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Planning for electric vehicles

Myths, realities, and rural opportunities

by **Wayne Caldwell and Derry Wallis**

Who would have thought that by the mid-2020s, electric vehicles would be more than just a futuristic concept but be a practical, increasingly common choice for everyday travel? Twenty-five years ago, the idea of plugging in your car overnight and driving silently past gas stations felt like science fiction.

Even a decade ago, electric vehicles still seemed out of reach for many Canadians. They were expensive, inconvenient, and untested, especially in rural and small-town settings. But things are changing rapidly. The shift to electric vehicles is gaining momentum, driven by technological advances, climate goals, and evolving public expectations. Still, many communities are playing catch up, facing infrastructure gaps, policy uncertainty, and persistent misconceptions.

Local governments – planners and councillors alike – can help lead this transition. This transition also involves

infrastructure and operations staff, including municipal engineers, who are often responsible for the installation, maintenance, and management of municipal electric-vehicle charging stations.

Why Electric Vehicles and Planning Matter

Electric vehicles are more than just a trendy transportation option. They are increasingly seen as a tool for municipalities to address some of their most pressing challenges.

Across Ontario, transportation accounts for approximately 32 per cent of total greenhouse gas emissions. In rural and small-town communities, where distances are greater and transit options are limited, transportation often represents an even larger share of the local emissions profile.

Supporting the shift to electric vehicles is one of the most immediate ways for

municipalities to reduce emissions while aligning with broader climate goals. But the case for electric vehicles is not only environmental, it is also economic. For many rural residents who travel long distances, the operating costs of electric vehicles can be meaningfully lower than those of gas-powered vehicles.

Based on current Ontario electricity rates, charging at home during off-peak hours may cost approximately \$300 per year. In contrast, fueling a conventional vehicle for similar average annual mileage (20,000 kilometres) could exceed \$3,000, depending on fuel prices and vehicle efficiency. These figures are supported by data from Natural Resources Canada, the Ontario Energy Board, and recent Clean Energy Canada analyses.

Municipalities also benefit from planning for electric vehicles in ways that support local economic development. Communities with visible and reliable



The reality is that most owners of electric vehicles charge at home, overnight, or during off-peak hours when demand is low and electricity is cheaper. *Photo courtesy of Derry Wallis*

charging infrastructure are more likely to attract tourists, new residents, and businesses that drive electric vehicles. Strategic investments in charging can help position small towns as future-ready while also supporting climate action plans, complete community principles, and transportation equity.

Through tools like zoning, partnerships, and public engagement, municipal planning and leadership can play a meaningful role in supporting a smooth and equitable transition to electric vehicles by ensuring that rural and small-town communities are thoughtfully included in this shift.

Rural ReCharge: Regional Approach to Infrastructure

In Southwestern Ontario, six counties – Bruce, Dufferin, Grey, Perth, Huron, and Wellington – are leading the charge toward sustainable transportation Rural ReCharge, a partnership recognizing the unique challenges faced by rural communities in transitioning to electric vehicles. These six counties united to develop a coordinated, cross-jurisdictional approach to electric-vehicle charging infrastructure.

The partnership conducted a regional survey in 2021, in which 67 per cent of respondents from the region expressed interest in purchasing an electric vehicle

within the next two to five years. However, 45 per cent cited a lack of charging options for long-distance travel as a major concern. In response, the Rural ReCharge network aims to ensure that electric-vehicle drivers can travel confidently and seamlessly throughout the region.

At the core of Rural ReCharge is the strategic placement of Level 2 (slower chargers suited for multi-hour stops) and Level 3 (fast chargers for quick top-ups) chargers along key travel routes and at destination locations such as town centres and tourist attractions. This targeted siting enhances convenience for residents and visitors while supporting economic development and tourism.

By working together, the participating counties have been able to leverage funding opportunities, bridge critical infrastructure gaps, and align their local plans with provincial and national electric-vehicle networks. More importantly, this work has been undertaken without burdening local taxpayers, as the electric-vehicle chargers will all be owned and operated by a third party, offering a sustainable path forward that benefits the entire region.

The success of Rural ReCharge underscores the value of regional collaboration in rural planning. Rather than working in isolation, municipalities have embraced

a shared vision for a low-carbon future – one that emphasizes practicality, accessibility, and long-term resilience.

As electric-vehicle adoption accelerates, the partnership stands as a model for how rural regions can take proactive, co-ordinated steps to support cleaner transportation, attract investment, and enhance regional connectivity. For Southwestern Ontario, the road to sustainability is no longer a distant goal, it is already taking shape, one charge at a time.

Common Electric-Vehicle Myths

There are a number of common misconceptions about electric vehicles – some found at the community level, others in everyday conversations. What follows is a short list of myths that continue to circulate, along with some reflections based on personal experience and emerging evidence.

1. “Aren’t electric vehicles going to crash the grid?”

This one gets a lot of airtime. But the reality is that most owners of electric vehicles charge at home, overnight, or during off-peak hours when demand is low and electricity is cheaper.

In Ontario, time-of-use pricing supports this kind of behaviour. With smart meters, charging timers now standard,

and using low-draw Level 2 chargers, the impact on the grid is minimal and manageable – a quiet shift, not a surge.

2. “We’ve got public chargers – problem solved.”

Many municipalities have installed Level 2 chargers. They are relatively low-cost to install and are ideal for workplaces, community centres, or tourism sites where people stay for hours.

For drivers of electric vehicles just passing through or making several stops, Level 3 fast chargers are essential. In practice, many base their route on whether a community has fast charging. If not, they find one that does.

3. “Electric vehicles are too expensive.”

It is true that some models still have a higher sticker price. But the long-term cost of ownership tells a different story.

Charging at home can cost a fraction of what it would take to fuel a gasoline-powered vehicle over the same distance. Maintenance costs are also lower, with no need for oil changes, no exhaust system to maintain, and reduced brake wear thanks to regenerative braking.

Several more affordable models from “trusted brands” – and used electric vehicles – are also entering the market every year.

4. “They don’t work in rural areas.”

Actually, rural areas may be better suited to electric vehicles than urban ones. Homeowners are more likely to have off-street parking for chargers and longer drives mean more savings on fuel.

Many electric vehicles now offer a range of 400-500 kilometres, far more than most people need in a day. Longer, less congested rural routes can also help electric-vehicle drivers maximize their range.

5. “Haven’t electric vehicles already peaked?”

It is easy to get that impression from recent headlines, but the broader trend tells a different story. Electric-vehicle adoption is still growing – just at a more realistic pace – as infrastructure and affordability catch up.

The federal target of 100 per cent zero-emission vehicle sales by 2035 continues to guide policy, even as timelines and strategies evolve. Meanwhile, manufacturers remain heavily invested in the

transition. And from a driver’s perspective, once you have made the switch, it is hard to imagine going back.

6. “Are electric vehicles really sustainable once you factor in batteries and energy production?”

While electric-vehicle manufacturing – especially battery production – does involve resource use and emissions, studies consistently show that electric vehicles generate far fewer lifetime emissions than gasoline vehicles.

This is particularly true as Ontario’s electricity grid (and many others) is already low-carbon and becoming cleaner over time. Battery recycling and reuse are advancing rapidly, which will further strengthen electric vehicle sustainability benefits in the years ahead.

7. “Electric-vehicle ownership is a hassle.”

Charging can take a bit of planning, especially for longer trips – but it is far from a constant hassle. If drivers map out a few reliable fast chargers along their typical routes, topping up can be straightforward.

For most day-to-day driving, charging happens overnight at home, with minimal effort – and at a fraction of the cost of filling a gas tank. And the drive itself is quiet, smooth, and unexpectedly fun.

Other concerns about electric vehicles still surface – like payment systems, battery life, cold-weather performance, or recycling. While some of these are genuine challenges and areas for ongoing improvement, many are fading fast as technology evolves and evidence accumulates.

Five Ways Municipalities Can Take the Lead

While municipalities may not be the ones owning or operating electric-vehicle chargers in the long term, they play a vital role in enabling the infrastructure that supports electrification. The following are five key areas where local governments can lead:

- **1. Update zoning and site plan policies** – Zoning bylaws can be revised to permit electric-vehicle charging stations as an accessory use, and site plan guidelines can require electric vehicle-ready infrastructure in new residential, commercial, and institutional developments. These changes help reduce approval delays and ensure long-term readiness.

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- **2. Plan for equity in charger placement** – Charger locations should reflect more than just traffic counts. Consider underserved areas, including smaller towns, villages, and communities with limited access to home charging. Strategically placed public chargers – at libraries, arenas, or main streets – can support both residents and visitors while also contributing to local tourism and economic development.
- **3. Prioritize accessibility in design** – Electric-vehicle infrastructure should be inclusive by design. This means wider parking spaces, curb-free access, and charger height and placement that work for people with different abilities – including those with physical limitations or parents with young children. These features are often overlooked but are essential to creating an equitable network that serves everyone considering an electric vehicle.
- **4. Facilitate partnerships** – Municipalities can act as connectors between private business, utilities, and other orders of government, helping to co-ordinate applications for funding programs and integrating chargers with local amenities. This can include supporting applications to programs like the federal Zero Emission Vehicle Infrastructure Program (ZEVIP), and Ontario’s electric vehicle ChargeON initiative.
- **5. Lead by example** – Fleet electrification, charger installation at municipal facilities, and visible pilot projects demonstrate local commitment and provide learning opportunities that

can inform broader policy change. The Green Municipal Fund currently provides funding for transitioning a municipal fleet to zero-emission vehicles. Municipalities can also support community readiness through education, outreach, and public engagement to help residents and local businesses better understand the benefits, costs, and realities of electric vehicles.

Together, these actions can support a practical and equitable transition – one that ensures electric-vehicle infrastructure is not just present but well-planned, accessible, and aligned with long-term community goals.

While the private sector will continue to play an important role in delivering charging services, many providers have focused on urban centres and high-traffic corridors. Without rural municipal leadership – through planning, partnerships, and policy – smaller communities risk being left behind. Ensuring that your municipality is part of the network, especially for critical Level 3 charging, may be the difference between attracting electric-vehicle drivers or being bypassed altogether.

Staying on the Map

Electric vehicles are no longer a futuristic concept. They are on our roads, in our driveways, and increasingly on the radar of local councils and municipal staff. As the shift accelerates, communities across Ontario – and beyond – are facing a familiar challenge: how to ensure they are not left behind.

In the late 1800s, towns competed fiercely to be included on railway lines, knowing that economic growth often depended on being visible, connected, and accessible. In many ways, electric-vehicle infrastructure is the modern equivalent. A strategically located Level 3 charger can transform a community from a place drivers pass by into one they stop to visit.

The good news is that municipalities have tools at their disposal. From zoning and partnerships to inclusive design and public leadership, local governments can help ensure the electric-vehicle transition works for their community and region, not just for early adopters or urban centres.

Initiatives like Rural ReCharge show what is possible when communities work together across boundaries. They offer a model that other rural regions could adapt or draw inspiration from. By planning ahead and acting with intention, rural and small-town municipalities can secure their place in the electrified future and make sure they’re still “on the map” for years to come.



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