vehicle



What We Heard:

Community Partners & Stakeholders (Nov 2023/June 2024)

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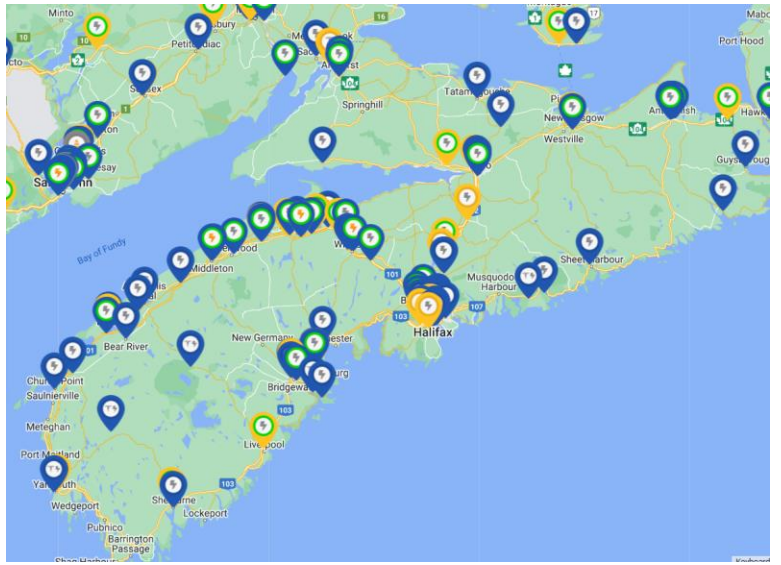
EV challenges:

- Lack of 'electrification strategies' and guidelines thereof
- Reliability of charging stations; Responsibility – Who should own chargers and maintain them? Location – Where should chargers be located? Communication with public– Where they are located and how to use them?
- Availability between rural communities
- What are the strategies for public transport, given supply chain issues?

Interesting/Key Ideas:

- What are the critical strategies to promote EV in rural municipalities? How do we integrate newer transport infrastructure with surrounding built environment in rural communities?
- How to design EV charging infrastructure to promote local economy, tourism?



chargehub.com

Project Overview

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Project Goal & Objectives

Co-develop community-based strategy template and design frameworks to help electrify transport systems across rural Nova Scotian communities.

Objective #1	Objective #2	Objective #3
Co-develop a "strategy template" for electrification of transportation systems in rural municipalities including public transportation	Develop micro-level design concepts to plan, design and locate public charging stations for specific communities of interest (e.g. Town of Yarmouth)	Generate shareable knowledge for communities in Nova Scotia

Community Transportation Network
Connecting Nova Scotians

Ecology Action Centre

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Project Overview

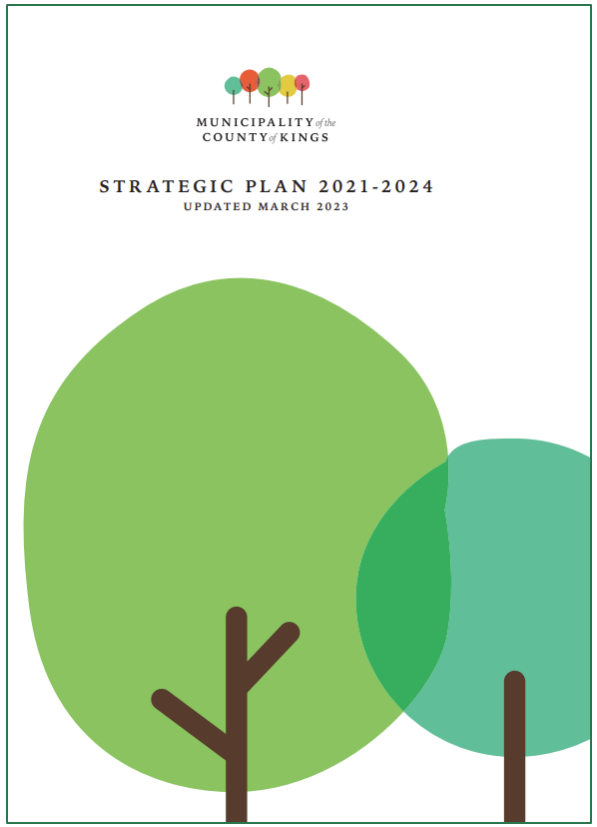
Project Process

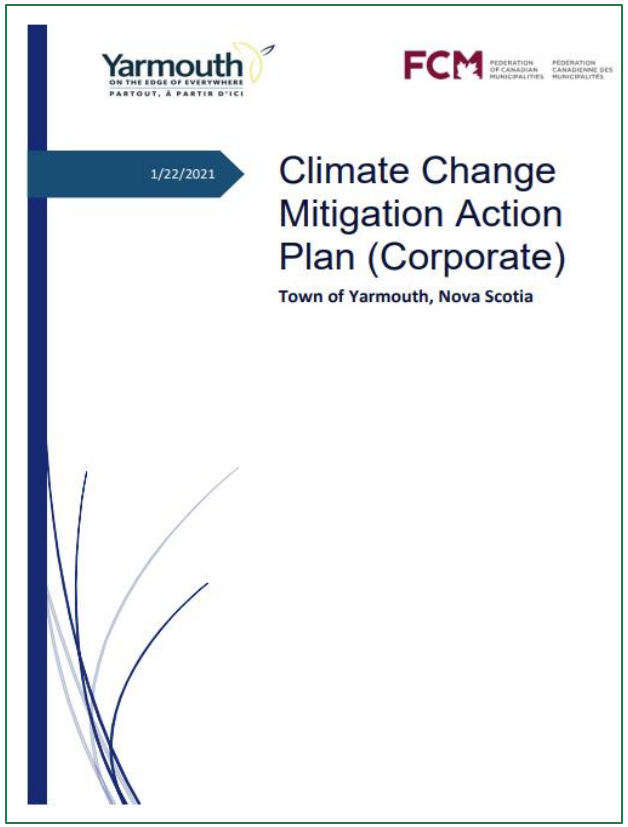
Research & Planning

- Review of plans, strategy and design documents across Canada
- Multiple case studies to help create strategies and a design framework

Workshops/Focus Groups

- We will conduct up to three stakeholder workshops/focus groups at Dalhousie University and in partner communities





Sample of Plans Mentioning EVs in Rural NS

- County of Kings' *Strategic Plan*
- Town of Yarmouth's *Climate Change Mitigation Action Plan (Corporate)*

Canadian Strategies to Support EVs

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	Ontario	British Columbia

Entire Province	• **Funding to Increase EV Charging Stations**
	  ○ EVCharge ON Program
	• **Access to High Occupancy Lanes** (via green license plate) regardless of the number of passengers
		• **Funding to Increase EV Charging Stations**
		  ○ Clean BC Go Electric Public Charger Program
		• **Access to High Occupancy Lanes** (via vehicle decal) regardless of the number of passengers
		• **Rebates** for passenger vehicle, fleets, heavy duty vehicles, and e-bikes

Urban	• **Electrify Municipal Fleets (blend of EV+ hybrid)**
	  ○ E.g. Hybrid + EVs in Toronto and Waterloo
	• **Electrify Public Transportation**
	  ○ E.g. 60 e-buses in Toronto
	• **Increase EV Chargers on City-Owned Land**
	  ○ E.g. Toronto and Ottawa support this approach
		• **Electrify Municipal Fleets (blend of EV + hybrid)**
		  ○ E.g. Hybrid + EV fleets in Vancouver and Victoria
		• **Electrify Public Transportation**
		  ○ E.g. 15 electric buses in Vancouver
		• **Increase EV Chargers on City-Owned Land**
		  ○ E.g. Vancouver and Nanaimo support this approach

Rural	• **Creating a Network of EV stations**
	  ○ E.g. 12 EV charging stations (Level 2 + 3 chargers) to be built in the Owen Sound region
		• **Creating a Network of EV stations**
		  ○ E.g. 3 regional districts around Kootenay added 40 Level 2 chargers

NS Strategies for EV Chargers

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Urban

- Extensive network of public Level 2 & Level 3 in city centres. These chargers are often found in community centres and parking lots

Rural

- Fewer charging stations, but there is a growing network along highways and near community hubs

Level 2 EV Chargers in the Halifax Seaport Parking Lot

Level 2 EV Charger at Mahone Bay's Fire Hall

NS Strategies - Electric Public Transportation

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Urban

- Electrifying municipal fleets, including vehicles, buses, and ferries.
- Support micro-mobility
  (e.g. a two-year pilot project for shared e-bikes and scooters is launching in May 2025)

HRM EV Bus (Healy, 2024)

Rural

- Electrify municipal fleets. For regions with public transportation, some municipalities are beginning to electrify their public buses

The governments of Canada, Nova Scotia and Cape Breton Regional Municipality invest in a greener transit facility and new electric buses

From: Housing, Infrastructure and Communities Canada

News release

Sydney, Nova Scotia, November 15, 2023 — Transit Cape Breton will have new electric buses and an upgraded bus maintenance facility thanks to the combined investment of $54 million from the Governments of Canada, Nova Scotia and Cape Breton Regional Municipality.

Cape Breton has purchased 6 electric buses (Government of Canada, 2023)

State of EVs in NS: Registered EVs

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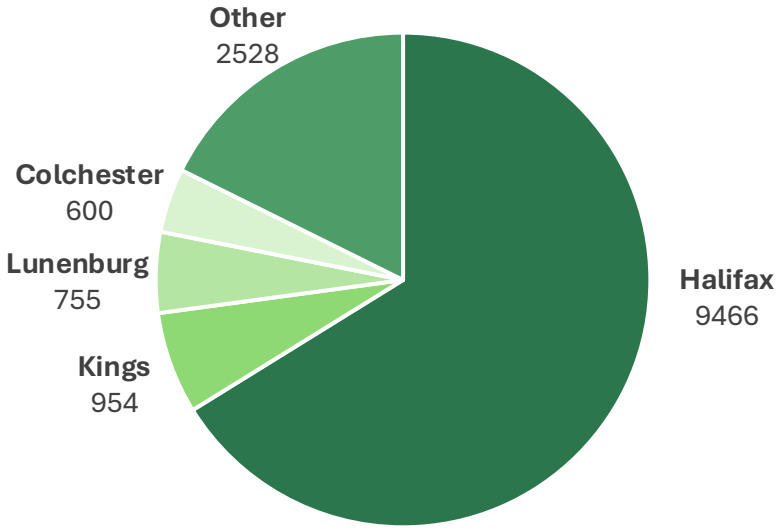
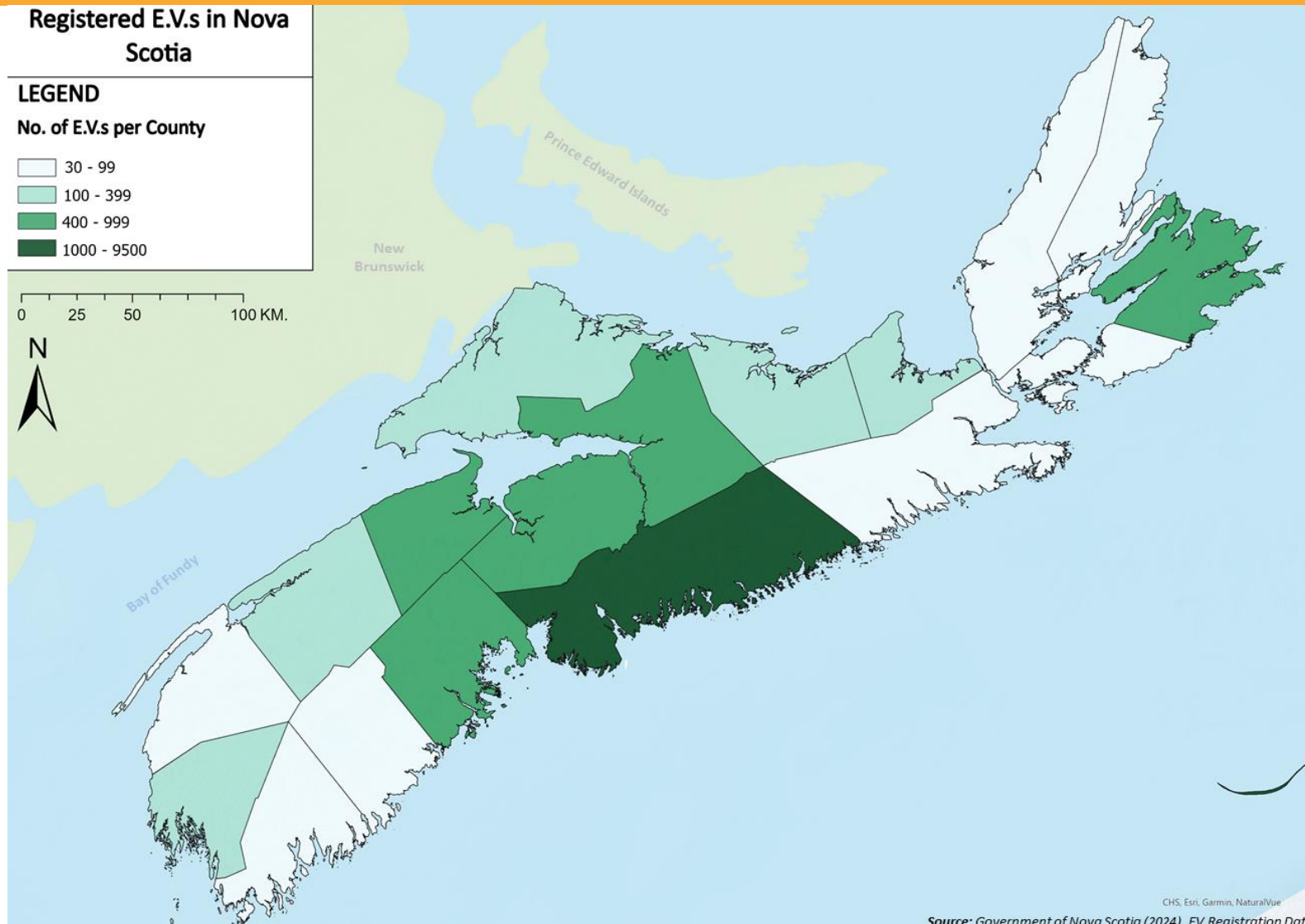
14,303 *Registered EVs*

Number of Electric Vehicles per County





Government of Nova Scotia (2024). *EV Registration Data*.

NS EV Charging Stations

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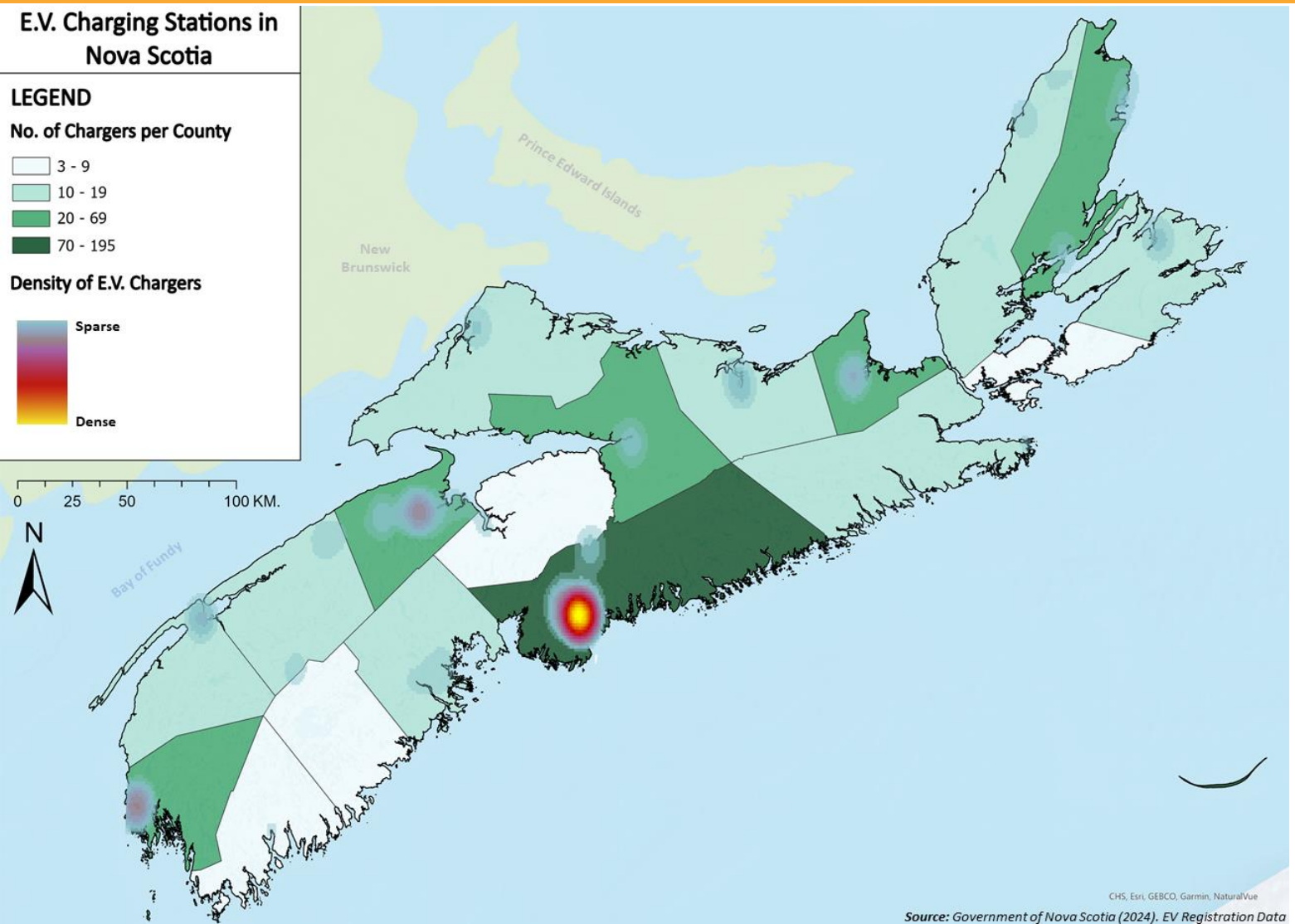
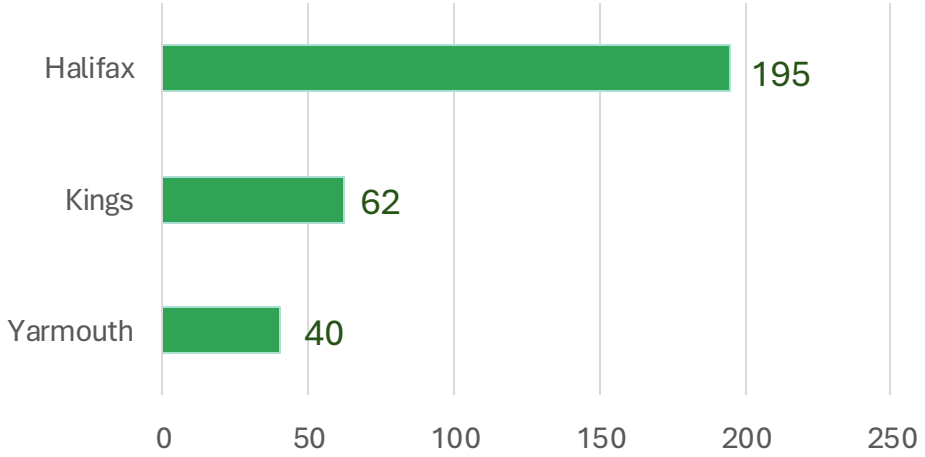


243 *EV Charging Stations*

523 *EV Charging Ports*

Counties with Most EV Chargers



Government of Nova Scotia (2024). *EV Registration Data*.

EV Chargers in Yarmouth County

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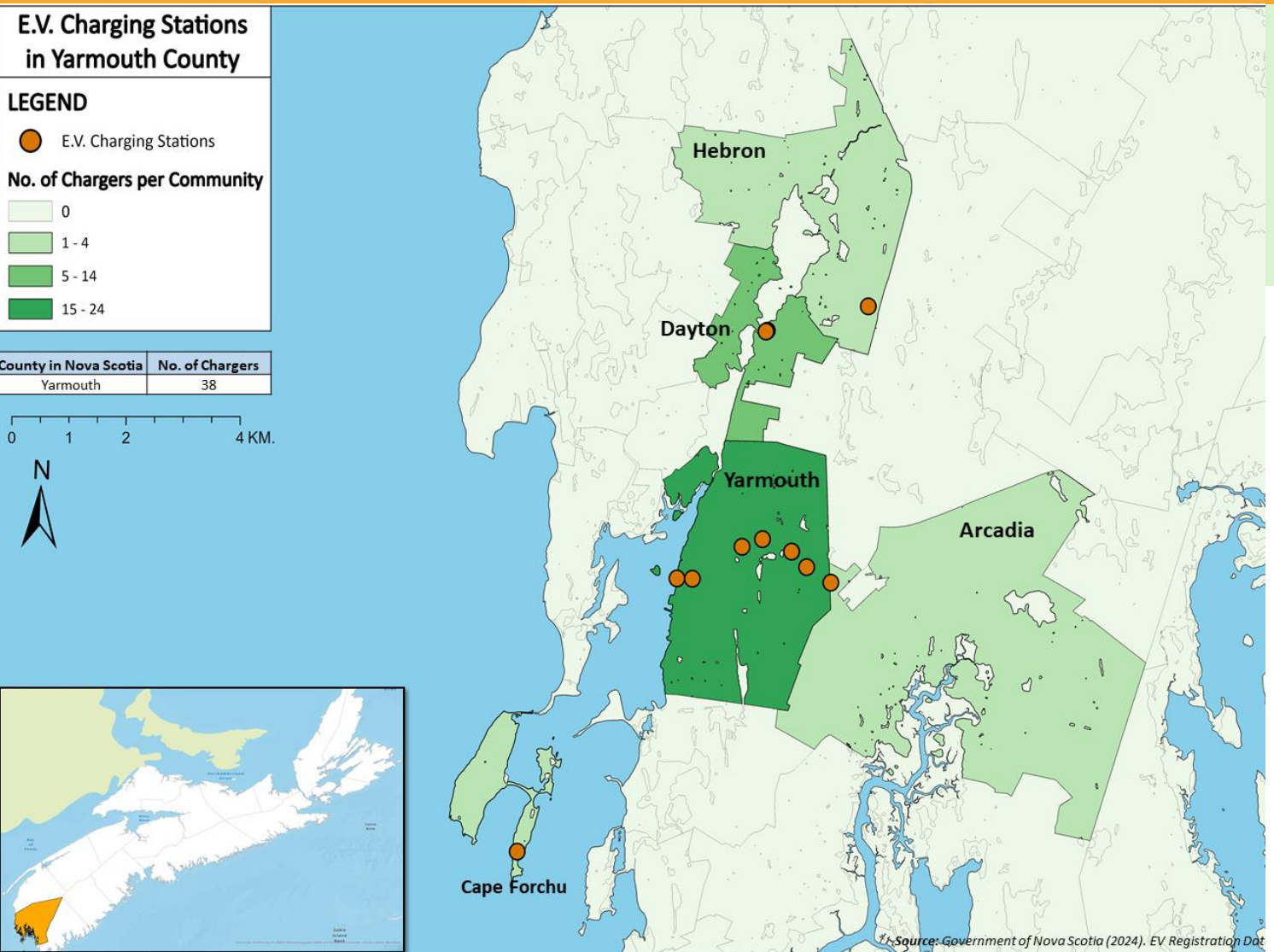
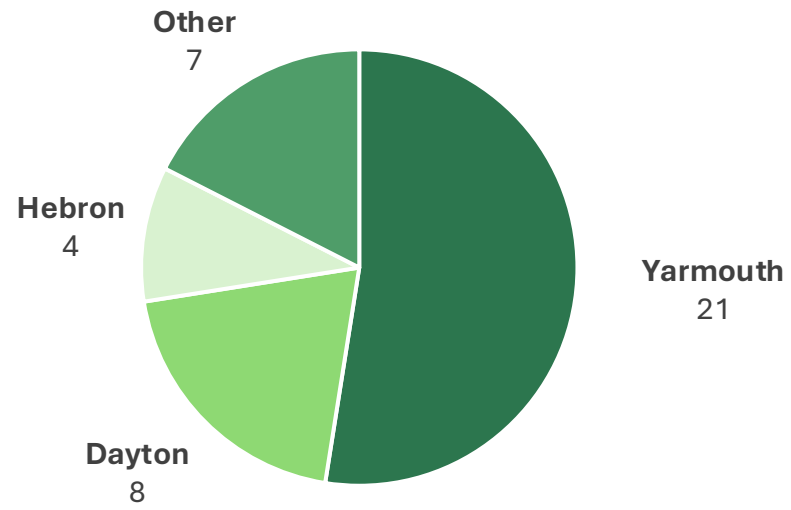


Number of EV Chargers

YARMOUTH COUNTY 38

Number of EV Chargers by Community



Government of Nova Scotia (2024). *EV Registration Data*.

Workshop Plan

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Workshop #2: Western NS Perspectives on Transport Electrification Strategies

Session #1:

How Can We Develop Electrification Strategies for Rural Nova Scotia Municipalities? (45 minutes)

- 2 Individual Activities; 1 Group Activity

Break with Refreshments

Session #2:

Laying the Foundation for Community-Based Electrification Strategies (50 minutes)

- 2 Group Activities; Report back
- Building the RESAlliance; Workshop Evaluation

Session #1:
Developing Transport Electrification Strategies

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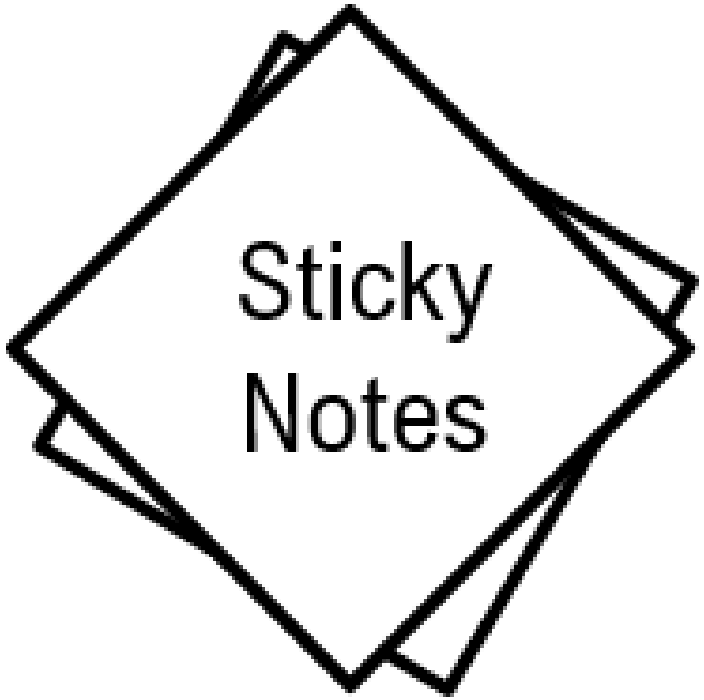
How Can We Develop Electrification Strategies for Rural Nova Scotia Municipalities? (40 Minutes)

Activity #1:

[Individual] Draw a picture of yourself driving, charging, riding or watching an electric vehicle in your community. (10 minutes)



Session #1:
Developing Transport Electrification Strategies

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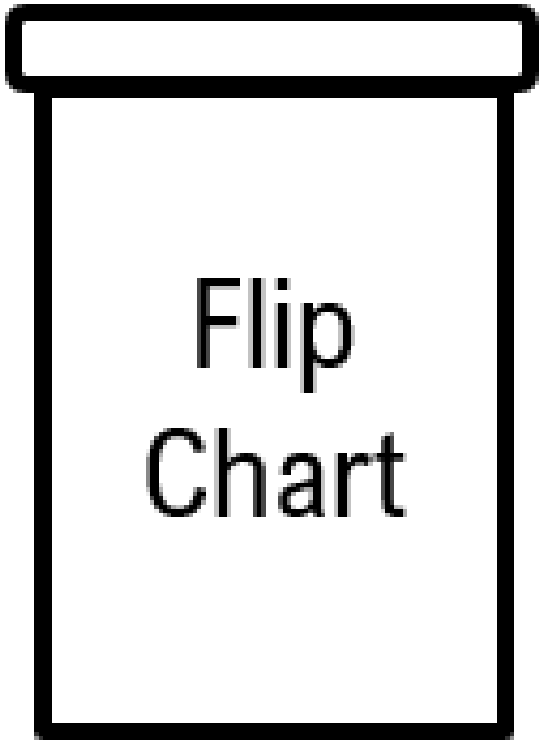
How Can We Develop Electrification Strategies for Rural Nova Scotia Municipalities? (40 Minutes)

Activity #2:

[Group] What are the benefits of electrification of transport systems in rural municipalities?(20-minute discussion)



Session #1:
Developing Transport Electrification Strategies

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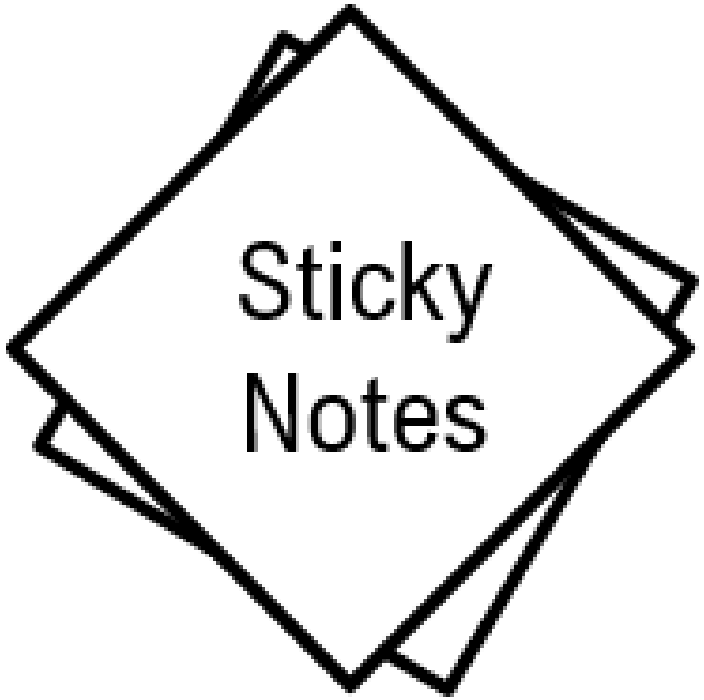
How Can We Develop Electrification Strategies for Rural Nova Scotia Municipalities? (40 Minutes)

Activity #3:

[Individual] In your opinion, what are the principles that should guide a Rural Electrification Strategy in your Community. (10-minutes)



Break with Refreshments

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COMMUNITY-BASED PLANNING & DESIGN FOR THE ELECTRIFICATION OF TRANSPORT SYSTEMS IN RURAL MUNICIPALITIES

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Session #2:
Community-Based Transport Electrification Strategies

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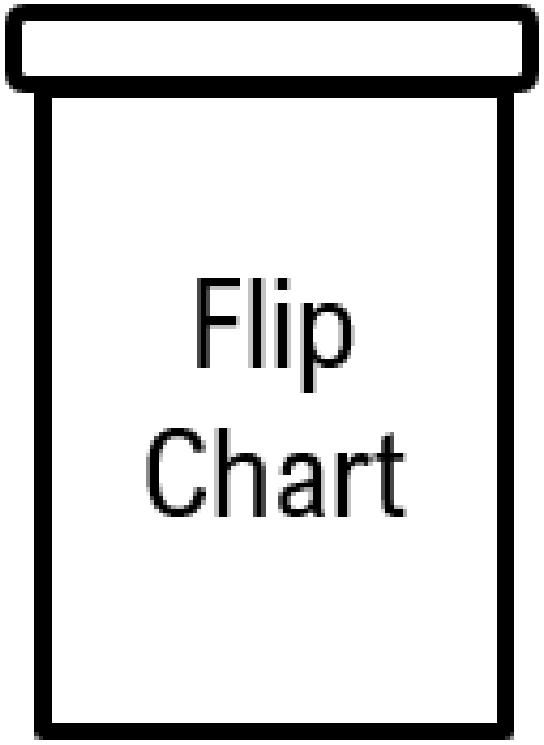
Laying the Foundation for a Community-Based Rural Electrification Strategy (55 Minutes)

Activity #1:

[Group] What short-term/long-term strategies in rural municipalities are necessary to achieve net-zero emissions in transport by 2050?

(10-minute discussion, 10-minute reporting)



Session #2:
Community-Based Transport Electrification Strategies

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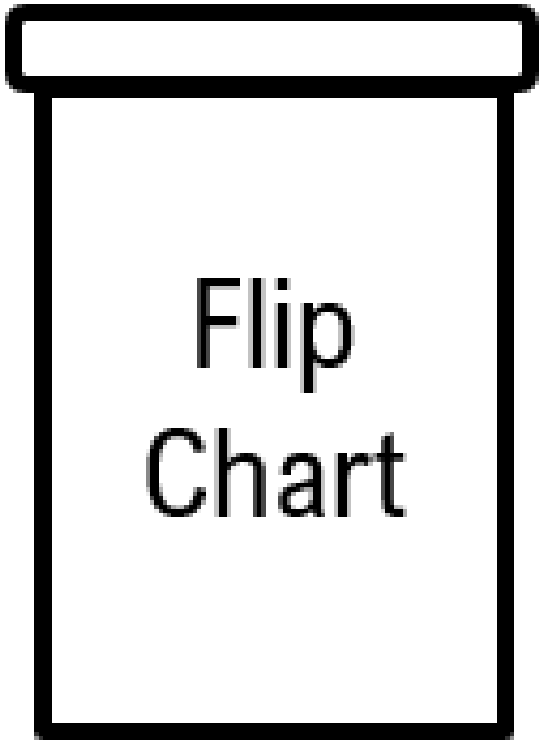
Laying the Foundation for a Community-Based Rural Electrification Strategy (55 Minutes)

Activity #2:

[Group] What are the major strategies to electrify bus services and install charging stations in your community?

(10-minute discussion, 10-minute reporting)



Session #2:
Community-Based Transport Electrification Strategies

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Laying the Foundation for a Community-Based Rural Electrification Strategy (55 Minutes)

Activity #3:

[Group] Building the *RESAlliance*

(10-minutes)

THANK YOU

[Individually] **Please complete the workshop evaluation survey**
(5 minutes)

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