

Electric Vehicle Planning Study

Transportation Advisory Board
January 19, 2022



Overview

- Metropolitan Council Electric Vehicle Planning Study
- Draft strategies
- Key takeaways
- Q&A

Study Goals

- Identify strategies to accelerate EV adoption in the Twin Cities as a way to reduce greenhouse gas emissions and improve public health
- Guide future investments, policies, and other work to accelerate EV adoption for the Met Council and partner agencies
- Inform the 2040 Transportation Policy Plan and other investment and policy proposals
- Deliver final products by May 2022



Focus on Equity

- Harms

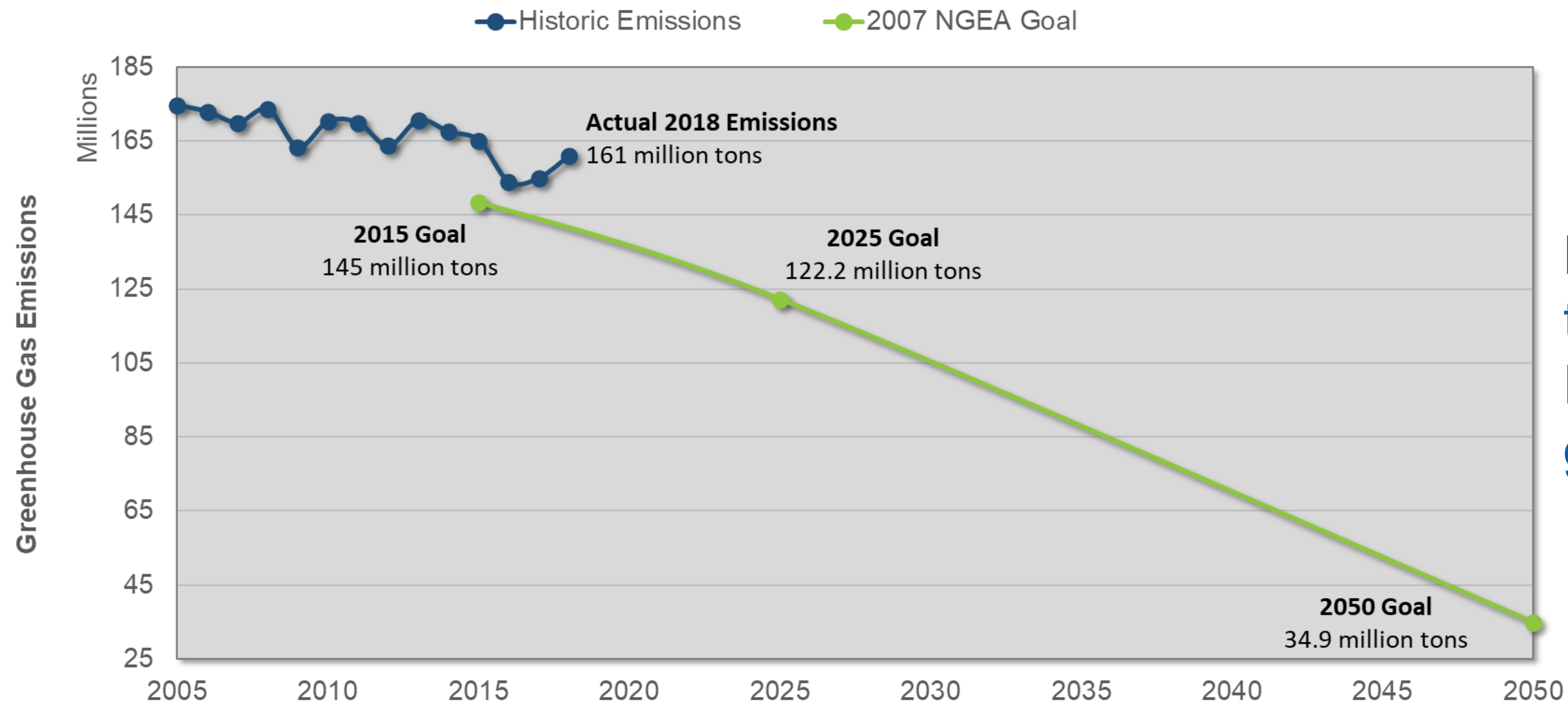
- Highway pollution impacts health of those living nearby
 - Most burdened groups include low-income and Black, Indigenous, and people of color communities
- Low-income and Black, Indigenous, and people of color have few resources to respond to climate change

- Opportunities

- EVs offer zero tailpipe emissions, leading to cleaner air for communities
- EVs reduce greenhouse gas emissions, reducing harm for those most vulnerable to its impacts
- EVs have lower fuel and operating costs for drivers
 - Income-based incentives can further reduce costs for vulnerable groups

***Communities of concern must be engaged prior to implementing strategies**

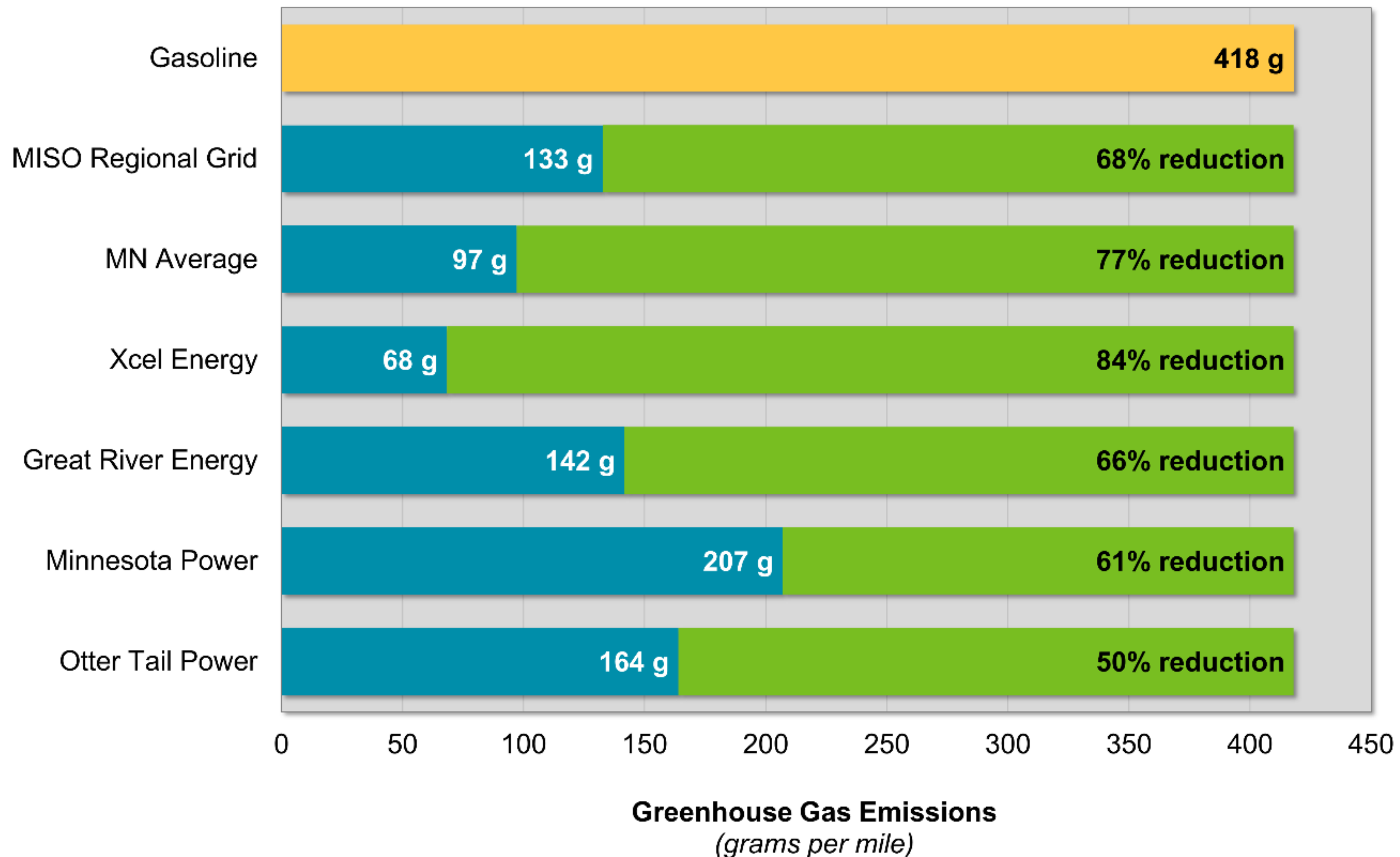
Historic greenhouse gas emissions and reductions necessary to meet 2007 Next Generation Energy Act (NGEA) goals



Minnesota not on track to meet Next Generation Energy Act greenhouse gas emission goals

Source: "Greenhouse gas emissions data," Minnesota Pollution Control Agency (website), accessed December 6, 2021, <https://www.pca.state.mn.us/air/greenhouse-gas-emissions-data>.

EV greenhouse gas reductions by electricity source



Electric vehicles offer significant greenhouse gas emission reductions compared to gasoline vehicles

As utilities increase the amount of renewable energy on the grid, these reductions will decrease even more

- 100% renewable grid means 95% reduction

Source: Calculated by the Great Plains Institute using the GREET model, Argonne National Laboratory, October 9, 2020, <https://greet.es.anl.gov/>. Assumes most recent reported grid mix for each utility or electric service territory region and that gasoline represents Minnesota average gasoline.

Planned Outcomes

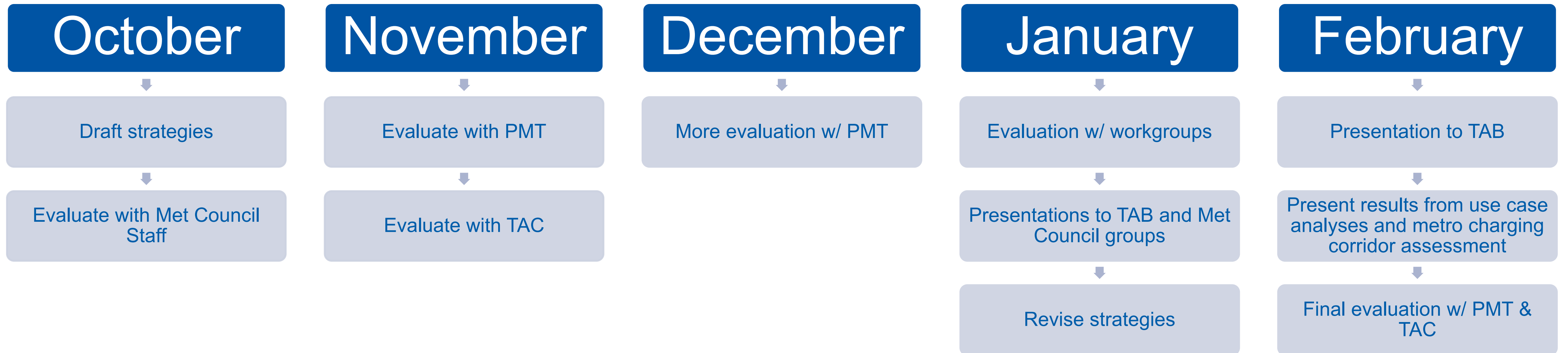
- EV white paper
 - EV landscape
 - Data analysis on travel patterns, vehicles, streetlight data, public awareness
 - Fleet analysis
- EV use case identification and evaluation
- EV charging needs assessment for Twin Cities
- Identification and recommendation of strategies to help Twin Cities scale EV adoption and improve public health, including an equity analysis
- Summary report and presentation



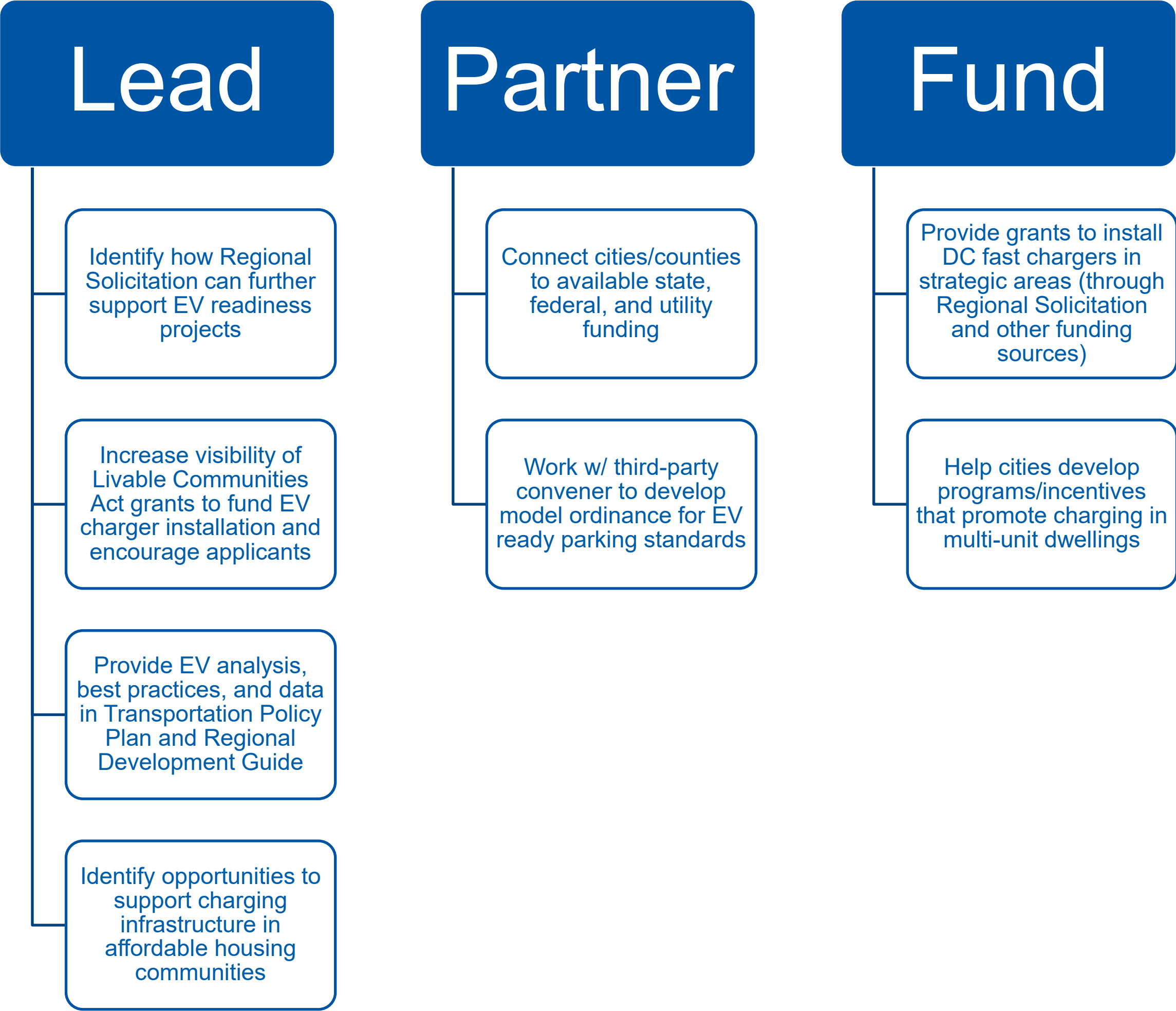
Draft Strategies



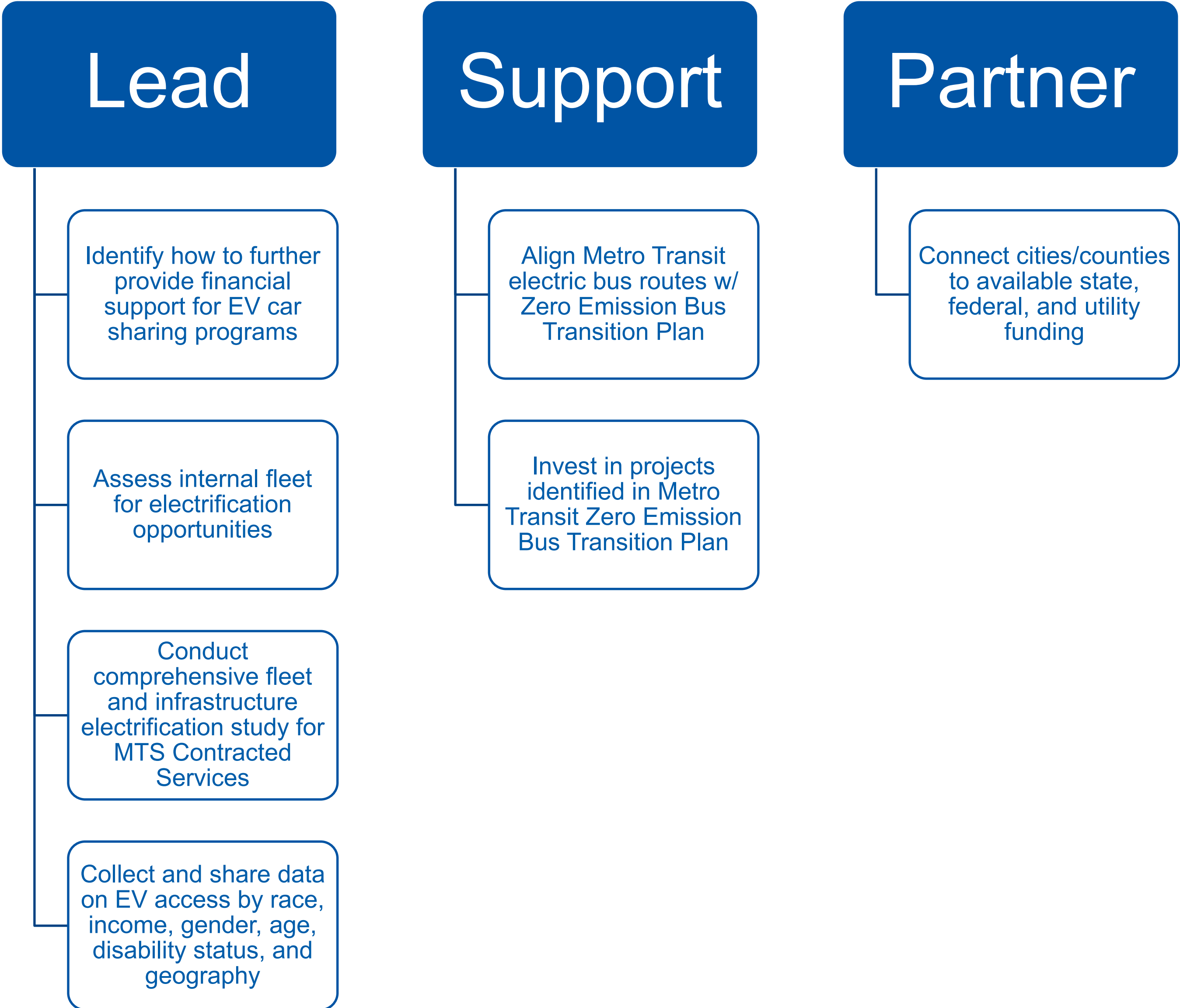
Process & Timeline



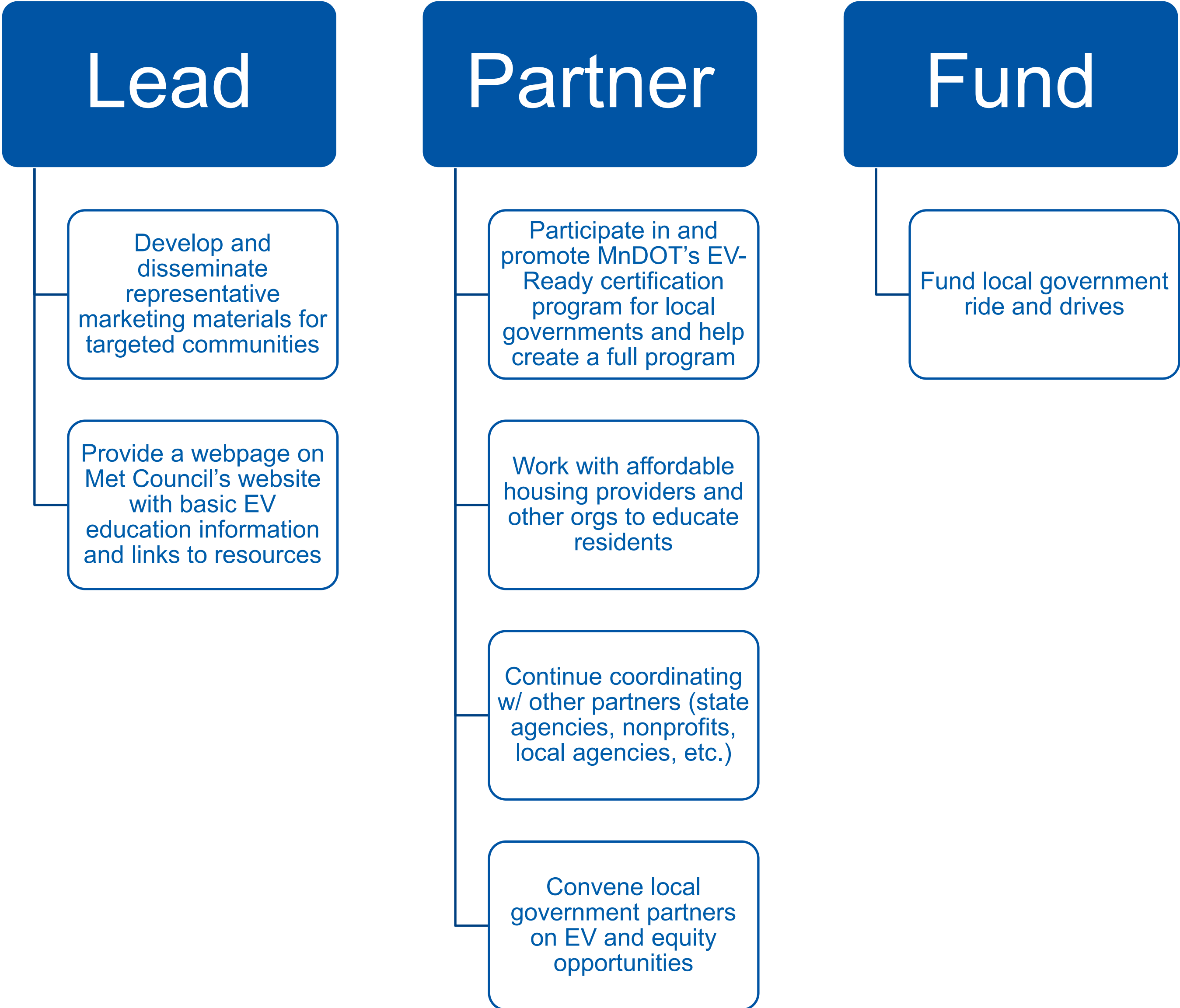
Strategies to support additional charging infrastructure



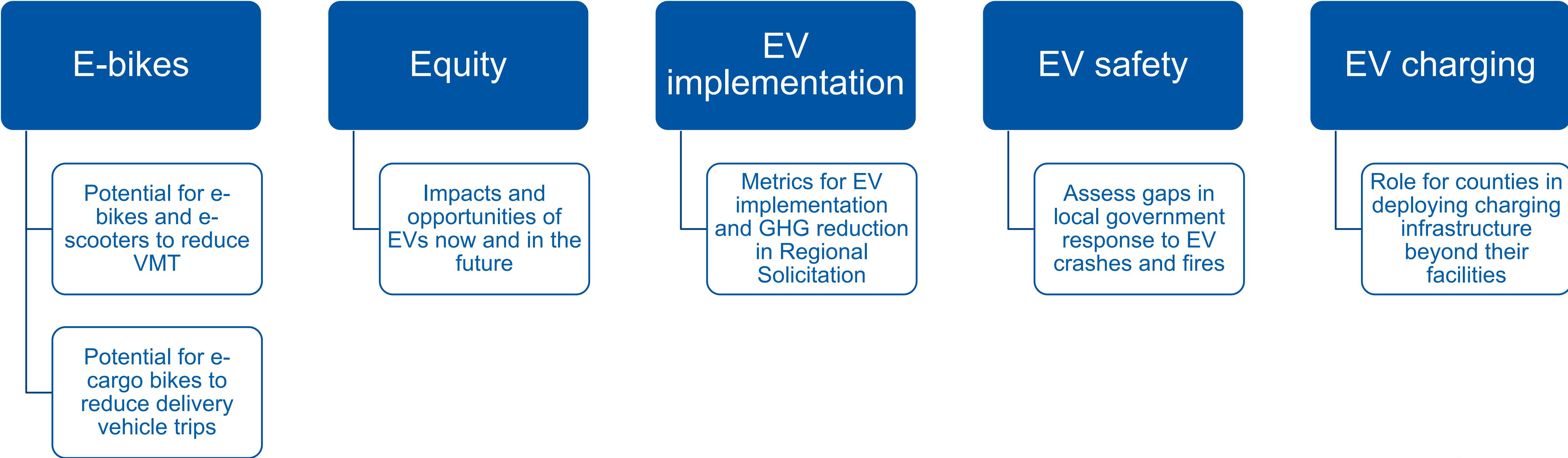
Strategies to increase EV availability



Strategies on Marketing, Education, and Outreach



Strategies where further study is required



Key Takeaways

- EVs can help significantly reduce greenhouse gas emissions
- Transportation electrification operates alongside other mechanisms to reduce greenhouse gas emissions (e.g., VMT reduction, increased renewable energy, more biofuels, etc.)
- EVs provide ample opportunities to reduce inequities, but vulnerable groups must be part of the decision-making process
- Greater policy intervention, funding, resource sharing, and education is critically needed to scale electric vehicle adoption
 - The Metropolitan Council has a key role to play in this



Questions?

