Encouraging Electric Vehicle Ramp Up in Newton

By: Collin Fedor, James Newhouse, Kelly Rethmeyer, Salvatore D’Amico

Introduction:
Electric Vehicles are an emerging technology with the potential to replace conventional vehicles and reduce carbon emissions. The objectives of this study were:
1. To determine if, and where, Newton should install public EV chargers by using spatial analysis, residents’ input from surveys, and successful case studies.
2. Use survey results to identify how to make EV charging easier for the unique challenges of Newton residents who own EVs and to understand what obstacles prevent the widespread adoption of EVs by Newton residents.
3. To understand what policy mechanisms Newton can use to increase EV usage and decrease carbon emissions.

Methods:
To study the state of Electric Vehicle infrastructure in Newton, we distributed an online survey to measure EV user and non-user attitudes in Newton, constructed spatial data maps to identify high concentrations of multi-unit dwellings, and researched the best practices from a national sample to see how city policies could address user concerns.

Background:
Massachusetts set ambitious emissions reductions goals with the passing of the Global Warming Solutions Act of 2008. Transportation accounts for 39% of emissions in the state, so zero emissions vehicles like Electric Vehicles play a crucial role in reducing overall emissions levels and reaching these goals.

Results:
A total of 96 Newton residents who owned cars were surveyed. 57% of EV owners believed that public chargers would make charging easier. 92% of non-EV users said public chargers were an asset to the community.

Discussion:
Installing public chargers would help Newton encourage EV use by increasing visibility for EVs and decreasing concerns of range anxiety.
Additional recommended policy initiatives:
• Streamline the Level 2 permit process
• Update zoning ordinances to require EV-readiness
• Investing in EV municipal fleet
• Designate EV-only parking spaces
• Formation of a regulatory, community, and commercial interest stakeholder group, led by the Mayor of Newton

Recommendations:
Newton should prioritize charging in the following locations:
1. Newton Centre
2. Riverside T Station
3. The Mall at Chestnut Hill Mall
4. Near high concentrations of multi-unit dwellings in the villages of Newtonville, West Newton, and Newton Corner

Acknowledgments: We would like to thank Dr. Tara Pisani-Gareau and our mentor, Alderman Emily Norton, for their help and guidance throughout our project.