



# Dakota County Energy Initiatives

**Mike Lexvold - Facilities Management Director**

**MCCFMA Quarterly Meeting**

April 16, 2026

- 2023 Building CIP Included \$1M for Energy Efficiency Initiatives
- Spend \$60,000 to Develop GHG Inventory and Energy Strategy for Future Funding Opportunities
- Phase 1 Energy Project
- Phase 2 Energy Project
- EV Charging Stations
- Questions and Discussion

- Federal Funding Ask in 2022, State Funding Asks In Subsequent Years
- Project Options for Phase 1 Presented in 2023
- Investment Grade Audit Award in June 2023
- Project Contract Signed in December 2023
- Work Occurred in 2024 to Early-2025

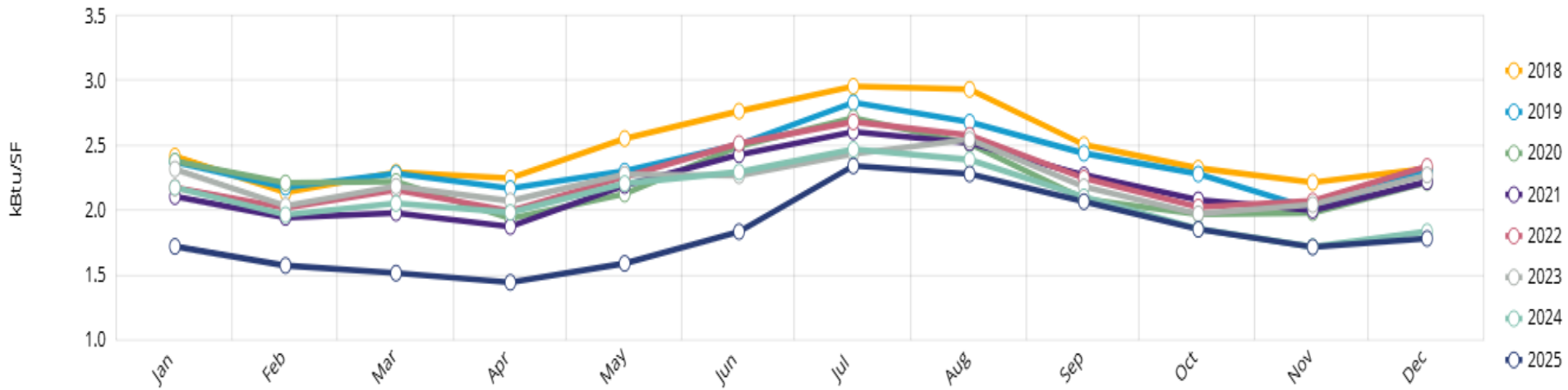
- Converted over 14,000 Lights to LED
- Installed ~1 MW of Solar at 4 Sites
- HVAC Retrocommissioning at Northern and Western Service Centers

	<b>Dollars</b>	<b>Status/Actual</b>
• Guaranteed Savings:	\$ 304,941	On Track
• Utility Rebates:	\$ 172,865	\$304,631
• Federal Funds:	\$1,144,222	\$983,679

# Phase One Impact



Buildings Monthly Year over Year Electric Usage  
Jan 2018 - Dec 2025



- Investment Grade Audit looked at:
  - Solar at Five Rooftop Locations
    - Farmington Library
    - Juvenile Service Center
    - Kaposia Library
    - Law Enforcement Center
    - Lebanon Hills Maintenance Facility
  - Water Conservation Improvements in 16 Buildings
  - Building Envelope Sealing in 19 Buildings
  - Minor Mechanical Upgrades in 3 Buildings

# Investment Grade Audit Outcomes



	<b>Phase 1 \$800k Contribution</b>	<b>Phase 2 - \$3M Project \$250k Contribution</b>	<b>County Accomplishments via Energy Projects</b>
<b>Project Size</b>	\$8.4 Million	\$3.0 Million	<b>Up to \$11.4 Million</b>
<b>Cost Savings</b>	\$338k/ yr	\$ 107k/ yr	<b>\$445k / yr</b>
<b>Avoided energy costs (25 yrs)</b>	\$17.1 Million	\$4.8 Million	<b>\$21.9 Million</b>
<b>Utility cost reduction</b>	25%	6% (10-12%+)*	<b>~31% (35-37%+)*</b>
<b>Solar system</b>	1.1 MW	~0.647 MW	<b>~1.747 MW of solar used on-site</b>
<b>On-Site solar to offset energy costs</b>	4 Solar Sites	5 Solar Sites	<b>9 Solar Sites where energy is used on-site</b>
<b>Near Net Zero Sites</b>	2 Near Net Zero Energy Sites	1 Near Net Zero Energy Site	<b>Drive County closer to Near Net Zero energy performance</b>
<b>IRA benefits</b>	~\$1 Million	~\$692,000	<b>~\$1.7M in Direct Pay - Largest solar benefit for a MN County</b>
<b>Awards</b>	MNSEIA, AMC, NACO	AMC (Energy), NACO, etc.	<b><u>MNSEIA</u>, AMC, NACO, etc.</b>

\* TBD based on 2025 requested utility data.

# Investment Grade Audit Outcomes



Facility Assessment	Mechanical	Building Envelope	RT Solar	Water
Administration Center	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Burnhaven Library	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kaposia Library	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lawshe Museum	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Empire East Maintenance Facility	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Empire West Maintenance Facility	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Farmington Library	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Heritage Library	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Inver Glen Library	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Judicial Center	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Juvenile Services Center	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Law Enforcement Center	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lebanon Hills Visitor Center	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Northern Service Center	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pleasant Hill Library	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schaars Bluff Gathering Center	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMART Center	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wescott Library	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Western Service Center	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
911 Center	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lebanon Hills Maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Extension Service Center	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Robert Trail Library	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

# Investment Grade Audit Outcomes



ENERGY CONSERVATION MEASURE	ANNUAL ELECTRICITY SAVINGS (KWH)	ANNUAL GAS SAVINGS (THERMS)	ANNUAL WATER SAVINGS (KGAL)
SOLAR PV	823,434	--	--
MECHANICAL UPGRADES	20,256	5,522	--
BUILDING ENVELOPE	50,250	17,982	--
WATER CONSERVATION	--	974	1,726
<b>TOTALS</b>	<b>893,940</b>	<b>24,478</b>	<b>1,726</b>

- Groundwater Plan Strategy 2A2C: Conduct water use/efficiency/conservation audits of all County Facilities
- County Board Resolution No. 22-068: That the Dakota County Board of Commissioners hereby affirms and formally adopts a strategy of investing in energy conservation measures when the payback on those investments is equal to or less than the life expectancy of the investment when County levy funds are the primary source of funding

# Solar Arrays

## FARMINGTON LIBRARY

92% Energy Use Offset

Solar Size - 131 (kW<sub>DC</sub>)



# Solar Arrays

## KAPOSIA LIBRARY

54% Energy Use Offset

Solar Size - 94 (kW<sub>DC</sub>)



# Solar Arrays

## LEBANON HILLS MAINTENANCE FACILITY

42% Energy Use Offset

Solar Size - 101 (kW<sub>DC</sub>)



# Solar Arrays

## JUVENILE SERVICES

28% Energy Use Offset

Solar Size - 114 (kW<sub>DC</sub>)



# Solar Arrays

## LAW ENFORCEMENT CENTER

17% Energy Use Offset

Solar Size - 207 (kW<sub>DC</sub>)



# Investment Grade Audit Outcomes



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<b>Awards</b>	MNSEIA, AMC, NACO	AMC (Energy), NACO, etc.	<b><u>MNSEIA</u>, AMC, NACO, etc.</b>

\* TBD based on 2025 requested utility data.

- 16 Countywide Buildings
- Current Total 11.8 million gallons of usage per year
- Reduce water use by 1.554 million gallons per year
- Saves \$16,250 in year one

- 19 Countywide Buildings
- Reduces Electricity by 45,000 kWh per year
- Reduces Natural Gas by 16,000 therms per year
- Saves \$17,500 in year one

# Project Cashflow

Energy Escalation Rate = 4.9%  
Interest Rate = 3.9%



## Summary of Economics and Cash Flow

Capital Contribution (\$)		Project Cost (\$)			Total Benefit (\$)		
<b>\$250,000</b>		<b>\$3,081,374</b>			<b>\$4,541,107</b>		
A	B	C	D	E	F	G	H
Year	Project Cost (\$)	Energy + O&M Savings	Incentives and Capital Contribution	Lease Payment	End Balance	Annual Cashflow	Total Cumulative Cash Flow
0	(\$3,081,374)	\$0	\$0	\$3,081,374	\$0	\$0	\$0
1		\$107,686	\$267,486	(\$375,171)	(\$2,826,377)	\$1	\$1
2		\$112,554	\$691,888	(\$804,441)	(\$2,132,165)	\$1	\$2
3		\$117,643	\$0	(\$117,642)	(\$2,097,677)	\$1	\$3
4		\$122,964	\$0	(\$122,963)	(\$2,056,523)	\$1	\$4
5		\$128,527	\$0	(\$128,526)	(\$2,008,201)	\$1	\$5
6		\$134,344	\$0	(\$134,343)	(\$1,952,178)	\$1	\$6
7		\$140,426	\$0	(\$140,425)	(\$1,887,889)	\$1	\$7
8		\$146,784	\$0	(\$146,783)	(\$1,814,733)	\$1	\$8
9		\$153,433	\$0	(\$153,432)	(\$1,732,075)	\$1	\$9
10		\$160,385	\$0	(\$160,384)	(\$1,639,242)	\$1	\$10
11		\$167,654	\$0	(\$167,653)	(\$1,535,520)	\$1	\$11
12		\$175,254	\$0	(\$175,253)	(\$1,420,153)	\$1	\$12
13		\$183,201	\$0	(\$183,200)	(\$1,292,339)	\$1	\$13
14		\$191,511	\$0	(\$191,510)	(\$1,151,231)	\$1	\$14
15		\$200,200	\$0	(\$200,199)	(\$995,930)	\$1	\$15
16		\$209,285	\$0	(\$209,284)	(\$825,487)	\$1	\$16
17		\$218,786	\$0	(\$218,785)	(\$638,896)	\$1	\$17
18		\$228,720	\$0	(\$228,719)	(\$435,094)	\$1	\$18
19		\$239,109	\$0	(\$239,108)	(\$212,955)	\$1	\$19
20		\$249,972	\$0	(\$221,261)	\$0	\$28,711	\$28,730
21		\$261,331	\$0	\$0	\$0	\$261,331	\$290,061
22		\$273,210	\$0	\$0	\$0	\$273,210	\$563,272
23		\$285,632	\$0	\$0	\$0	\$285,632	\$848,904
24		\$298,622	\$0	\$0	\$0	\$298,622	\$1,147,526
25		\$312,207	\$0	\$0	\$0	\$312,207	\$1,459,733
<b>Totals</b>	<b>(\$3,081,374)</b>	<b>\$4,819,439</b>	<b>\$959,374</b>	<b>(\$4,319,080)</b>	<b>\$0</b>	<b>\$1,459,733</b>	

**Financial Disclaimer:** McKinstry is not engaged in providing legal, tax, or financial advice. The information provided herein is intended only to assist you in your decision-making and is broad in scope. Accordingly, before making any final decisions you should consider obtaining additional information and advice from your accountant or other financial advisers who are fully aware of your specific circumstances.

# Energy Savings Summary



## Energy Savings Summary

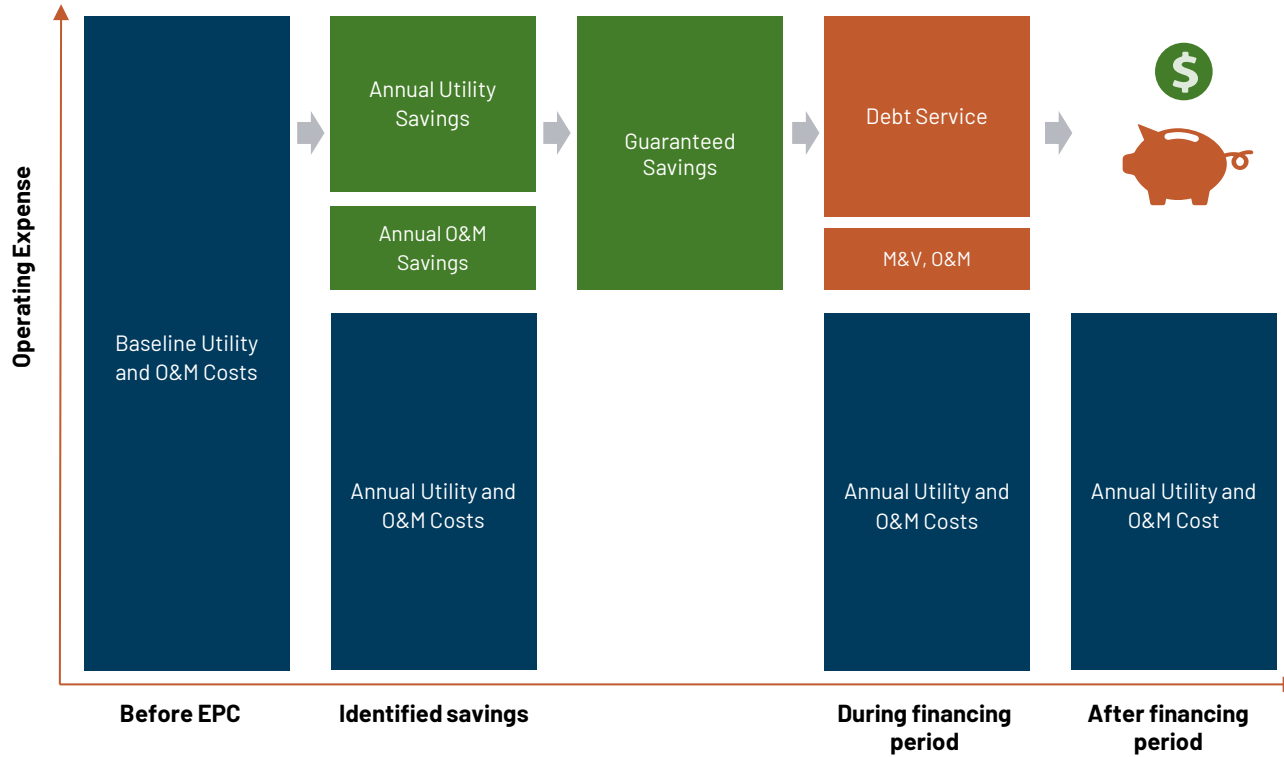
Facility Improvement Measures	Facility	Net Effective Guarantee Multiplier *	Electricity				Water		Total **		
			kW	kW (\$)	Guaranteed kWh Savings	kWh (\$)	Guaranteed Therm Savings	Therm (\$)	kGal	kGal (\$)	(\$)
10.02 Juvenile Services Rooftop Solar PV	Juvenile Services Center	91.3%	287.6	\$3,301	133,419	\$10,046	0	\$0	0	\$0	\$13,347
10.01 Farmington Library Rooftop Solar PV	Farmington Library	92.5%	127.7	\$1,928	154,807	\$9,651	0	\$0	0	\$0	\$11,579
10.04 Law Enforcement Center Rooftop Solar PV	Law Center	92.4%	287.3	\$3,744	240,340	\$17,612	0	\$0	0	\$0	\$21,356
10.03 Kaposia Library Rooftop Solar PV	Kaposia Library	92.3%	110.7	\$1,762	109,438	\$7,857	0	\$0	0	\$0	\$9,619
10.05 Lebanon Hills Maintenance Facility Rooftop Solar PV	Lebanon Hills Maintenance Facility	93.8%	63.8	\$750	122,984	\$8,622	0	\$0	0	\$0	\$9,372
13.0 County Wide Building Envelope	See note below****	90.0%	0.0	\$0	45,224	4,204	16,184	13,381	0	\$0	\$17,585
18.0 County Wide Water Conservation	See note below*****	90.0%	0.0	\$0	0	\$0	876	\$738	1,554	\$15,523	\$16,260
04.01 Administration Center AHU #4 HVAC System Controls	Administration Center	90.0%	0.0	\$0	9,916	\$793	581	\$416	0	\$0	\$1,209
04.03 Northern Service Center 2nd Floor Occupancy HVAC System Controls	Northern Service Center	90.0%	0.0	\$0	6,519	\$521	85	\$70	0	\$0	\$591
25.01 Western Service Center Snow Melt System	Western Service Center	90.0%	0.0	\$0	1,769	\$142	4,305	\$3,126	0	\$0	\$3,268
<b>Totals ***</b>			<b>877.0</b>	<b>\$11,483</b>	<b>824,416</b>	<b>\$59,449</b>	<b>22,030</b>	<b>\$17,731</b>	<b>1,554</b>	<b>\$15,523</b>	<b>\$104,186</b>

**Total Annual Energy Savings = \$104,186 / Year**

- Rooftop Solar: May – December 2026\*
- Building Envelope: May – December 2026
- Water Conservation: May – November 2026
- HVAC Work: June – September 2026

\* Dependent upon Xcel Energy witness testing completion.

# Energy Efficiency Project – A Budget Neutral Project



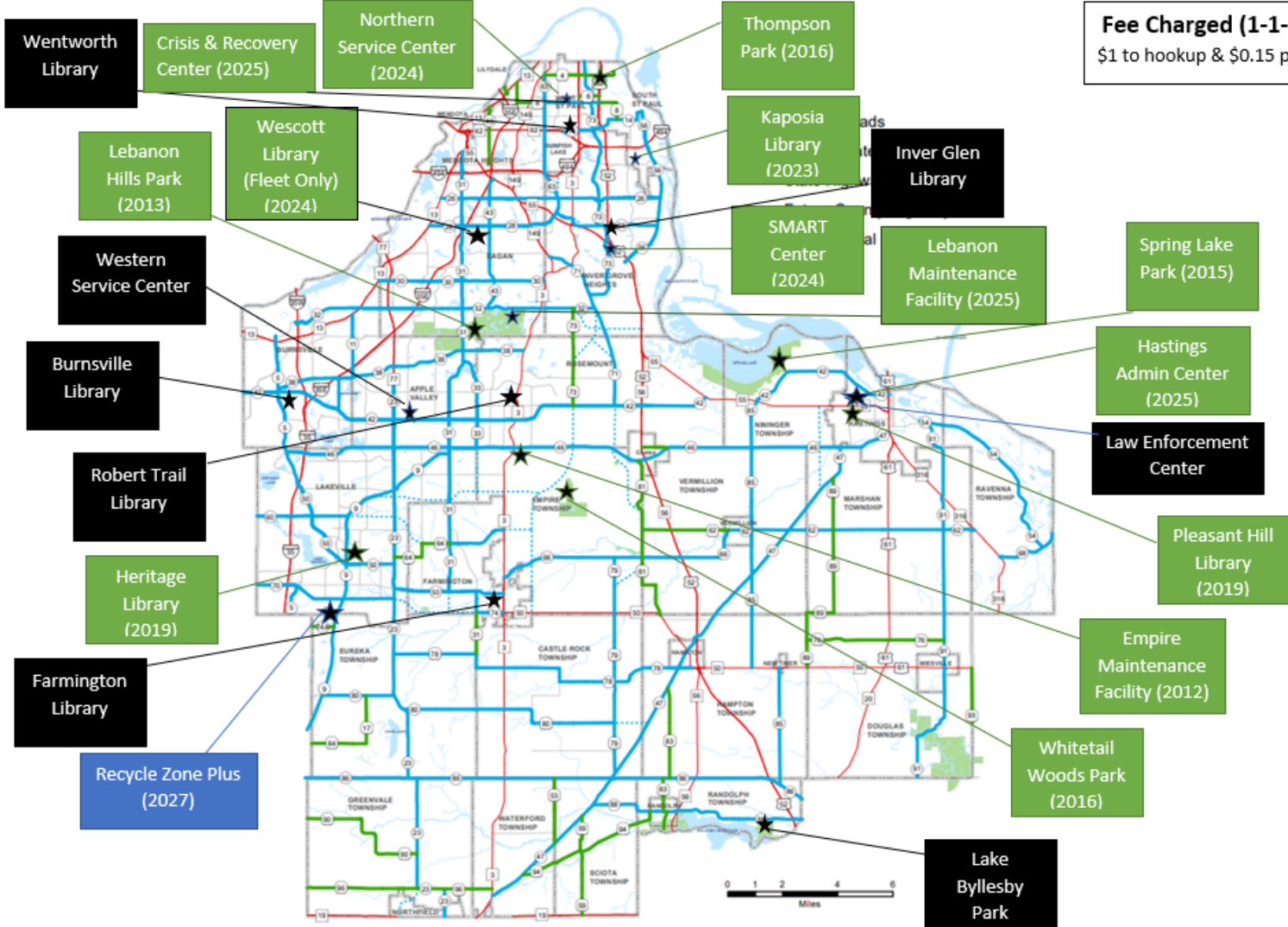
# EV Charging

## Dakota County Electric Vehicle Charging Station Map (August 2025)

\*54 ports – 41 public facing (both public & Fleet) – 13 Fleet only

Current  
(14)
Planned  
(1)
Future  
(8)

**Fee Charged (1-1-2023)**  
\$1 to hookup & \$0.15 per kWh



# Questions and Discussion