Electric Vehicle Planning Study
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

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**

**EV greenhouse gas reductions by electricity source**

<table>
<thead>
<tr>
<th>Source</th>
<th>Greenhouse Gas Emissions (grams per mile)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline</td>
<td>418</td>
</tr>
<tr>
<td>MISO Regional Grid</td>
<td>133, 68% reduction</td>
</tr>
<tr>
<td>MN Average</td>
<td>97, 77% reduction</td>
</tr>
<tr>
<td>Xcel Energy</td>
<td>68, 84% reduction</td>
</tr>
<tr>
<td>Great River Energy</td>
<td>142, 66% reduction</td>
</tr>
<tr>
<td>Minnesota Power</td>
<td>207, 61% reduction</td>
</tr>
<tr>
<td>Otter Tail Power</td>
<td>164, 50% reduction</td>
</tr>
</tbody>
</table>

Source: Calculated by the Great Plains Institute using the GREET model, Argonne National Laboratory, October 9, 2020, [https://greet.es.anl.gov/](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

<table>
<thead>
<tr>
<th>October</th>
<th>November</th>
<th>December</th>
<th>January</th>
<th>February</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft strategies</td>
<td>Evaluate with PMT</td>
<td>More evaluation w/ PMT</td>
<td>Evaluation w/ workgroups</td>
<td>Presentation to TAB</td>
</tr>
<tr>
<td>Evaluate with Met Council Staff</td>
<td>Evaluate with TAC</td>
<td></td>
<td>Presentations to TAB and Met Council groups</td>
<td>Present results from use case analyses and metro charging corridor assessment</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Revise strategies</td>
<td>Final evaluation w/ PMT &amp; TAC</td>
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</tbody>
</table>
Strategies to support additional charging infrastructure

**Lead**
- Identify how Regional Solicitation can further support EV readiness projects
- Increase visibility of Livable Communities Act grants to fund EV charger installation and encourage applicants
- Provide EV analysis, best practices, and data in Transportation Policy Plan and Regional Development Guide
- Identify opportunities to support charging infrastructure in affordable housing communities

**Partner**
- Connect cities/counties to available state, federal, and utility funding
- Work w/ third-party convener to develop model ordinance for EV ready parking standards

**Fund**
- Provide grants to install DC fast chargers in strategic areas (through Regional Solicitation and other funding sources)
- Help cities develop programs/incentives that promote charging in multi-unit dwellings
Strategies to increase EV availability

**Lead**
- Identify how to further provide financial support for EV car sharing programs
- Assess internal fleet for electrification opportunities
- Conduct comprehensive fleet and infrastructure electrification study for MTS Contracted Services
- Collect and share data on EV access by race, income, gender, age, disability status, and geography

**Support**
- Align Metro Transit electric bus routes with Zero Emission Bus Transition Plan
- Invest in projects identified in Metro Transit Zero Emission Bus Transition Plan

**Partner**
- Connect cities/counties to available state, federal, and utility funding
Strategies on Marketing, Education, and Outreach

**Lead**
- Develop and disseminate representative marketing materials for targeted communities
- Provide a webpage on Met Council's website with basic EV education information and links to resources

**Partner**
- Participate in and promote MnDOT's EV-Ready certification program for local governments and help create a full program
- Work with affordable housing providers and other orgs to educate residents
- Continue coordinating w/ other partners (state agencies, nonprofits, local agencies, etc.)
- Convene local government partners on EV and equity opportunities

**Fund**
- Fund local government ride and drives
Strategies where further study is required

**E-bikes**
- Potential for e-bikes and e-scooters to reduce VMT
- Potential for e-cargo bikes to reduce delivery vehicle trips

**Equity**
- Impacts and opportunities of EVs now and in the future

**EV implementation**
- Metrics for EV implementation and GHG reduction in Regional Solicitation

**EV safety**
- Assess gaps in local government response to EV crashes and fires

**EV charging**
- Role for counties in deploying charging infrastructure beyond their facilities
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?