

EV Ready Requirements for Municipalities

Introduction

1. Electric Vehicles (EVs) provide a viable, near-term solution to reducing dependence on fossil fuels and their resulting greenhouse gas (GHG) emissions. Achieving deep decarbonization in the transportation sector will require widespread adoption of EVs.
2. A large majority of EV charging occurs at home, and access to at-home charging is one of the most important factors determining whether a household will purchase an EV.
3. Municipalities are exploring ways to 'future-proof' buildings by cost-effectively designing and implementing EV-ready parking in new developments to avoid expensive and complex EV charging retrofits post-construction.
4. Clean Air Partnership (CAP) developed an [EV Ready Requirements for Municipalities](#) report to support local governments, developers, electrical designers, utilities, and other stakeholders in advancing EV-Ready new developments.
7. The deposit system covers a 5-year timeline for electricity demand to materialize. The utility withholds a part of the deposit if this demand doesn't materialize. It is challenging to roll out EV electricity use in the 5-year time frame of the deposit system. Therefore, there are concerns that the EV-ready electricity allocation will reduce the amount of the deposit that is returned to the developer. Especially considering that the electricity demand for EV charging will contribute to electricity costs and thereby support the infrastructure investment costs.

EV Charging Infrastructure Costing Study

8. CAP, with funding support from The Atmospheric Fund, undertook a study to support local governments, developers, electrical designers, utilities, and other stakeholders, about the costs of making parking in new construction EV-ready and the design strategies to help minimize these costs.
9. The [Electric Vehicle Charging Infrastructure Costing Study](#) provides Ontario-specific costing and technology information to drive adoption and address concerns with advancing EV-ready parking within the residential sector. Multi-unit residential building (MURB) sector was emphasized because of the significant post-construction retrofitting challenges these buildings face in providing EV charging.
10. The report assessed the cost of implementing EV-ready parking spaces in 4 residential development archetypes- high-rise, midrise, townhouses, and single-family subdivisions.

Initial Challenges with EV Ready Parking Requirements

5. Local governments and stakeholders are increasingly considering taking action to promote new developments that are EV-ready, but they are encountering some challenges in the process.
6. On consultation with stakeholders, the main concern in advancing EV Ready parking requirements is the cost implications of EV-ready requirements on the electrical utility infrastructure deposit associated with infrastructure investments by utilities to supply the electricity to multi-unit developments.

11. Analysis in the report suggests that 100% EV-ready parking can be implemented in new high-rise and mid-rise multi-family buildings for approximately \$1500 to \$1800 per space. For the new townhouses and single-family subdivision archetypes, parking can be made EV Ready for approximately \$2000 or less per dwelling unit with onsite parking.
12. An [EV Charging Performance Requirements](#) report was also developed to support developers and municipalities in considering EV-ready electrical designs that considers EV usage and driver requirements while making efficient use of electrical infrastructure.

Municipal Authority to Secure EV Ready Requirements

13. In advancing EV-ready requirements, municipalities have identified a few possible mechanisms available to them to secure EV-ready requirements. They are:
 - **Planning Act and Site Plan Authorities** (advanced via Green Standards) – Various sections of the Planning Act provide municipalities with powers to advance EV-ready requirements through land use planning decisions, mitigating GHG emissions, controlling site plans and levying community benefit charges.
 - **Parking Requirements/Zoning By-laws** – The construction of new developments must comply with a zoning by-law to get a building permit. Municipalities can use Parking Requirements via Zoning by-laws to enforce EV-ready requirements in new developments.
 - **Climate Change By-law Authorities** – Through Bill 68, municipalities can pass by-laws respecting climate change and have authority to provide for, or participate in, long-term energy planning. This legal authority can support municipalities in advancing EV charging infrastructure.

Considerations and Recommendations for Advancing EV Ready Requirements

14. A leading practice emerging from municipalities in various Canadian jurisdictions is advancing 100% EV-ready requirements in residential developments. In the commercial sector they vary between 20 – 45% and can be tweaked to suit the type of commercial establishment.
15. The electrical utility infrastructure deposit time period can be extended from 5 years to 10 to avoid loss of deposit amount and provide more time to the developers to complete EV charger installations and start using the electricity allocated to the development completely.
16. The EV-ready electricity allocation calculation can be completely removed from the electrical utility infrastructure deposit system structure while still being integrated into the electrical design of the building.
17. Load management services can be used in EV-ready electrical design to avoid increasing peak electricity allocations for the new developments.
18. Municipalities should review minimum parking requirements in new developments (especially for developments located within transit-oriented development zones) to match the current and future parking demands and avoid building excess (and costly) parking spots.

Municipal Implications

19. The EV Costing Study identified significant economic and logistical benefits to securing EV-ready charging capabilities for new buildings through municipal site plans (via Green Standards) or parking/zoning by-law authorities.

20. Retrofitting existing buildings (especially multi-unit residential buildings MURBs) to include EV charging is challenging and costly at present, and its advancement would greatly benefit from more collective efforts from municipalities and other stakeholders.

Related Webinars and Further Reading

21. [EV Ready Requirements for Municipalities](#)
22. [Electric Vehicle Charging Infrastructure Costing Study](#)
23. [EV Charging Performance Requirements](#)
24. [Webinar - EV Ready Requirements Guide for Municipalities](#)
25. [EV Ready New Developments in Toronto – Workshop for Development Industry](#)

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