



MUNICIPAL FLEET ELECTRIFICATION ACTION PLAN

FOR COOK COUNTY, ILLINOIS

PEER LEARNING COHORT:
CHARTING A PATH TO MUNICIPAL FLEET ELECTRIFICATION
JULY-DECEMBER 2024



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Background

From July to December 2024, Cook County and the Illinois Alliance for Clean Transportation (IACT) participated in a peer learning cohort on municipal fleet electrification through the Clean Energy to Communities program (C2C), funded by the U.S. Department of Energy and managed by the National Renewable Energy Laboratory (NREL) with support from the World Resources Institute (WRI).

This cohort program assists local governments, Tribes, and municipal utilities in creating action plans for strategic fleet electrification. During six monthly workshops, participants learned to identify and collaborate with key project partners, such as internal staff and utility representatives; prioritize vehicles for replacement; assess charging infrastructure requirements; select sites and install infrastructure; and procure and contract the necessary equipment and services. The cohort also covered workforce development needs and best practices for preparing and training their teams to operate, manage, and maintain new fleet vehicles. Cohort participants teamed up with Clean Cities and Communities coalitions for technical assistance and custom analysis during the 6-month cohort. IACT helped Cook County create this Municipal Fleet Electrification Action Plan ("Action Plan") based on work and discussions from July to December 2024, as outlined in the workshop agenda below.

Workshop	Suggested Supplemental Activities	Plan Section to Complete
Workshop 1: Planning for Fleet Electrification	Activity 1.1: Identify municipality's goals and timeline for fleet electrification Activity 1.2: Compile fleet data Activity 1.3: Explore AFDC resources and vehicle search tool	1. Goals and Timeline for Fleet Electrification
Workshop 2: Understanding Vehicle and Charging Needs	Activity 2.1: Perform fleet assessment and begin developing vehicle replacement schedule Activity 2.2: Assess charging needs of fleet replacement plan	2. Fleet Landscape Analysis
Workshop 3: Building Your Team and Working with your Utility	Activity 3.1: Develop stakeholder map Activity 3.2: Develop a plan to build buy-in from stakeholders that do not trust the technology or are not open to the transition Activity 3.3: Initiate/further utility relationship and discuss utility data sharing agreement	3. Stakeholder Engagement
Workshop 4: Assessing, Upgrading, and Future-proofing Sites	Activity 4.1: Meet with Facilities team to discuss electrification goals and potential sites Activity 4.2: Identify charging locations and conduct site assessments using EVILocate	4. Charging Infrastructure and Facilities Upgrades
Workshop 5: Calculating and Managing Costs	Activity 5.1: Calculate TCO for different vehicle options Activity 5.2: Identify funding and financing opportunities Activity 5.3: Review vehicle replacement schedule and charging needs, based upon TCO and site assessments	5. Financial Planning
Workshop 6: Training, Testing and Preparing for Deployment	Activity 6.1: Plan for necessary trainings Activity 6.2: Identify operational planning needs Activity 6.3: Finalize action plan	6. Operations and Maintenance Executive Summary

Executive Summary

The Cook County (“County”) continues to strive to be a good steward of community resources, by being fiscally responsible, operationally effective and environmentally thoughtful. Joining this C2C cohort is consistent with these goals, with the specific objective being to investigate best practices for planning, deploying and maintaining the County’s fleet. Based on good ideas presented by the World Resources Institute (WRI) and the National Renewable Energy Laboratory (NREL) team and with the support of the Illinois Alliance for Clean Transportation, the County has begun integrating some of the best practices presented into plans and processes.

For many years, the County has established a series of programs in its fleet with an eye towards reducing emissions. Cook County has been a leader in the Chicagoland region with Alternative Fuel Vehicle (AFV) programs involving Hybrid Electric Vehicles (HEVs), Compressed Natural Gas (CNG) vehicles, propane and flex fuel (ethanol) vehicles and electric vehicles (EVs). The underlying goals in each case have been to reduce tailpipe emissions of criteria pollutants and greenhouse gases (GHGs). The County has consistently leveraged cash rebates, grants and tax credit programs from the Federal Government, the State of Illinois and the utility (ComEd). The County remains interested in being a leader in the climate space as well as reducing costs, which is possible through EVs, especially with the currently available tax credits.

Several reports have been compiled since 2015 to inform policy and assist decision makers, but there is general agreement that a front-end challenge to make good decisions related to fleet electrification is to systematically collect, compile and analyze data. This is a priority effort that has started but is still some months away from completion. Due to this, decisions from a planning and deployment perspective and the C2C program effort are constrained. The County is using the suggested C2C tools and data sets to organize and standardize fleet data collection and plans to move on to next steps in the process once it is ready. In the meantime, several County locations are moving forward with passenger EV purchases and charging infrastructure.

The other challenge is electric truck availability. Although a larger number of models are in production, they are in high demand and hard to get. Some of the larger classes (Model 3 and up) are very hard to source. Until some of the supply chain issues settle down and production facilities start reaching some production volume, planning for infrastructure is difficult.

In 2015, the County initiated a Vehicle Use Policy intending to reduce and streamline its vehicle fleet operations and create a more efficient system of vehicle purchase, use and maintenance that will save taxpayers money. Part of this plan has the Sheriff’s Office maintaining and servicing all County passenger vehicles, mainly from a garage in Lagrange Park, Illinois. Further, this office is responsible for data tracking including odometer readings and vehicle usage data. The plans have continued to advance.

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A Vehicle Steering Committee (VSC), made up of members from different County agencies and departments, establishes purchasing specifications and policies of vehicles to minimize the types of vehicles bought by the County. This also ensures the County is purchasing environmentally friendly vehicles in the most efficient and affordable manner, while minimizing operational impacts. Part of the strategy will be to integrate electric vehicle procurement into the VSC purchasing policies.

Policies and Stakeholders

In 2021, Cook County's Vehicle Steering Committee (VSC) passed a Green Fleet Policy establishing that alternative fuel vehicles should be prioritized whenever possible. There is no specific timeline stated in the 2021 policy. The VSC is comprised of representatives from most major departments and is chartered with directing an overarching vision for moving to electric, Hybrid Electric Vehicles (HEVs) and other alternative fuel vehicles. The VSC codes are set in [Ordinance Sec. 2-671](#). The 13 named functional members of the Committee are listed in Table 1.

<i>Chief Administrative Officer</i>
<i>Chief of the Bureau of Information Technology</i>
<i>Chief Financial Officer</i>
<i>Chief of the Bureau of Human Resources</i>
<i>Director of the Department of Budget and Management Services</i>
<i>Chief Procurement Officer</i>
<i>Superintendent of Transportation and Highways</i>
<i>Director of the Department of Risk Management</i>
<i>Director of the Department of Environment and Sustainability</i>
<i>State's Attorney</i>
<i>Sheriff's Office</i>
<i>Chair of the Finance Committee of the County Board</i>
<i>Chair of the Environmental Control Committee of the County Board</i>
<i>Vehicle Coordinators as requested by department heads</i>

Table 1: Vehicle Steering Committee Members

Amongst other requirements in the code, the VSC is responsible for EV strategy including:

- Reviews of vehicle inventory, vehicle usage, fleet size and fleet utilization to ensure compliance with all policies and ordinances.
- Establish standard guidelines for the procurement, acquisition, or lease of passenger type vehicles.
- Establish the procurement specifications that minimize the types or categories of passenger type vehicles available for acquisition and optimize efficiency, pricing, and environmental impacts.
- Establish and maintain a vehicle replacement policy for all vehicle classes that provides clear criteria for vehicle replacements.

The County developed its first sustainability plan in 2015 ([Cook County 2015 Sustainability Report](#)). This included Long-Range Transportation Plan developed goals for the County's vehicles and roads, ways of developing economic opportunity, accessibility, reliability, safety, land use and environmental stewardship. Central to the plan is developing a strategy to reduce transportation emissions from Cook County operations and to transition away from fossil fueled vehicles. This report also includes recommendations to centralize fleet management: add an asset management system; implement right sizing best practices based on use case; and to centralize maintenance. From 2015 to 2022, annual reports were written (available [here](#)).

[Cook County Sustainability Report 2019](#) builds on the overall Clean Energy plan, including the forest preserves Green Fleet and Equipment plan which includes purchasing EVs and HEVs and alternatives to gasoline and diesel such as retrofitting biofuels and propane. The [Cook County Sustainability Report 2022](#) provides updates to the 2019 plan.

Related to the vision for fleet electrification, community needs differ from the municipal fleet electrification efforts, but the [FY2024-2028 Proposed Transportation Improvement Program](#) outlines the vision for related transportation needs for Cook County communities.

Also separate from the municipal fleet electrification efforts, Cook County's community focused [Electric Vehicle Charging Stations Program](#) increases the number and accessibility to public EV charging stations throughout Cook County communities, directly addressing a barrier to growth in the EV market. Increasing the number of EV charging stations provides needed charging infrastructure as transition from gas- and diesel-powered vehicles to EVs occurs. This also supports future regional infrastructure planning efforts. A focus area for the region is to reduce charging deserts by locating EV charging stations in a fair and distributed manor. Disadvantaged, lower income, Black and Latino communities already show a disproportionate exposure to air pollution and the commensurate negative health impacts. Increasing access to charging stations will improve air quality and improve access to EVs, making an EVs a more feasible option for a larger number of County residents. EVs are a more affordable vehicle option in comparison to a gas-powered vehicle when looking at the costs over the lifetime of the vehicle.

Data for the County's fleet vehicles by EV, HEV and ICEV are shown in Figure 1 for 2018 and 2024, illustrating progress towards improving fuel efficiency and emissions with a substantial change to HEVs.

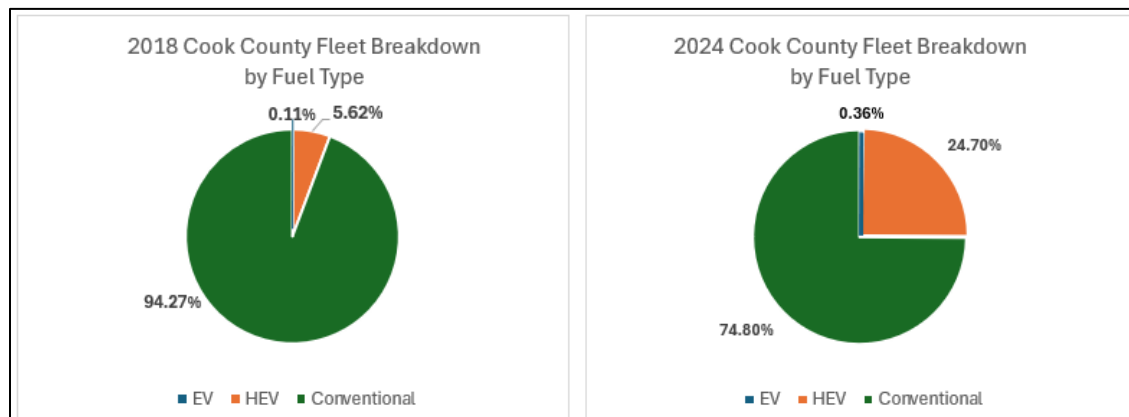


Figure 1: Vehicle Mix in 2018 and 2024

A current goal is to update the Green Fleet Policy for County vehicles in 2025 as part of the County Sustainability Plan. A desired goal is to include a more formal timeline for planning, procurement and rolling out of EVs and chargers. The challenge continues to be useful access to compiled usage and cost data for the fleets within the County's various departments.

Each of the departments with fleets is to work towards developing their own solutions, consistent with the Sustainability and VSC's plans. Examples of departments with fleets include Administration, Sheriff, Forest Preserves, Transportation and Highways, Department of Corrections, Maintenance Bureau, Public Defender's Office, States Attorney, and others.

The VSC is also updating the [Master Vehicles Ordinance](#). *Chapter 82 of Cook County Ordinances: Traffic and Vehicles*. These ordinances deal with all properties, roads, parking areas and vehicles under the jurisdiction of the County. Code changes resulting from fleet electrification will likely need to be considered. Changes must also consider impacts on right of way, parking rules, signage, ADA, safety, etc. based on locating EVSEs.

The Bureau of Administration's Fleet Management provides the following services to County employees and departments:

- Coordinates the overall activities for passenger and light duty vehicles for various offices under the Cook County President to meet financial, environmental and efficiency goals.
- Works with County departments and agencies to maintain vehicle inventories, monitor fuel use and vehicle requests.

Cook County, through various departments and initiatives, periodically conducts vehicle compliance reviews focusing on wheel tax compliance, vehicle registration, and safety standards. A compliance review is underway to also establish fleet use cases and needs, safety requirements, right sizing, costing, data collection and use best practices based on each department.

For more information on planning related to transportation electrification, see:

- [Department of Environment and Sustainability](#)
- [Electric Vehicles Landing page](#)

Fleet Background

The overall County fleet includes 1,900 vehicles within the responsibility of 28 departments. Those departments that house fleet vehicles have a range of operational needs. In short, developing a County-wide plan is complex with many moving parts and perspectives.

Some vehicles are out in the field in normal use and may not return each day/night, meaning some vehicles need to refuel during the normal course of the day and concern is that EV charging ubiquity is not yet at a point where these applications can support the operational risk. Many vehicles park in the City of Chicago on County business. In many cases, EVs need to use retail charging, requiring the County to work out deals with some of the EV charging providers, rent chargers, install County chargers, or other means to provide reliable and accessible charging. A concern is EV charger downtime (reliability) for existing EVSEs or wait time when on company time. Each department needs to develop use cases and associated EV battery sizes (range) and load profiles to suit. The starting point is to establish the baseline data needed by all fleet vehicles plus any department specific data and unique requirements and capture this in the same platform in a **Master Fleet Data Spreadsheet** (Excel-based or third-party software), so analyses can be completed and reported on a department and County-wide basis.

Sustainability is a component of all departments but conversion to greener fleets is a slow process. For EVs and charging, prioritization of EVs has been a challenge. Although sourcing passenger EVs is much like any vehicle, the most significant factor in realizing an EV plan is supply chain vehicle availability for larger vehicles, starting with SUVs and pickups. The County is still targeting HEVs over EVs, based on vehicle cost and availability, but EV interest is growing as HEVs are sometimes hard to find also. If they cannot find either, they sometimes must purchase ICEVs, as they need the vehicle operationally.

The county owns 34 Mavericks (HEVs) and has a historical preference for Ford products. They have had trouble getting responses from Chevy. As Cook County, State law says they must procure from dealers registered to sell in Illinois.

Data Collection, Management and Use

Each division collects some usage and cost data, but not always in the same way. Data records and fields are not interchangeable enough to compile and use for analysis. 80% of the County's vehicles and the usage data is collected through [WEX cards](#) and the accounts are managed by the Sheriff's Department. These data include odometer readings, fuel consumption and fuel costs, which are reported annually by the Sheriff's Department. The WEX fuel cards and data tools have the capabilities

for multiple charging networks, purchase controls, vehicle behavior, fleet management, reporting and analytics, tracking KPIs (Key Performance Indicators), and trend analyses. Some off road and some heavy-duty vehicles are not on the WEX program. More leveraging of the WEX data may be a good advancement.

Rado represents Administration and as part of the VSC, was tasked with assessing the C2C program and processes and bringing the information to the rest of the VSC. From the VSC, a suggestion has been made to pilot the processes for a limited number of departments with fleet vehicles. Based on what is learned in these pilots, a broader set of solutions will be considered.

Each fleet department sees the need to electrify and the speed of vehicle change differently. An initial goal of the VSC is to assess the current state of data for the various groups and see what is common and what is not and identify a logical way of organizing data so that it might be consistently presented and therefore interchangeable.

Once data is in a usable form, the goal is to compile data by site, vehicle age (mileage, operating hours), retirement criteria, timing, type of fuel, possibility of conversion to an EV, availability of suitable EVs, salvage values, unique operational needs, right sizing, new applications and more. The effort has been underway since the C2C project started and continues. Sarah Edwards was a leader in this effort and left the County in November, leading to a delay in this effort. The VSC recognizes the need to modernize the data collection and analysis process and is actively addressing this.

The County is in a unique position in Illinois. It serves 134 municipalities with 5 million people. Cook County interacts with all the communities and necessarily needs to consider leveraging fleet investments in concert with the broader public. Cook County has some charging stations available to the public at County owned-and-operated sites and some charging stations for fleet only charging. All charging stations are clearly marked.

Related Initiatives

County decisions must follow [US EPA Guidelines](#) Scope 1 and Scope 2 guidelines with a top-level goal to be net zero GHG for the County vehicles by 2030.

- Scope 1 emissions are **direct greenhouse (GHG) emissions** that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles).
- Scope 2 emissions are **indirect GHG emissions associated with the purchase of electricity**, steam, heat, or cooling. Although scope 2 emissions physically occur at the facility where they are generated, they are accounted for in an organization's GHG inventory because they are a result of the organization's energy use.

In addition to the Scope 1 mobile emissions coming from fleet vehicles, the County also is assessing Scope 2 emissions, indirect GHG emissions associated with the purchase of electricity, steam, heat, or

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cooling that physically occur at the facility where they are generated. The County is accounting for this in assessments of the grid power and where possible, considering distributed renewable energy generation to further offset the Well-to-Wheels contributions of GHGs.

Cook County has outlined 3 main goals for Cook County owned-and-operated buildings in the Clean Energy Plan. Charging vehicles at Cook County owned-and-operated buildings will use electricity on-site and impact these goals. The goals are:

- 45% Greenhouse gas emissions reduction at Cook County owned-and-operated facilities by 2030 from a 2010 baseline
- Use 100% renewable energy for electricity used at Cook County owned-and-operated facilities by 2030
- Be carbon neutral at all Cook County owned-and-operated facilities by 2050

Cook County is also part of the U.S. Department of Energy's Better Climate Challenge ([Cook County, IL | Better Buildings Initiative](#)), which involves a 50% Scope 1 and Scope 2 greenhouse gas emissions reduction by 2033 from a 2018 baseline

More reference information available:

- [Cook County Environment and Sustainability webpage](#)
- [Cook County EV Charging Webpage](#)
- Cook County Clean Energy Plan: [cook-county-clean-energy-plan.pdf](#)
- Cook County Energy and Water Benchmarking Reports: [Energy and Water Benchmarking Reports | Cook County](#)
- [Cook County Meets First Greenhouse Gas Emissions Goal 7 Years Ahead of Schedule](#)

C2C Participants

The County had three primary members on the C2C team:

- Rado Stoilov manages the fleet vehicles for the Administration Department. He has been tasked with assessing the C2C fleet program and processes and bringing to the rest of the VSC.
- Kate Buczek represents the Bureau of Asset Management and is tasked with looking for creative and sustainable ways to deploy assets that include the objectives of stated strategies, in this case greening of the fleets, integrated with smart energy use, and ensuring there is a plan for EV charging stations to support the fleet.
- Sarah Edwards was managing sustainability initiatives, but left the County in November 2024.

Tim Milburn, Green Ways 2Go was IACT's Consultant and C2C facilitator.

Goals and Timeline for Fleet Electrification

Current EVs

At the end of 2024, the following EVs were in hand

- 6 Nissan Leafs

EVs Being Considered for Purchase

EV Model	Procurement Year	Qty	Comment
Nissan Leaf	2024	7	7 Leaf delivered (as of March 2025)
Ford E Transit 350 Van	2025	2	On Order with Ford

Current EV Chargers and Infrastructure

As of the end of 2024, the following EV chargers have been installed:

For Fleet Only Use:

- Department of Corrections campus four Level 2 EV charging stations that are dual port solar powered Beam EV ARC stations with battery back-up
- Maywood Courthouse (one dual port Level 2 charging station). The Maywood Courthouse station is also a solar powered Beam EV ARC station with battery back-up.

For Public and Employee's Personal Vehicle use:

- Bridgeview Courthouse (one dual port) level 2 EV Charging station
- Markham Courthouse (one dual port) level 2 EV charging station
- Skokie Courthouse (one dual port) level 2 EV charging station
- Rolling Meadows Courthouse (one dual port) level 2 EV charging station
- Des Plaines Highway Maintenance facility (one dual port) level 2 EV charging station
- Daley Center employee parking garage (one dual port) level 2 EV charging station (* this station is managed by external partner at the Daley Center)

EV Charging Plans for 2025

The County currently plans to make the following additions:

- 16 ports (8 dualport Level 2) chargers for fleet only charging to support Cook County fleet EVs;
- 26 ports for public and employees to use at Health facilities and Public Safety facilities
- 7 Nissan Leafs, in production now.
 - 2 for environmental groups,
 - 5 for State's Attorney.
 - EV charging infrastructure is ready.

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- The Vehicle Steering Committee has approved the possible purchase of more EVs in 2025's fleet purchases, but sourcing them continues to be challenging

Usage History

Usage at Cook County's publicly available charging stations has increased each year of operation. These four stations below were activated in 2017.

Table 2 shows some of the usage for 4 of Cook County's Public EV Charging station locations for 2018.

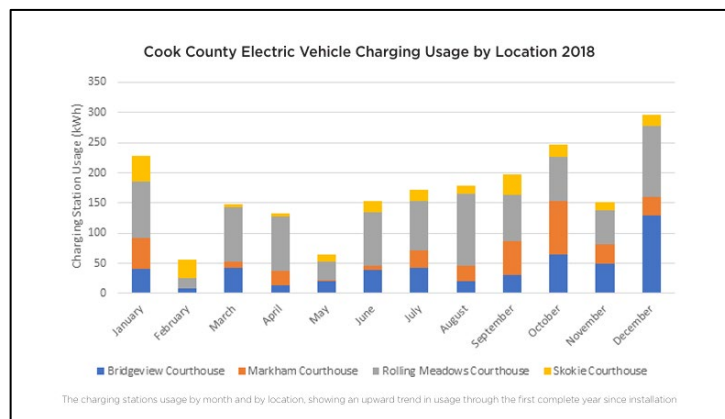


Table 2: Usage of County EVSEs 2018

Next Steps

The plans for 42 upcoming EV charging ports in place as listed above are based on identified demand, budget, incentive availability and preliminary fleet data analysis. These locations are targeting largely administrative fleet passenger EV applications for the fleet only charger stations. A separate program exists for installation of EV chargers available for the public and employee's personal vehicles to use at Cook County sites that have high prevalence of public visitors. The County recognizes the need for a County-wide process so demand for EV charging can be addressed systematically and fairly for all interested departments - based on detailed data and analysis. In particular, when larger EVs (e-trucks) are considered, a more in-depth analysis is needed, based on economics, vehicle availability and operational impacts. Any support from the C2C would be appreciated related to sourcing fleet vehicles, including pickups, SUVs and other Class 1 EVs.

Based on the data still being compiled and analyzed, the next steps will be to look at each relevant County parking lot and garage and define near and long-term plans for adding EV charging based on criteria such as:

- Size /application of vehicles
 - Load profiles
- Use case for the facility and the parking areas.
 - Daily operational profile

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- Recharge speed, battery capacity
- Other right-sizing factors
- Need for redundancy
- When are vehicles parked? For how long?
- Impact of people driving vehicles home (home charging?)
- What kinds of County vehicles/drivers use the parking area?
- What charging alternatives do EV drivers have?
- Is a site a home base or a periodic site visited?
- Number of spaces
- Current facility power capacity
- Need to upgrade service

These analyses have not yet been completed, awaiting data gathering and analysis.

Current Fleet and Procurement Process

Overview of Procurement Process

The County has a green fleet policy, and this has driven a substantial increase in purchasing HEVs. Procurement of EVs introduces a different conversation due to the unique challenges. There is a commitment to find ways to add EVs to the fleet, but due to EV availability and operational concerns, related decisions remain open. The normal procurement processes follow these practices:

1. Each year during the month of April, departments enter their vehicle capital requests for the following fiscal year. Vehicle requests are submitted to the Budget Office.
2. The Budget Office compiles all the vehicle requests and submits them for review to the Vehicle Steering Committee.
3. The Vehicle Steering Committee reviews all the vehicle requests and provides a recommendation to the Budget Office.
4. The Budget Office reviews the recommendations and determines based on the available funds how much each department will be allocated for vehicles.
5. The Budget Office sends back the final decision to each department on how many vehicles they can purchase with the allocated funds.
6. The County begins to review the availability procurement method and best course of action.
7. Bids are entered.
8. The Board of Commissioners passes the annual budget in November.
9. In December vehicles funds are released to departments to purchase vehicles.
10. Bids are received, a contract is executed, and vehicles are ordered.

Procurement Rules

The County procurement processes are defined in the County Code, [Division 2, Sec. 34-135](#). Related to EV procurement, this includes the following requirements:

1. Competitive bidding
2. Requests for Qualifications or Request for Proposals
3. Sole source procurements
4. Joint / consortium procurements
5. Innovative procurements.

Also, per Sec. 34-145, bidders must be authorized to do business in Illinois, comply with Illinois Prevailing Wage Act and other criteria.

Procurement of Class 2 and larger electric trucks has been difficult through 2024 due to availability. (Figure 2) There are a growing number of Class 1 pickup and SUVs and these will be part of the 2025 and beyond procurement strategy. This is the top issue for advancing transportation electrification beyond passenger vehicles.

For any type of vehicle, EV or non-EV, the County needs a contract with a dealership. The dealership then order the vehicles with the OEM. The county is not ready to purchase large EVs (Class 2/3 and up). In 2025, 2 Ford Transit 350 E vans have been ordered. However, the range on these vans is limited and therefore the use case is constrained. At the moment, the County has no plans purchasing more EVs until they have had a chance to evaluate how the Nissan Leafs and the Ford Transit E vans perform.

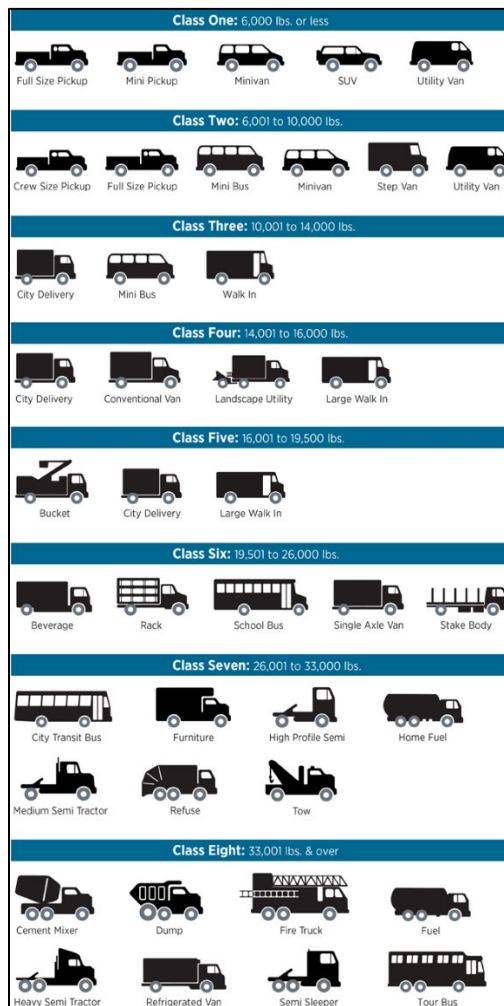


Figure 2: Truck Classifications

Replacement Criteria

[Per Code Sec. 34-144](#), the Vehicle Steering Committee sets vehicle replacement policy for all vehicles and replacement decisions consider age, mileage, utilization, maintenance records, and decisions must fit into the overall goals to maximize County vehicle utilization, increase the number of environmentally friendly vehicles, and reduce the County's overall carbon footprint.

- For passenger vehicles, replacement is based on vehicle utilization of more than 10,000 business miles annually.
- Generally model years more than ten years old or with 150,000 miles of service, damage due to accidents, excessive repair and maintenance costs are considered for retirement
- Cost comparisons shall be made using total lifecycle costs rather than purchase price. Lifecycle costs shall include, but not be limited to, total purchase price, estimated fuel expenditure, and estimated maintenance costs over the expected lifetime of the vehicle.

Once the data are organized and decisions can be better made, the plan is to look at the captured data, identify which vehicles are candidates for replacement and when, next see if electric versions are available, and if so when and how much and whether any incentives apply essentially creating a short list, for the next 5 years of candidates for converting to EVs. Once these vehicles are identified, the next step will be to determine where they will refuel and what the charging infrastructure requirement will be.

Fleet Assessment (Activity 2.1):

As reviewed above, an updated Fleet Assessment process is currently underway. The County expects to complete by this mid spring 2025. Based on ongoing discussions there is hesitation from many departments on moving to EVs.

- There is not enough infrastructure to support more EVs currently.
- Operations for many departments require them to be on the roads for many hours, assigned to various tasks and this is now perceived as risk.
- At this time, it is difficult to predict the future direction of how these departments will make EV decisions.
- The Nissan Leaf EVs are good candidates to replace standard passenger ICE vehicles. Typically, these use cases drive around the County for admin type work and can readily find public EVSEs or recharge at their base locations.
- The Ford E Transit vans would replace 2 standard vans. However, the range on the E Transit vans is very low. How they will be used is yet to be determined.
- Until the new purchases of EVs are tried for some time with sufficient real world experience, a procurement plan or associated electrification policy is pending.

Procurement of Electric Vehicle Charging Stations

Timing of when vehicles are delivered and the time it takes to install electric vehicle charging stations need a more aligned strategy. Charging stations are procured through Cook County's Capital Improvement Plan, which requires the budget to be submitted one year before the project can be implemented. To help plan for fleet electrification and ensure the adequate charging stations are available, studies occur in line with EV procurement based on answering these types of questions:

- 1) Should all charging stations be installed at existing Cook County owned-and-operated sites based on the data analysis mentioned previously, and will the electric load requirements be feasible?
- 2) Should a charging station hub be developed in another location?
- 3) Should take home vehicle standards be developed for employees to charge fleet vehicles at home?
- 4) What are the logistics of using public charging off site for fleet vehicles when necessary?

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The energy impacts and time needed to construct and install electric vehicle charging stations need to have a more comprehensive strategy in place to consider the fleet needs as well as the energy impacts on Cook County's operational budget and greenhouse gas emissions goals.

Action Plan

Goals and Timeline for Fleet Electrification

Cook County wants to expand and optimize building out their EV charging infrastructure and adding larger EVs in time. They are having issues with purchasing suitable and available EVs. The County is looking to optimize their EVCI investments as they go. They're also interested in expanding EV charging to light duty and medium duty trucks. The solution likely will involve energy/power/load management systems for Level 2 and DCFC EVSEs. There was mention of implementing a pilot project relating to Vehicle to Grid (V2G). The County will likely continue buying HEVs until more chargers are installed.

Why Electrify?

The County continues to be forward-looking in terms of sustainability and has aggressively pursued reduction in pollution and greenhouse gas emissions for more than a generation.

Cook County has already completed EV searches for multiple use cases for the County and has a good handle on the procurement process, including EV availability – for some of their use cases.

Fleet Landscape Analysis

The County does not have a green vehicle procurement mandate but has some guidelines. In practice, electric vehicle options are always assessed when purchasing a new vehicle and prioritized when feasible. Contributing factors for determining retirement choices include vehicle year, mileage, hours of operation (if tracked), maintenance history, duty cycle, annual fuel and maintenance costs and fleet maintenance knowledge.

Data is maintained in a number of Excel workbooks and decisions are made differently by different departments. The goal of standardizing and centralizing fleet decisions should help in generating standard decision criteria, but this will follow the fleet data standardization and parking lot study. Based on EV availability for any vehicle on this replacement candidates sorted list, a list of possible EVs is generated. At this point the costs and incentives are reviewed.

This intends to be an effective process that engages cross functional stakeholders in decision making. The fleet operations team will prepare the assessments, share and discuss with County Staff, VSC and Board for approvals. With incentives applied, favorable ROIs are expected with all the EV investments.

Beyond Municipal Fleet Electrification

Based on the [Climate and Economic Justice Screening Tool](#), there are many opportunities to share County EV charging stations with low and medium income and disadvantaged neighborhoods. As shown in Figure 3, the County covers a lot of territory, and many potential sites are in economic justice zones. According to [Justice 40 Tracts Map](#), there are 595 disadvantaged tracts in Cook County and 951 disadvantaged tracts in Illinois. This has already been addressed in Cook County's ongoing ARPA funded community EV charging station program which prioritizes suburban Cook County communities with little to no charging available, but is separate from the purpose of this report. More information can be found here: [Electric Vehicles](#).

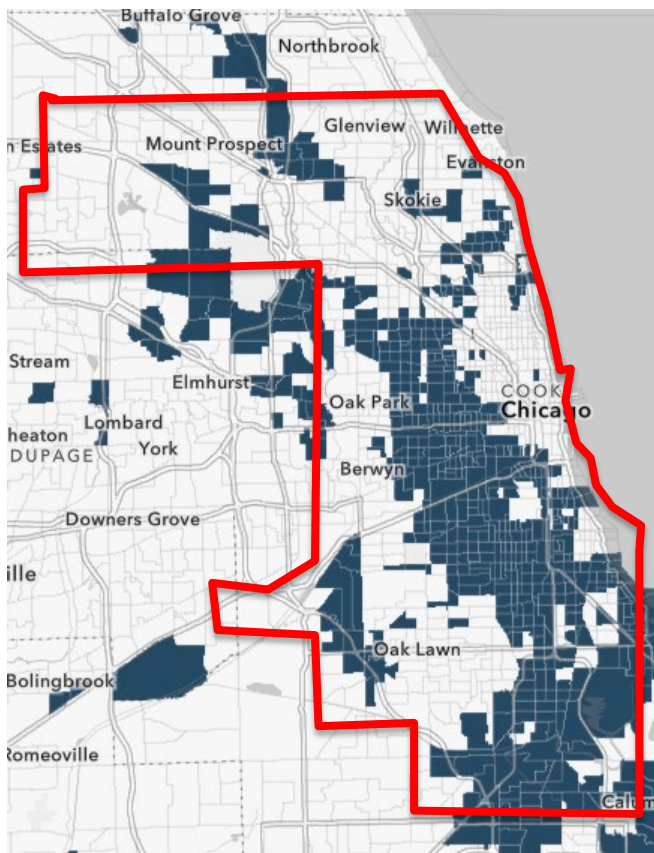


Figure 3: Cook County and Economic Justice Zones (Dark Blue)

Vehicle Storage and Implications for Fleet Charging

Most County fleet vehicles are parked on County properties when not in use and would be largely recharged at these properties. These properties range in a wide variety of purposes and public services across three portfolio types: corporate, public safety, and health and hospital use cases. Prioritization of locations for EV Charging Stations to be installed is under study by understanding Comed capacity available, using tools and calculators from the C2C Cohort (as soon as mileage and parking data becomes

available to review), understanding energy and operational cost implications, and coordination with existing and upcoming parking lot upgrades.

Stakeholder Engagement

The stakeholders that are involved in electrification decisions are listed in Table 3. Table 4 provides a copy of the inputs from the Stakeholder map developed during Activity 3.1 and stored in the Google Drive.

SUSTAINABILITY	PLANNING AND PROCUREMENT
Environment and Sustainability	Planning and Development
ADMINISTRATION	Building and Zoning
Board of Commissioners	Capital Planning & Policy
County Board President	Bureau of Asset Management
Chief Administrative Officer	Office of Bureau Chief Economic Development
VEHICLES AND INFRASTRUCTURE	Office of the Chief Procurement Officer
Vehicle Steering Committee (VST)	Bureau of Finance
Facilities Management	
Fleet Management	OTHER
Forest Preserves	Emergency Management and Regional Security
Sheriff's Department	Information Security
Maintenance Workers	ComEd
Drivers/Operators	Dealers

Table 3: Stakeholders

**PEER LEARNING COHORT:
CHARTING A PATH TO MUNICIPAL FLEET ELECTRIFICATION
JULY-DECEMBER 2024**



**C2C: Clean Energy
to Communities**
U.S. DEPARTMENT OF ENERGY

Stakeholder: Identify or approximate their role in the project and how they may be impacted by the project in some way	What is the stakeholder's role in municipal fleet electrification?	Do you know what could motivate this stakeholder to support municipal fleet electrification?	In what ways could this stakeholder benefit from municipal fleet electrification?	What negative externalities could this stakeholder face?	What is the goal for engaging this stakeholder?	What "2024 role" will this stakeholder have? Use the dropdown to select.	Have we engaged with this stakeholder before? If so, on what and how did it go?
STAKEHOLDER Environment and Sustainability	Implementing the County's green fleet policy, supporting the process on which department and staff submit requests for EVs.	Champion	Achieving GHG and pollution reduction goals	Accountability for not meeting goals	Drive change	R-Responsible for doing	Yes. The group is meeting goals.
ADMINISTRATION Board of Commissioners	Setting for green fleet, drive to set on planning and financial approvals	Supportive	Completing strategic plans	Not addressing quality of life issues in the County	Communicate importance of initiatives, gaining approvals to plans	R-Responsible for doing	The Vehicle Steering Committee reports to Board
County Administrator Chief Administrative Officer	Fleet Manager is within this department. Chief Administrative Officer is head of the County's Vehicle Steering Committee	Supportive	Completing strategic plans	Not addressing quality of life issues in the County. Missing opportunities to reduce total cost of ownership of fleet vehicles	Communicate importance of initiatives, gaining approvals to plans	A-Accountable for decisions or delegations	The Vehicle Steering Committee reports to CAO
VEHICLES AND INFRASTRUCTURE Vehicle Steering Committee (VSC)	Decision making body of vehicle purchases for the County, vehicle policies, etc. Decide which fleets vehicles to select for.	Neutral	Completing strategic plans	Not addressing quality of life issues in the County. Missing opportunities to reduce total cost of ownership of fleet vehicles	Develop plan for fleet and infrastructure deployment of EVs and infrastructure	A-Accountable for decisions or delegations	Yes. VSC is central to process and effort
Facilities Management	Operate and maintain County facilities. Could be responsible for EV charging station siting. TBD	Neutral	Plan and deploy infrastructure for EV charging. Consider operational impacts	Missing opportunities based on incentives	Planning and deployment of EV charging infrastructure in logical sequence and locations	A-Accountable for decisions or delegations	Yes. VSC
Fleet Management	Manage EVs, new operational impacts, charging planning and use	Neutral	Lower costs	Continued to learn fleet fuel emissions	Develop ownership of EVs and new processes	R-Responsible for doing	Yes. VSC - VSC directly involved.
County Employees	Many vehicles in fleet. Some suitable for EVs. Good opportunity to gradually integrate EVs into fleet as appropriate models become available	Supportive					
Sheriff's Department	The Sheriff's staff who perform maintenance and repairs on the County's vehicles. They have access to the County's fleet and data system, owners of our fleet contract and our data system	Resistant	Save cost, fast vehicles.	Running out of battery power.	Get sheriff to start using EVs on limited basis, convince users that usage profile is a fit.	I-Needs to be informed	Yes. Sheriff part of VSC
Maintenance Workers	Support of addition of EVs to fleet	Neutral	Quarter operation. New vehicles, modern features	If not trained properly, could get turned off to EVs	Important that the service techs support EVs	I-Needs to be informed	Yes. VSC
Emergency Operators	EV use	Neutral	Quarter operation. New vehicles, modern features	If not trained properly, could get turned off to EVs	Highly important that the drivers support EVs	I-Needs to be informed	Yes. VSC
PLANNING AND PROCUREMENT Planning and Design	Planning sequence, quantities of EVs and EV integration of new charging and EV infrastructure into the fleet	Neutral	Designing plans consistent with Board and VSC		Designing good, multi-year plans	A-Accountable for decisions or delegations	
Public Works and Design	Integration of new charging and EV infrastructure into the fleet	Neutral	Decisions consistent with Board and VSC			C-Consult before decision	
Public Works and Design	Managing new assets	Unknown	Decisions consistent with Board and VSC			R-Responsible for doing	
Office of Fleet Management	Consistent strategy being economic development with County's staff.	Supportive	Revenue		Support for deployment of EV/CS	C-Consult before decision	No
Office of the Chief Procurement Officer	Responsible for the vehicle contract process and charging station vendor contract process	Unknown	If EV and hybrid purchasing become easier than gas-powered vehicles, it is all about ease of contracting		R-Responsible for doing	C-Consult before decision	
Office of Finance	Approval and management of funding	Unknown					
OTHER Emergency Management and Regional Security	Data security and protocols	Unknown	TBD	TBD	Compliance with County security requirements	I-Needs to be informed	Not sure
Information Security	This is the utility and they will need to be involved in the process. They are responsible for the data to support electrification. They are responsible for releases for EVs and for EV charging	Supportive	New assets and customers		Planning for capacity expansion	C-Consult before decision	Preliminary discussions at how the about expansion of EV charging
County	Supply of EVs	Supportive	Sales of EVs	Delivery issues	Availability and delivery of fleet EVs	C-Consult before decision	Supporting expansion of fleet EVs. So far, this has been very supportive.

Table 4: Stakeholder Map - Refer to original file in C2C Google Drive

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Utility Coordination

For the sites that have been installed, there has been sufficient existing power, and the utility has not yet been a key requirement. Nonetheless, the County has a long standing and significant relations with ComEd and understands what will be needed when larger capacity projects unfold.

Community Engagement

Separate from the municipal fleet electrification efforts, the County serves the communities within and has played a role in regional participation in EV charging through a one time ongoing ARPA funded program to expand community electric vehicle charging stations in Cook County. The County welcomes the opportunity to work collaboratively with its 135 incorporated communities.

Charging Infrastructure and Facilities Upgrades

The County is still early in the fleet evaluation process and is looking at investment in charging infrastructure solutions on a case-by-case basis at Cook County owned-and-operated sites. As County wide data and strategies take shape, more involved, strategic, and larger solutions will be considered that align with the needs of the Green Fleet Policy while balancing the County's climate goals and greenhouse gas reduction goals.

Charging Strategy

Generally, the use case drives the charging strategy, based on the number of EVs and daily miles to be recharged.

Financial Planning

Again, the County is effectively piloting ideas for EVs, charging and infrastructure to learn. Once some experience is completed, more serious financial planning will happen.

Total Cost Of Ownership Analysis

Data will be collected and assessed with more experience. This can be used to inform future decisions.

Funding and Financing Fleet Electrification

Funding for vehicles and charging stations follows normal County processes from the Vehicle Steering Committee, Procurement, and Capital Improvement Plan requirements. Incentives have been used to support funding for parts of the work to date where applicable.

6. Operations and Maintenance

Maintenance

The Sheriff's office organizes vehicle maintenance and will do so for EVs. Plans are needed for some of the more EV-specific maintenance needs. The County will primarily work with the EV vendors to assess maintenance needs.

Maintenance of County-owned charging stations has occurred in house with the Department of Facilities Management and Bureau of Asset Management Energy Team to date, but will not be sustainable in the long run without staffing a full time employee to ensure smooth operation of the charging stations on a daily basis.

Training

Training plan is needed.

Charge Management

Charge Management plan is needed.

Data and Performance Tracking

As discussed, the County is in the process of systematically gathering data for analysis and decision making.

Glossary

Provide a glossary of key definitions. A starting list is below. Participants should review the final plan and determine if there are other additions.

Alternative Fuel Vehicle	A vehicle that runs on a fuel other than traditional petroleum fuel (such as gasoline or diesel)
Carbon Dioxide	A standard component of conventionally powered vehicle emissions and a principal greenhouse gas
Demand Charge Rate	Additional fees that utilities charge customers for maintaining a constant supply of electricity
Direct Current Fast Charger (DCFC)/ Level 3 Electric Vehicle Charger	Fastest electric vehicle charger. Charges a vehicle with at least 50 kW but ranging up to 150kW, 250kW, or more

Disproportionately Impacted Communities	Census block groups where greater than 40% of households are low income, housing cost-burdened, or include people of color
Electric Vehicle (EV)	A vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source
Electric Vehicle Supply Equipment (EVSE)	Equipment that delivers electricity from a source to charge a plug-in electric vehicle (i.e. an electric vehicle charging station)
Fuel	Includes gas, diesel, compressed natural gas (CNG), electricity, or other source of energy for vehicle operation
Level 1 Electric Vehicle Charger	Slowest electric vehicle charger, delivers up to 2.5 kW
Level 2 Electric Vehicle Charger	Medium electric vehicle charger, delivers up to 19.2 kW
KPI	Key Performance Indicators
Net Present Value	A method of calculating a return on investment
Total Cost of Ownership (TCO)	An estimate of expenses associated with the purchasing, maintenance, and decommissioning of a piece of equipment
Utility	Electricity provider
V2G	Vehicle to Grid
Zero Emission Vehicle (ZEV)	A vehicle that produces zero exhaust or emission of any criteria pollutant under all possible operational modes and conditions