Cities Charging Ahead! Panel

Michael Keim, Fleet Manager, City of Bloomington
Jen McLoughlin, Sustainability Specialist, City of Woodbury
Tara Brown, Sustainability Specialist, City of Edina
Electric Vehicles
From planning to rollout
Why?
Evaluation

- What is the actual range
- How does it hold up to winter
- Quality of ride
- Safety of ride
Evaluation

• Identify candidates
• Verify operational fit
• Engage stakeholders
Preparation

- Identify funding
- Choose location
- Choose charging options
- Choose vehicles
Rollout

- Level 2 non-metered
- Conduit in place for expansion
- Vehicle selection
Rollout
Re-evaluate

- What worked
- What didn’t
- How do the results compare to estimates
- What adjustments should be made going forward
Next Steps

Rotational Vehicle Charging

*Without* the EVMC

*With* the EVMC
Looking Longer Term
City of Woodbury
Electric Vehicle Purchasing
Public Safety

Mitsubishi Outlander

• Used as an unmarked vehicle/undercover
• Expected efficiency:
  ~74 MPG while electric
  25 when using engine
  22 miles of all-electric range
• Actual efficiency:
• 52 mpg (compared to 15 mpg of previous vehicle)
Utilities Department

- Mitsubishi Outlander
- Two Chevy Volts

<table>
<thead>
<tr>
<th></th>
<th>Volt 1</th>
<th>Volt 2</th>
<th>Cobalt</th>
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</thead>
<tbody>
<tr>
<td>Miles driven</td>
<td>7,579</td>
<td>2,681</td>
<td>5,557</td>
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<tr>
<td>Gallons used</td>
<td>94.1</td>
<td>45.9</td>
<td>327.9</td>
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<tr>
<td>MPG</td>
<td>80.5</td>
<td>58.4</td>
<td>16.9</td>
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<tr>
<td>Fuel cost</td>
<td>$202.9</td>
<td>$94.67</td>
<td>$729.44</td>
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<tr>
<td>Cost per mile</td>
<td>$0.026</td>
<td>$0.035</td>
<td>$0.13</td>
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Parks Maintenance

Seven electric vehicles
• Toro Workman
• John Deer Gator
• Cushman
# FleetCarma Study

<table>
<thead>
<tr>
<th>Asset ID</th>
<th>Vehicle Type</th>
<th>Make &amp; Model</th>
<th>Recommended EV</th>
<th>TCO Savings</th>
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<tbody>
<tr>
<td>1870</td>
<td>SUV</td>
<td>2018 Ford Explorer</td>
<td>Mitsubishi Outlander PHEV</td>
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<td>1520</td>
<td>Sedan</td>
<td>2015 Ford Fusion Hybrid</td>
<td>Nissan Leaf BEV</td>
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<td>746</td>
<td>SUV</td>
<td>2007 Chevrolet Suburban</td>
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<td>832</td>
<td>SUV</td>
<td>2008 Ford Explorer</td>
<td>Mitsubishi Outlander PHEV</td>
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• Ford hybrid Interceptor has been ordered
• Hoping to add one each year depending on feedback and new technology
• Future purchases for other departments depends on state contract and availability
Challenges

• Cost and installation of charging infrastructure
• Limited options for vehicles larger than the Outlander (trucks, towing, SUVs)
• Lack of pursuit rated vehicles
• Employee education – plug it in
Questions?

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City of Woodbury
Sustainability Specialist
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Future-Proofing of New Development

Tara Brown, City of Edina
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