

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



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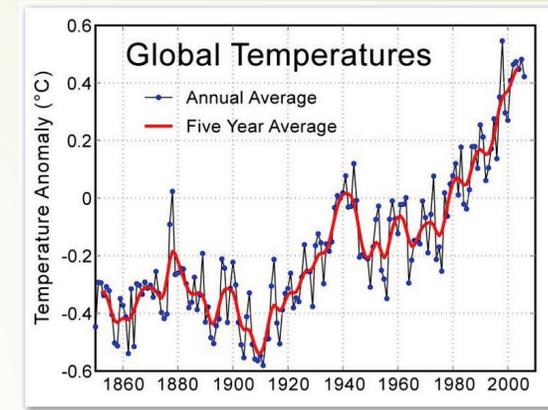




Electric Vehicles

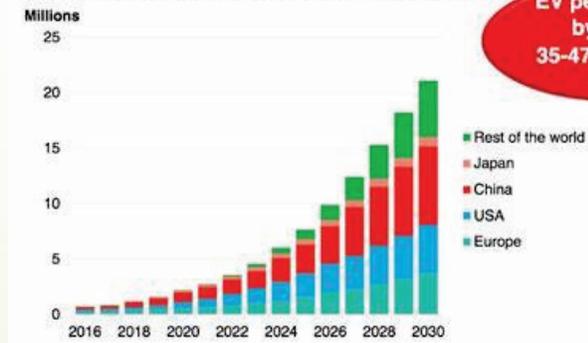
From planning to rollout

Why?



The Rise of Electric Cars

BNEF sees more than 20 million sales by 2030



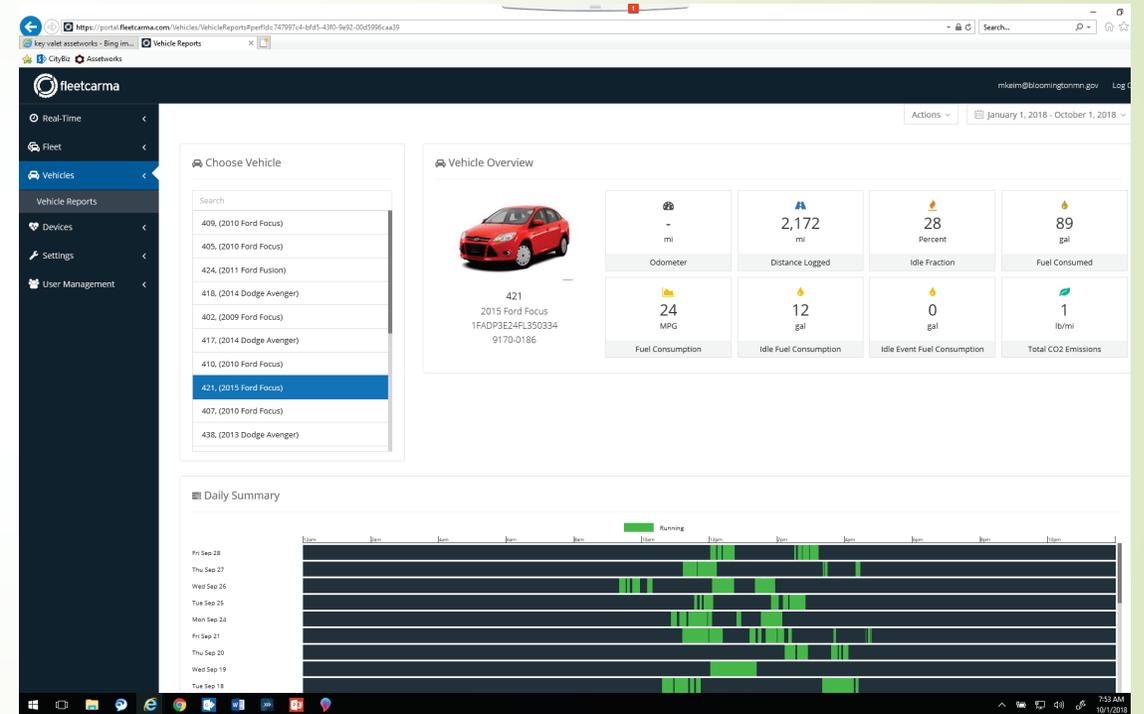
Evaluation

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



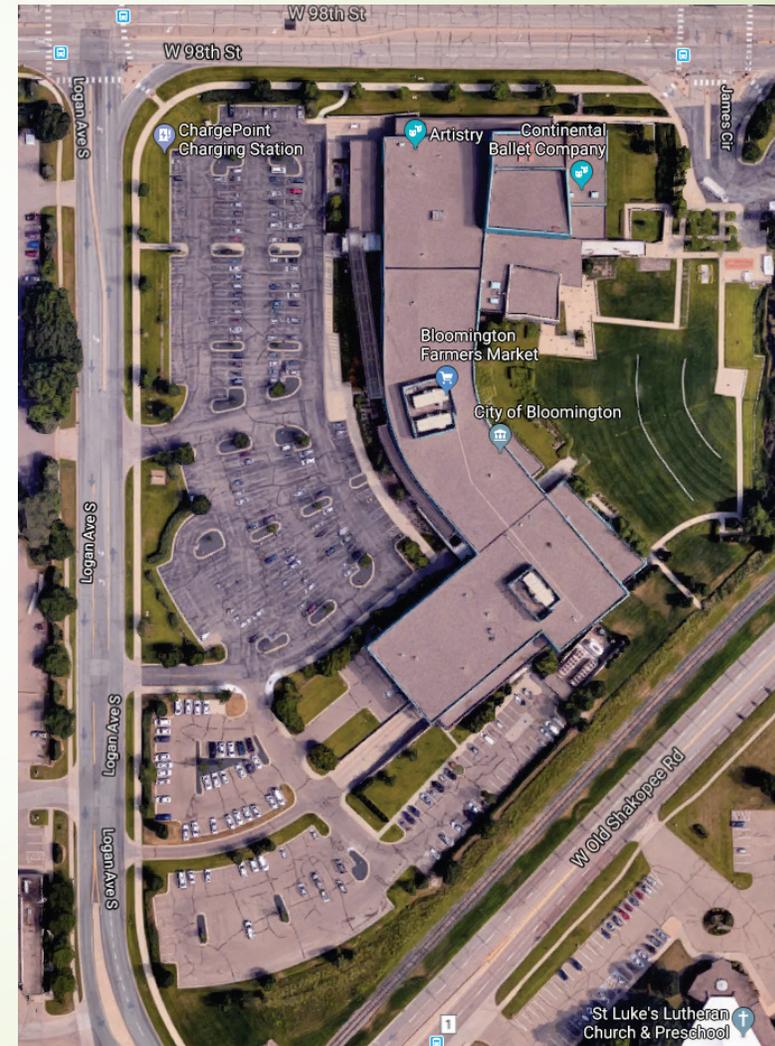
Evaluation

- 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

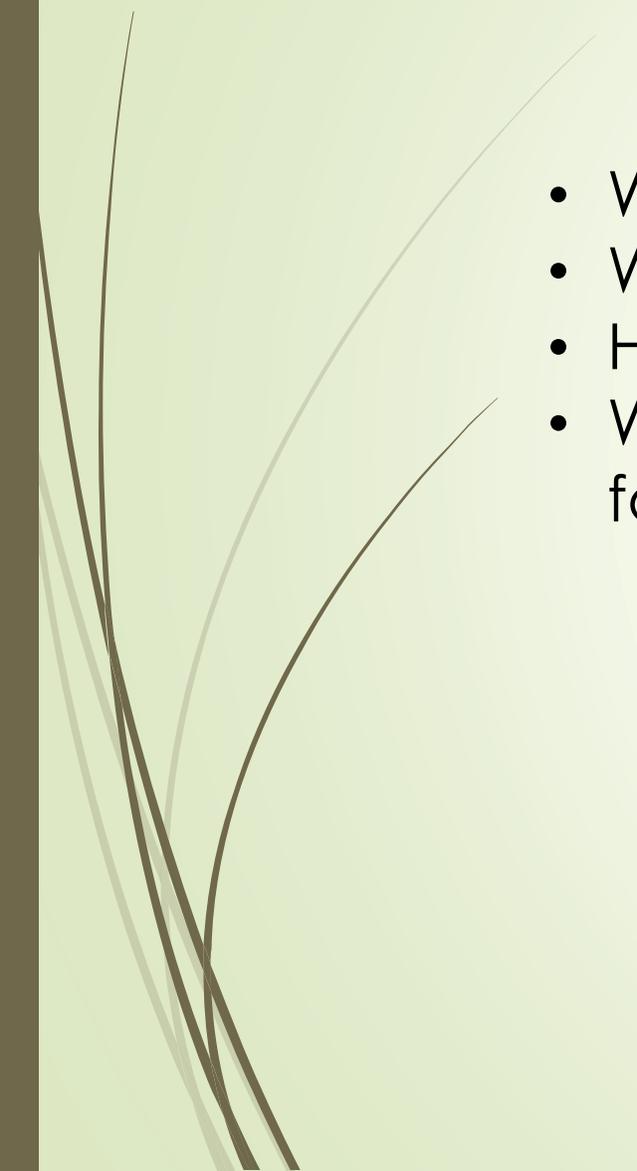


Rollout





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**



	Volt 1	Volt 2	Cobalt
Miles driven	7,579	2,681	5,557
Gallons used	94.1	45.9	327.9
MPG	80.5	58.4	16.9
Fuel cost	\$202.9	\$94.67	\$729.44
Cost per mile	\$0.026	\$0.035	\$0.13

Parks Maintenance

Seven electric vehicles

- **Toro Workman**
- **John Deer Gator**
- **Cushman**



FleetCarma Study

Asset ID	Vehicle Type	Make & Model	Recommended EV	TCO Savings
1870	SUV	2018 Ford Explorer	Mitsubishi Outlander PHEV	\$37,426.39
1771	SUV	2017 Ford Explorer	Mitsubishi Outlander PHEV	\$23,307.29
1520	Sedan	2015 Ford Fusion Hybrid	Nissan Leaf BEV	\$9,108.47
746	SUV	2007 Chevrolet Suburban	Mitsubishi Outlander PHEV	\$3,853.87
832	SUV	2008 Ford Explorer	Mitsubishi Outlander PHEV	\$399.38

- **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**

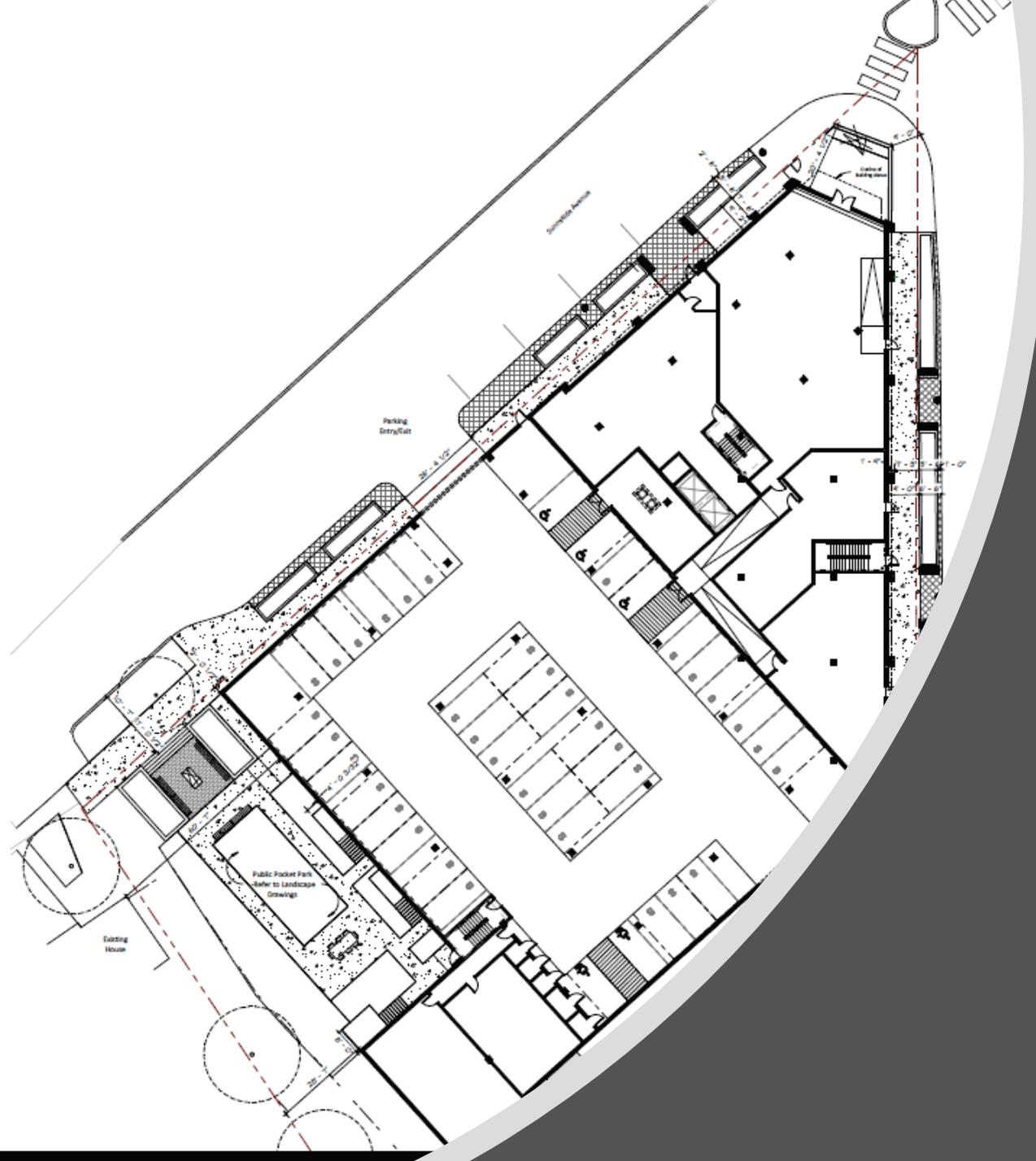
Questions?

Jen McLoughlin

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Future-Proofing of New Development

Tara Brown, City of Edina

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