Richfield City Council Agenda
January 27, 2026 -- 6:00 PM

Richfield Municipal Center
Council Chambers
6700 Portland Avenue South

1. **Call to Order**
2. **Item Discussion**
   a. **Review and discuss the Fleet Electrification Analysis conducted by the fleet electrification consultant Sawatch Labs.**
3. **Adjournment**

Auxiliary aids for individuals with disabilities are available upon request. Requests must be made at least 96 hours in advance to the City Clerk at 612-861-9739.

Includes Materials - Materials relating to these agenda items can be found in the Council Chambers Agenda Packet book located by the entrance. The complete Council Agenda Packet is available electronically on the City of Richfield website.

City Council Meeting 1/27/2026
Agenda Section:
Item Discussion

Agenda Item: 2.a.

Report Prepared By:
Chris Link, Deputy Public Works Director

Department Director:
Kristin Asher, Public Works Director

Item for Consideration:
Review and discuss the Fleet Electrification Analysis conducted by the fleet electrification consultant Sawatch Labs.

EXECUTIVE SUMMARY

This study was identified during development of the Strategic Plan and was initiated in pursuit of the *Sustainable Infrastructure* strategic priority. The analysis focused on vehicles within the Richfield fleet that have viable electric vehicle (EV) alternatives. 68 vehicles were studied, of which 24 were recommended as good candidates for EV replacement. An analysis of the City's infrastructure and charging capabilities was also conducted and will be discussed.

Staff will present:

- Findings of the study;
- Staff recommendations; and
- Next steps.

RECOMMENDED ACTION

Review and discuss the Fleet Electrification Analysis conducted by the fleet electrification consultant Sawatch Labs. Staff is seeking direction on this topic which will inform upcoming and future budget discussions related to fleet purchasing, facilities infrastructure, and interdepartmental fleet charges.

HISTORICAL CONTEXT

EQUITABLE OR STRATEGIC CONSIDERATIONS OR IMPACTS

This study was identified during development of the Strategic Plan and was initiated in pursuit of the *Sustainable Infrastructure* strategic priority.

POLICIES (RESOLUTIONS, ORDINANCES, REGULATIONS, STATUTES, ETC.)

CRITICAL TIMING ISSUES

- EV fleet purchasing and charging capacity infrastructure upgrades will span multiple budget cycles.
- Preparation work for the 2026 Revised/2027 Proposed budget will begin in Spring 2026 and direction is needed in order to consider implementation in the next budget cycle.

FINANCIAL IMPACT

- The transition to EVs will require new fleet purchases which will be an additional charge to the Central Garage budget.
- Charging capabilities and upgrades will need to be in place at various City facilities before EVs can be purchased and deployed.

LEGAL CONSIDERATIONS

ALTERNATIVE RECOMMENDATION(S)

ATTACHMENTS

1. 1-22-26 Work Session PPT

EV Fleet Analysis Results

Chris Link, Deputy Public Works Director
Rachel Lindholm, Sustainability Coordinator

Background

- Strategic Plan priority
- Climate Action Plan action
- Other cities' progress
- Environmental and potential financial benefits

The Study

- Contracted with Sawatch Labs to conduct a study from mid-Oct 2024 – Jan 2025
  - 68 vehicles studied

Operational Input: Telematics Data	**Insurance:** $1,029 per year
Gas Price: $2.48 per gallon	**ICE Maintenance Cost:** $915 per 15,000 miles
GHG Emissions from Electricity Generation: 386 g/kWh	**EV Maintenance Cost:** $465 per 15,000 miles
Social Cost of Carbon: $0.00 per ton	**Vehicle Lifecycle:** 8 years

Suitability Assessment
1717 - 2017 Ford Explorer

SAWATCH LABS
a WEX™ company

Recommended Replacement:
2025 Ford Mustang Mach-E

Overall	Economics	Energy	Parking	Confidence
100	100+	100	100	100

Client: City of Richfield
Period: 10/14/24 - 01/22/25
Days Tracked: 101 Days
Trips Tracked: 232 Trips
Last Trip: 01/22/25
VIN: 1FM5K8AR7HGC63371
Total Miles: 1,687
Temperature Range: -15°F - 84°F

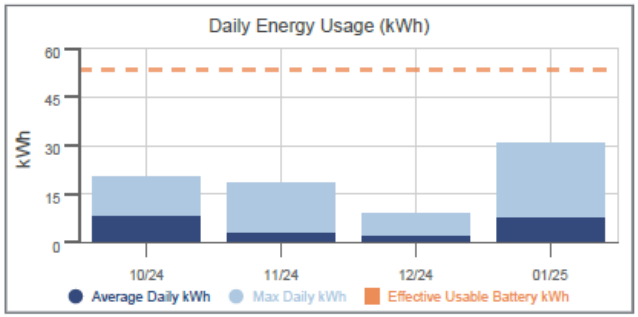
Estimated Operational Metrics in a 2025 Ford Mustang Mach-E
This table shows the estimated usage metrics if the trips driven by your 2017 Ford Explorer had been driven in a 2025 Ford Mustang Mach-E.

Annual Vehicle Miles Traveled	GHG Reduction (%)	GHG Reduction (lbs)	Operational Cost Difference[1]	TCO (Lifetime)[2]	TCO (%)	Average Daily Idling Hours
6,100	83%	52,190	▼ -$9,000-12,000	▼ -$9,000-12,000	▼ -18%	0.2

Charge Time & Cost - Average on Days Used
The charging needs of this 2017 Ford Explorer would require an average of 8.4 kWh per day, on days used. Based on the observed driving, midday charging would not be needed.

Average Daily Energy Use (kWh)	Max Daily Energy Use (kWh)	Effective Usable Battery Capacity (kWh)[3]
8.4	30.9	53.6

Level 1 Hrs	Level 2 Hrs	DCFC Hrs	Daily Cost
6.4	1.3	0.2	$0.59



Top Parking & Projected Charging Locations
This table shows the 2 most frequent locations where your vehicle parked for an extended period of time. These *extended dwell periods* are any parking event that exceeds 9 hours[4]. We observed **53** extended dwell periods for this vehicle.

Location	Dwell Time (Avg Hrs)	Frequency
1901 66th St[5]	16	96%
Cedar Ave, Minneapolis, Minnesota, 55423	16	4%

Suitability Assessment
1717 - 2017 Ford Explorer

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a WEX company

Universal Inputs

Inputs in this table apply to both the ICE candidate and the EV candidate for replacement. If your organization provided vehicle-specific inputs, the values listed below may vary from fleet-level inputs.

Vehicle Lifecycle	Vehicle Ownership	Insurance Cost	GHG Emissions from Electricity Generation	Social Cost of Carbon
8 years	Owned	$1,029 per year	386 g/kWh	$0 per ton

Candidate Inputs

These inputs are specific to the anticipated EV and ICE candidates that could replace the current vehicle.

Selected Replacement	Drivetrain	Purchase Price	Electricity / Fuel Price	Maintenance Cost per 15,000 mi	Usable Battery Capacity (kWh)	Charge / Discharge To (%)
2025 Ford Mustang Mach-E	BEV	$39,990	$0.07 per kWh	$465	67.0	90 / 10
2025 Dodge Durango	ICE	$41,995	$2.48 per gallon	$915.00	-	-

Results

Light Duty

Client: City of Richfield

Operational Input: Telematics Data

Vehicles: 62

Period of observation: 10/14/24 - 01/23/25

Temperature range: -22°F - 84°F

Total Miles: 119,668

Recommended EVs: 24

TCO Savings: $140,000

GHG Emissions Reduction: 787 Tons

Medium and Heavy Duty

Client: City of Richfield

Operational Input: Telematics Data

Vehicles: 6

Period of observation: 10/14/24 - 01/23/25

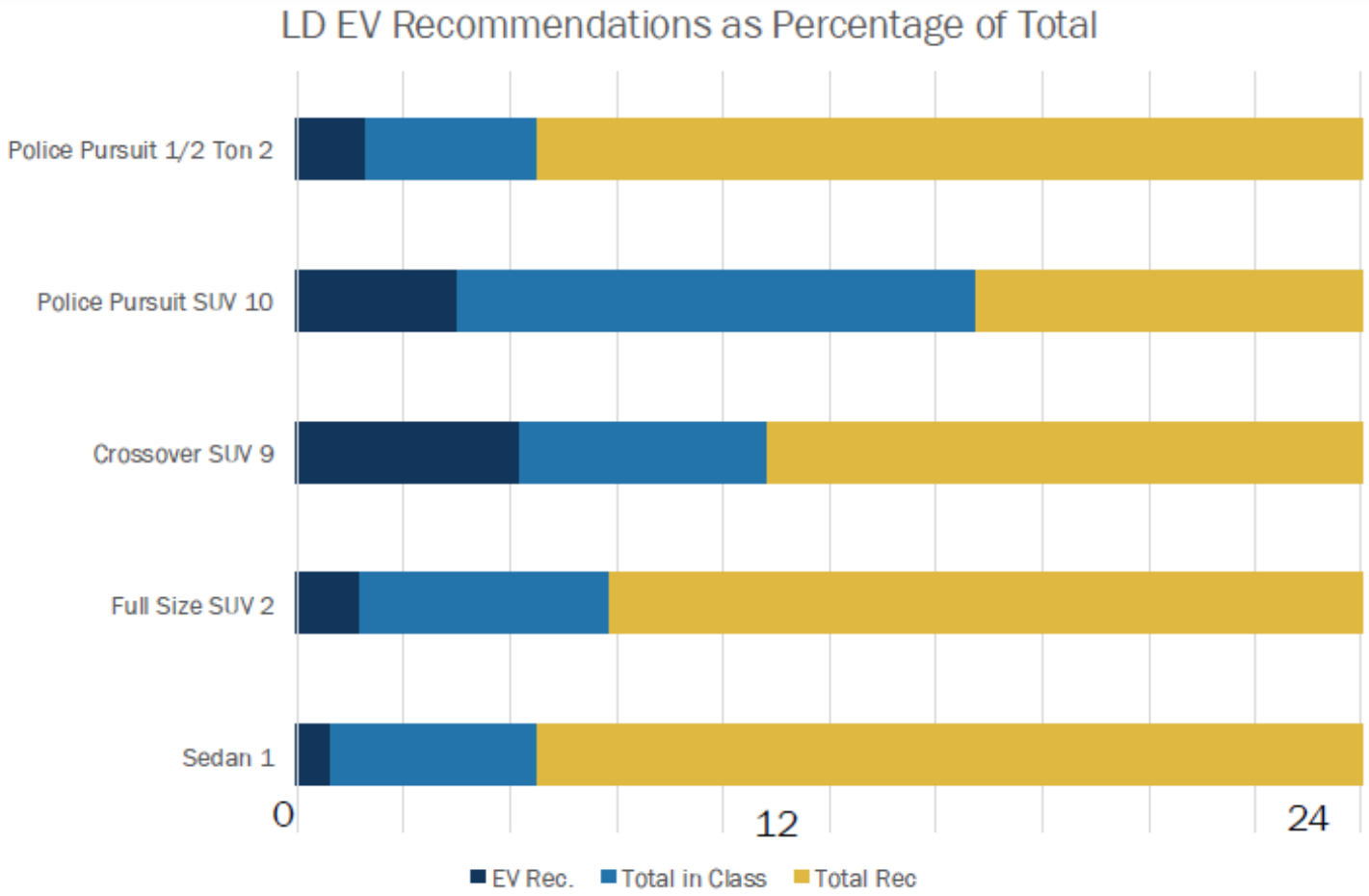
Temperature range: -18°F - 84°F

Total Miles: 5,395

Recommended EVs: 0

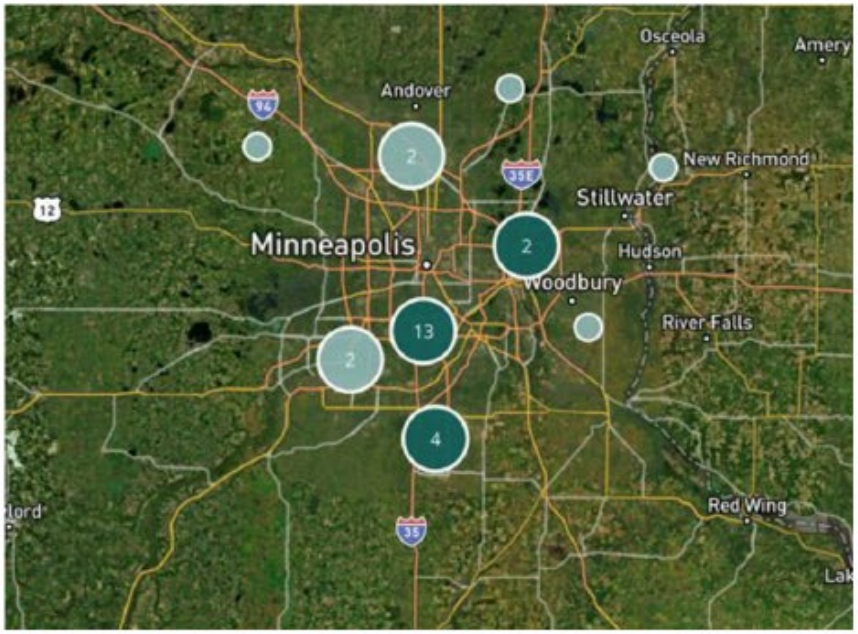
TCO Savings: $0

GHG Emissions Reduction: 0 Tons


LD EV Recommendations as Percentage of Total
Police Pursuit 1/2 Ton 2
Police Pursuit SUV 10
Crossover SUV 9
Full Size SUV 2
Sedan 1
0
12
24
EV Rec.
Total in Class
Total Rec

Primary Parking Locations

Location	Number of Vehicles Charging	EV Rec Count	Total Charging Hours (Avg per Day)	L2 Port Count
417-499 E 67th St, Minneapolis, Minnesota, 55423	9	9	13.6	6
6734 Portland Ave S, Minneapolis, Minnesota, 55423	5	5	2.2	5
1901 66th St	4	4	3.3	4
[redacted]				

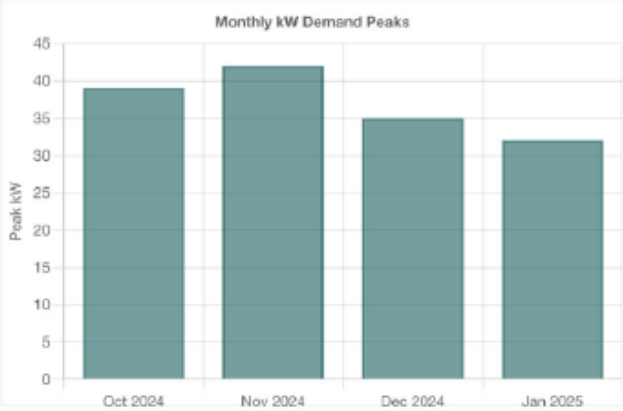


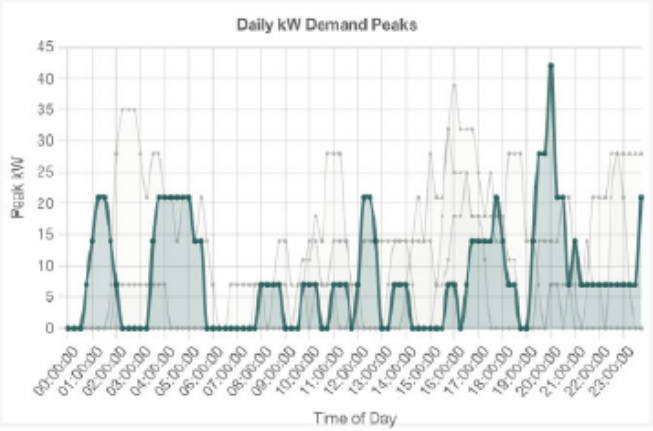
Vehicle Class	Net TCO Savings	EV Model
Police Pursuit SUV	$ 90,000.00	Chevrolet Blazer Pursuit
Police Pursuit ½ Ton P/U	$ 6,600.00	Ford Lightning XR
Crossover SUV	$ 58,000.00	Mustang Mach-E
Full Size SUV	$2,000.00	Mitsubishi Outlander PHEV
Sedan	$1,200.00	Nissan Leaf Plus
Total	$140,000.00	

CITY OF RICHFIELD INFRASTRUCTURE FINDINGS

Richfield Police Department Site

Asset ID	Year	Make	Model	Charging Hours (Avg per Day)	Max Daily Charge (kWh)	Avg Daily Charge (kWh)	Charger Level	Vehicle Class	Primary Parking Location	Onsite Charging (kWh)	Offsite Charging (kWh)
GA0AP2TBNC9E	2022	Ford	F150	2.1	81	21	Level 2	Police Pursuit 1/2 Ton	Current	1156	0
2041	2020	Ford	Explorer	4.7	69	30	Level 2	Police Pursuit SUV	Current	1273	0
2258	2022	Ford	Explorer	3.2	67	21	Level 2	Police Pursuit SUV	Current	1702	4
2151	2021	Ford	Explorer	2.7	42	17	Level 2	Police Pursuit SUV	Current	1204	0
2462	2023	Ford	Explorer	2.7	60	17	Level 2	Police Pursuit SUV	Current	1134	6
2152	2021	Ford	Explorer	2.2	69	14	Level 2	Police Pursuit SUV	Current	872	0
2257	2022	Ford	Explorer	2.1	52	13	Level 2	Police Pursuit SUV	Current	784	59
2150	2021	Ford	Explorer	2.1	57	14	Level 2	Police Pursuit SUV	Current	774	0
2040	2020	Ford	Explorer	1.5	26	9	Level 2	Police Pursuit SUV	Current	271	0





sawatchlabs.com
info@sawatchlabs.com

Staff Recommendation/Phased Approach

- Charging infrastructure
  - 3 Level II Charging Stations
  - Municipal Center (2) and PW (1)
- Change in Purchasing/Lease
  - Inspections: 6 vehicles
  - Public Works: 4 vehicles
  - Recreation: 2 vehicles

Rightsizing vehicles when appropriate

Change in Purchasing

Current Procedures

- Repurposing PS Vehicles
- Low Resale/Auction

Lease to Own

- High upfront cost
- Cost Flatten overtime
- Higher Resale

Budget considerations

- Cost of vehicle replacement: electric vehicle vs. internal combustion engine (traditional vehicle)

- Cost to install a charger