**Mission Statement**

Zero-emission vehicles (ZEVs) are crucial for decarbonizing our transportation system, reducing greenhouse gas emissions, and achieving energy sustainability. To promote the adoption of ZEVs, the Government of Canada has set ambitious goals: achieving net-zero emissions from on-road vehicles by 2050 and ensuring that 100% of new light-duty vehicle sales are exclusively ZEVs by 2035(1). As a result, the demand for ZEVs and charging infrastructure is expected to rise in the foreseeable future.

As the largest city in Canada, the City of Toronto has introduced the TransformTO Net Zero Strategy (TTO NZS) to accelerate the decarbonization of the transportation sector. Its implementation plan (2022–2025) aims to increase the percentage of ZEVs among all registered vehicles to 5% by 2025 and to ensure sufficient public charging infrastructure to “accommodate growth in ZEV ownership to 30 percent of registered personal vehicles by 2030.(2)”

The city has identified several challenges associated with public charging infrastructure that hinder the faster adoption of ZEVs. First, the relatively high cost of ZEV ownership may prevent lower-income households from transitioning away from conventional vehicles. Expanding public charging stations can help reduce ownership costs(2)(3). Second, certain housing conditions can make installing charging stations infeasible. Older multi-unit residential buildings (MURBs) are currently underserved by ZEV charging infrastructure(2). Third, the user experience of charging infrastructure varies between public and private chargers. Differences in hours of operation, charger types, and payment methods can create inconvenience and discourage a faster transition to ZEVs(2). Overcoming these challenges will be essential to the success of the city’s strategy.

This app aims to provide urban planners, policymakers, businesses, and transportation agencies with a data-driven decision-making tool to strategically expand EV charging infrastructure in Toronto. It will identify underserved areas where EV charging demand is high but supply is low, ensuring equitable access to EV charging for low-income communities and preventing mobility disadvantages in the transition to ZEVs. Additionally, it will support planning for commuter electrification by improving EV charging availability at GO Train stations and employment hubs, thereby reducing emissions from long-distance commuting. Finally, the project will guide private firms and government investments by pinpointing optimal locations for workplace, residential, and public EV charging stations.