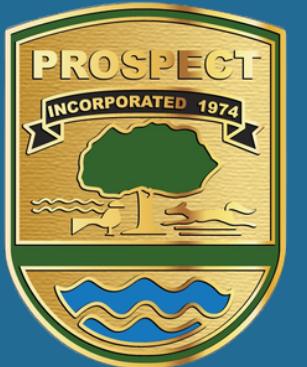

17 July 2025

Sustainability City of Prospect

Sriya Amineni, Elise Chang, Misha
Logisa, & Mariel Ottinger



MC



Team Prospect



Sriya Amineni

B.S. in Business Administration & Computer Science, Minor in Philosophy, Politics, and Economics



Elise Chang

B.A. Public Policy & History, Minor in French
(Pre-Law Track)



Misha Logisa

B.S. Neuroscience & B.A. Global Studies, Minor in Chemistry
(Pre-Med Track)



Mariel Ottinger

B.A. in Biology and Minor in Chemistry.
(Pre-Med Track)



Our Tasks

How can Prospect significantly increase the number of residents who recycle?

Will it be cost-effective for the city to own its streetlights?

What are the trade-offs of moving Prospect's fleet operation to electric vehicles?

Interviews

“If it's a good practice can you really tell someone about it too much?”
-City Resident

“We see it as a big ship. If you start to steer it in the right direction, it's going to take a long time to get there.” **-Boulder, CO. Gov. Employee**

“Education is crucial when it comes to expanding recycling programs and making sure that people are putting the right materials in their recycling container” **-Rumpke Official**

“Maybe we show the kids what they are trying to protect... Let's show them what this good life can be”. **-City Resident**

RECYCLING



Recycling Enhancement

Current scenario:

45% of Prospect residents regularly recycle. However, Mayor Farnsley's target rate is **60%** eventually, with an aim of **50%** in the near future. Barriers to recycling include misinformation, confusion about what is recyclable, and convenience.

45%
CURRENT
RECYCLING RATE

50%
SHORT-TERM
TARGET
RECYCLING RATE

60%
EVENTUAL
TARGET
RECYCLING RATE



3 Key Development Areas



Education

- Rumpke recycling facility tours
- Invite recycling speakers
- Post creative signs around town to encourage recycling



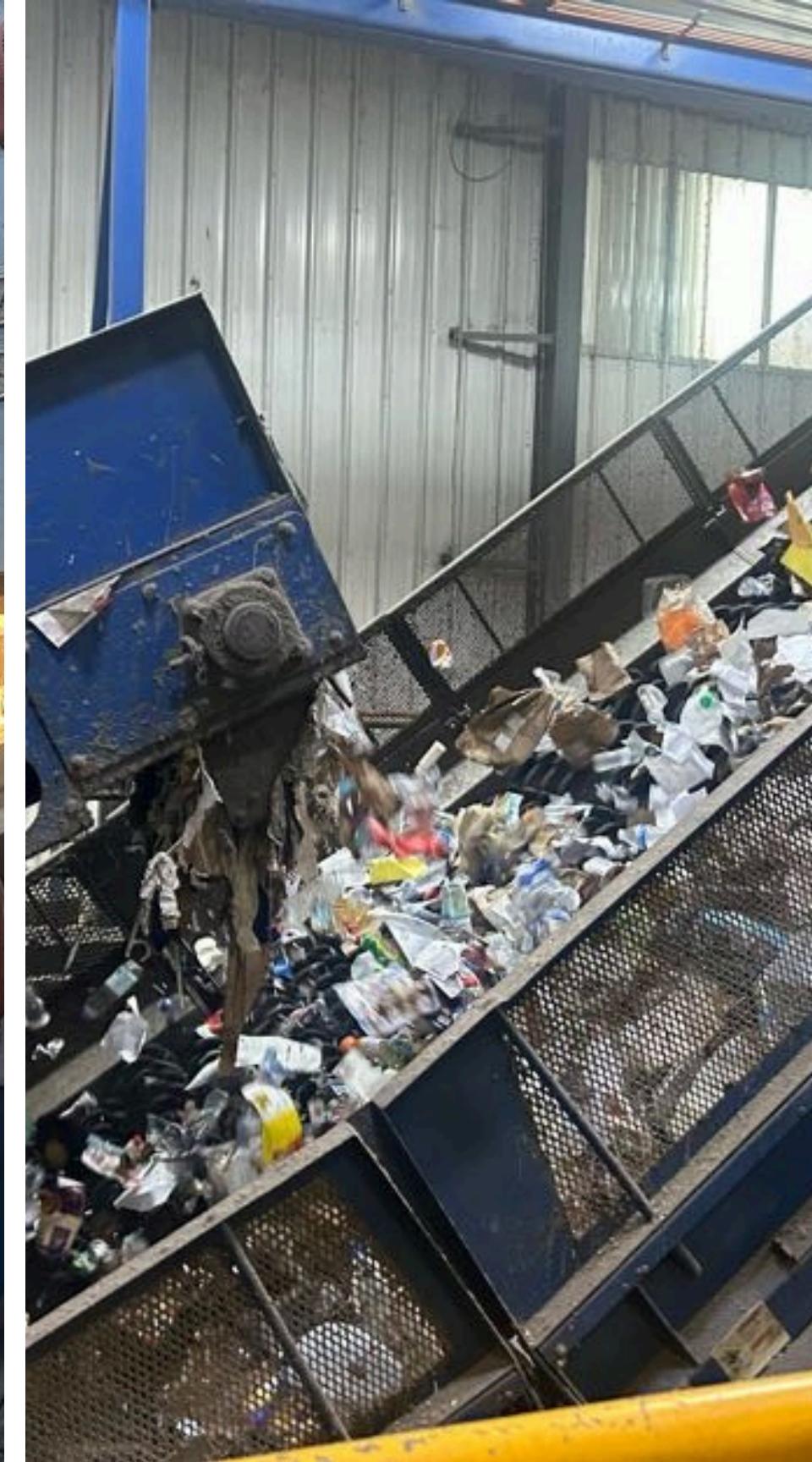
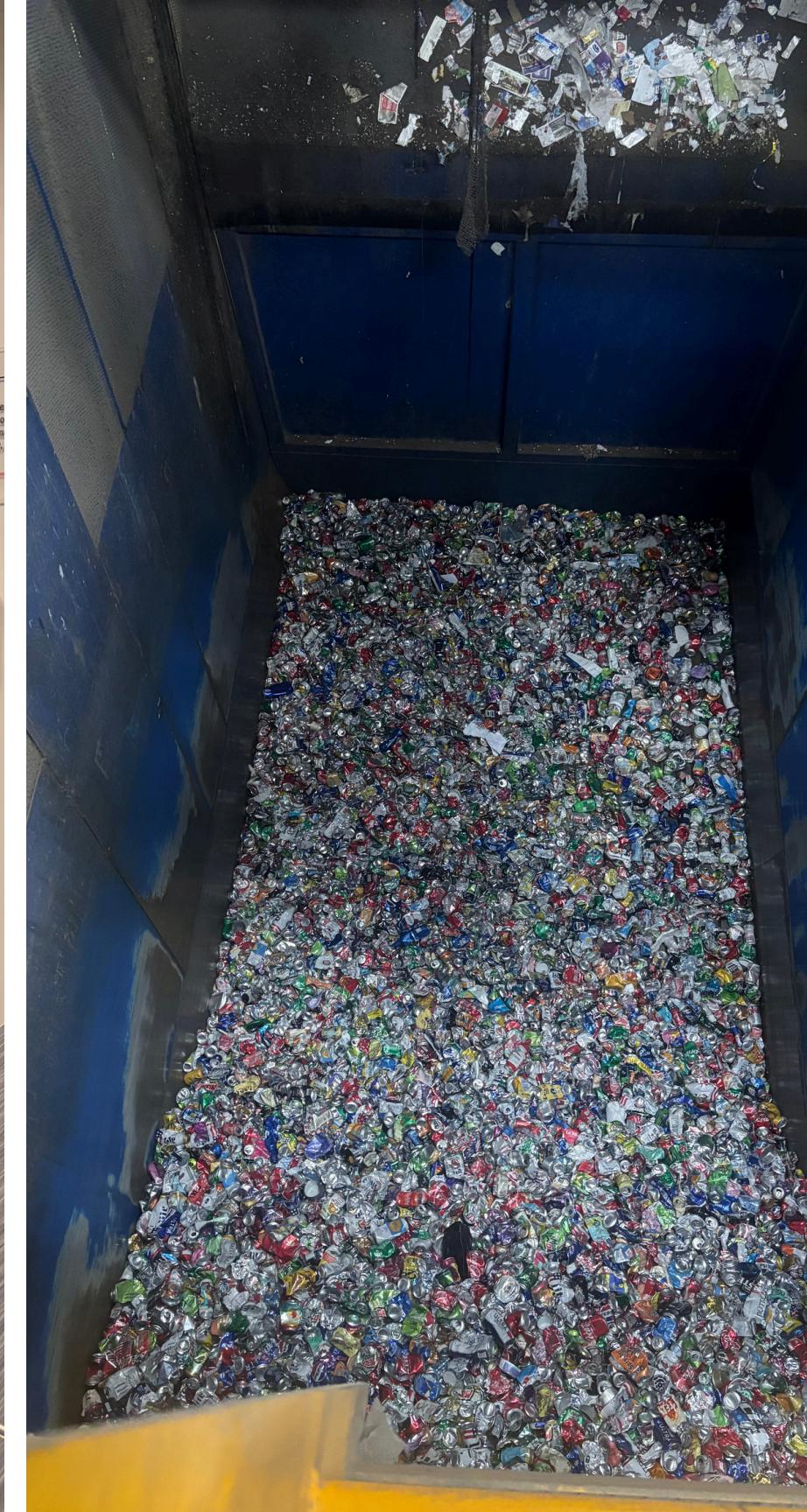
Resources

- Grants from the state of Kentucky (e.g., Recycling Grant, Household Hazardous Waste Grant)
- Recycling campaign
- Online recycling tools (e.g., Waste Wizard)



Outreach

- Community Conversation events
- OopsTag program
- Informational mailers



Education

Resources

2025-2026 Kentucky Pride Fund Household Hazardous Waste Management Grant Application

PURPOSE: To leverage limited funds into an efficient and cost effective one-day management event collecting Household Hazardous Waste and promoting a Household Hazardous Waste Public education program.

Application Deadline
Tuesday, April 1, 2025

Kentucky Energy and Environment Cabinet
Department for Environmental Protection
Division of Waste Management
Recycling and Local Assistance Branch
Recycling Assistance Section
300 Sower Boulevard, 2nd Floor
Frankfort, Kentucky 40601
(502) 564-6716 FAX (502) 564-4245
www.waste.ky.gov




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2025-2026 Kentucky Pride Fund Recycling Grant Application

PURPOSE: To leverage limited funds into efficient and cost-effective projects that will help Kentuckians develop an integrated recycling infrastructure and recycling public education program.

Application Deadline
Tuesday, April 1, 2025

Kentucky Energy and Environment Cabinet
Department for Environmental Protection
Division of Waste Management
Recycling and Local Assistance Branch
Recycling Assistance Section
300 Sower Boulevard, 2nd Floor
Frankfort, Kentucky 40601
(502) 564-6716 FAX (502) 564-4245
www.waste.ky.gov




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LET'S RECYCLE TOGETHER!
¡RECICLEMOS JUNTOS!

Metal
Metal
Empty metal cans, foil pans and wrap
Latas de metal vacías, bandejas desechables de aluminio y papel aluminio

Cartons
Cartón
Empty food and beverage containers
Contenedores de comida y bebida vacíos

Glass
Vidrio
Empty bottles and jars
Frascos y botellas vacías de vidrio

Paper
Paper
Newspaper, magazines, mail, cups, and flattened cardboard
Periódicos, revistas, correspondencia, tazas y cartón aplastado

Plastic
Plásticos
Empty kitchen, laundry, bath bottles and containers
Productos de cocina, lavandería, botellas de baño y contenedores vacíos

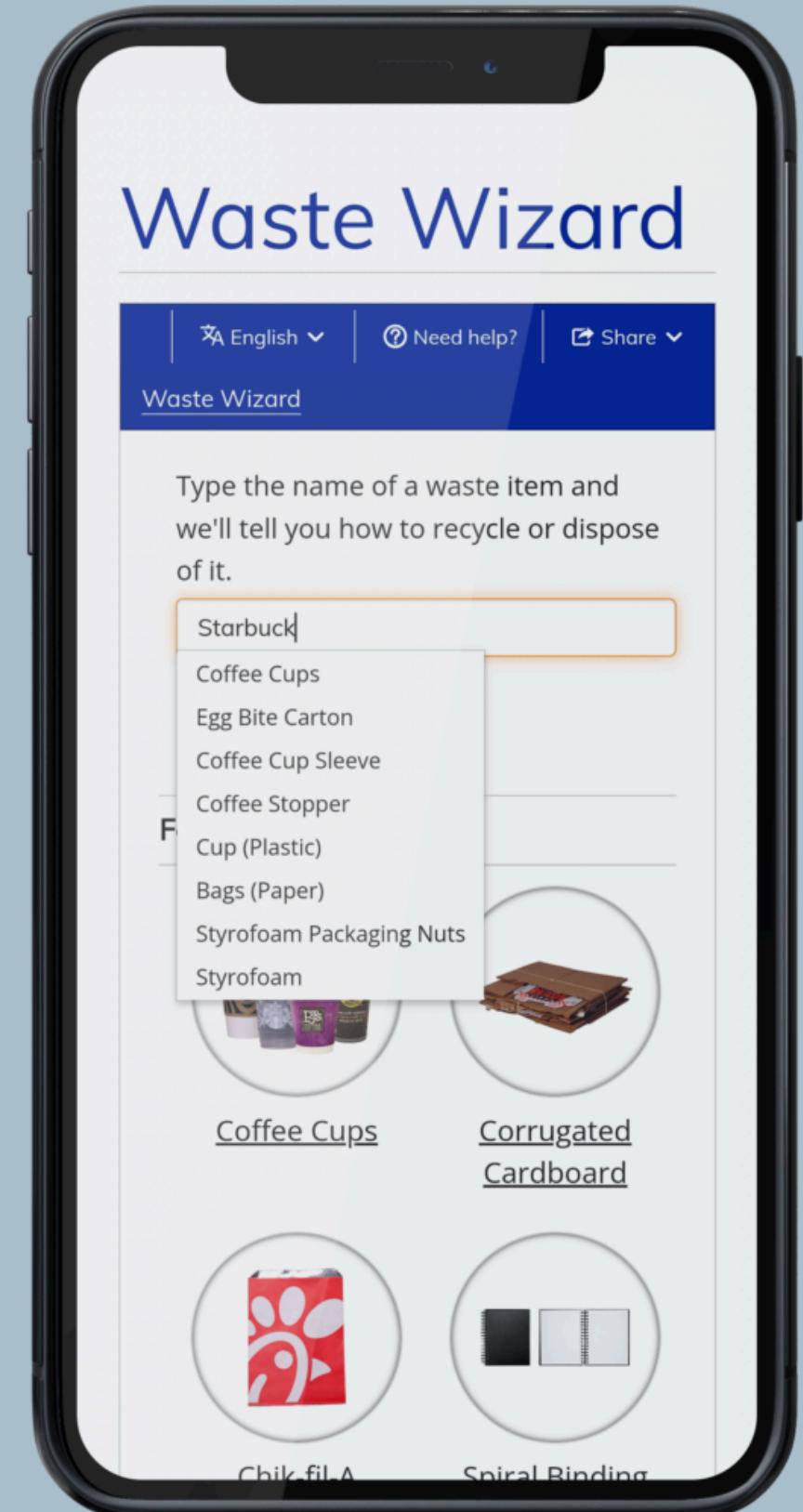
No matter who is collecting your recycling, the do's and don'ts are the same. Learn more at Louisvilleky.gov/RecycleTogether!
No importa quién recoge su reciclaje, lo que se debe y no se debe hacer es lo mismo.

Thank you to our local waste haulers!
¡Gracias a nuestros transportistas de residuos locales!







Outreach

KNOW WHAT TO RECYCLE



RUMPKE 1-800-828-8171 www.rumpke.com

PLEASE RECYCLE THE FOLLOWING:

- GLASS BOTTLES & JARS
- PAPER
- PLASTIC BOTTLES
- UNACCEPTABLE items for recycling include: plastic bags, metal hangers, batteries, and medical sharps.
- METAL CANS
- CARTONS



USE THE QR CODE TO SIGN UP FOR RECYCLING PICK-UP REMINDERS THROUGH CITY MAIL



FOCUS ON THE SHAPE OF THE CONTAINER

FOR GLASS ASK YOURSELF...

- IS IT A BOTTLE?
- IS IT A JAR?

FOR ALUMINUM ASK YOURSELF...

- IS IT A CAN?

FOR PLASTIC ASK YOURSELF...

- IS IT A BOTTLE?
- IS IT A TUB?
- IS IT A CUP?
- IS IT A JUG?

FOR CARDBOARD ASK YOURSELF...

- IS IT CLEAN OF GREASE OR FOOD SCRAPS?

IF THE ANSWER IS YES...

RECYCLE IT!

OTHER REMINDERS

- RULE OF THUMB: IF IT IS THE SIZE OF A POST-IT OR SMALLER... DON'T RECYCLE IT
- DON'T RECYCLE PLASTIC BAGS (ASK YOURSELF THE QUESTIONS ABOVE FOR PLASTIC)
- YOUR RECYCLABLE IS GOOD AS LONG AS IT IS CLEAN ENOUGH. A LITTLE RINSE WITH WARM WATER IS SUFFICIENT.
- DON'T BAG YOUR RECYCLABLES

ARGHH YOU READY FOR RECYCLING

COME CHAT ABOUT RECYCLING W/ A CAPTAIN'S QUARTERS LUNCH BUFFET

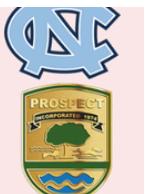
12:00-
2:00 PM
Sat., July
12th

Captain's Quarters, Riverview Terrace





RSVP WITH THIS QR CODE!



BROUGHT TO YOU BY THE
MAYOR'S OFFICE &
MOREHEAD-CAIN INTERNS



Community Conversation

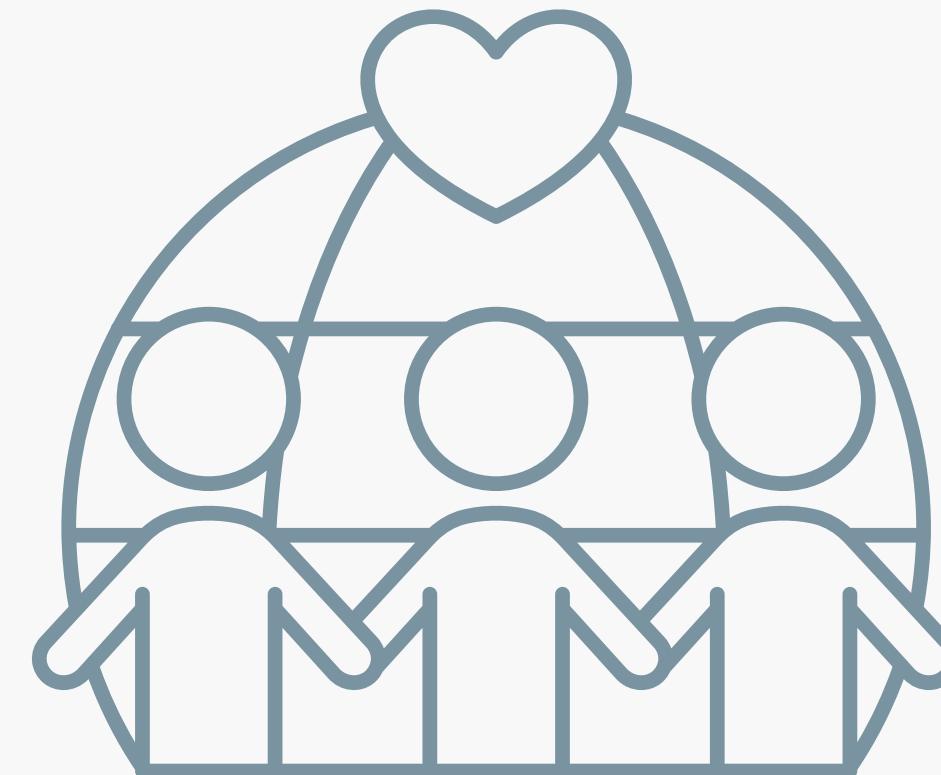
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Purpose

To foster a community and culture in Prospect dedicated to sustainability.

Planning

Using the Community Conversations Toolkit, have consistent and intentionally planned events to form a lasting group.

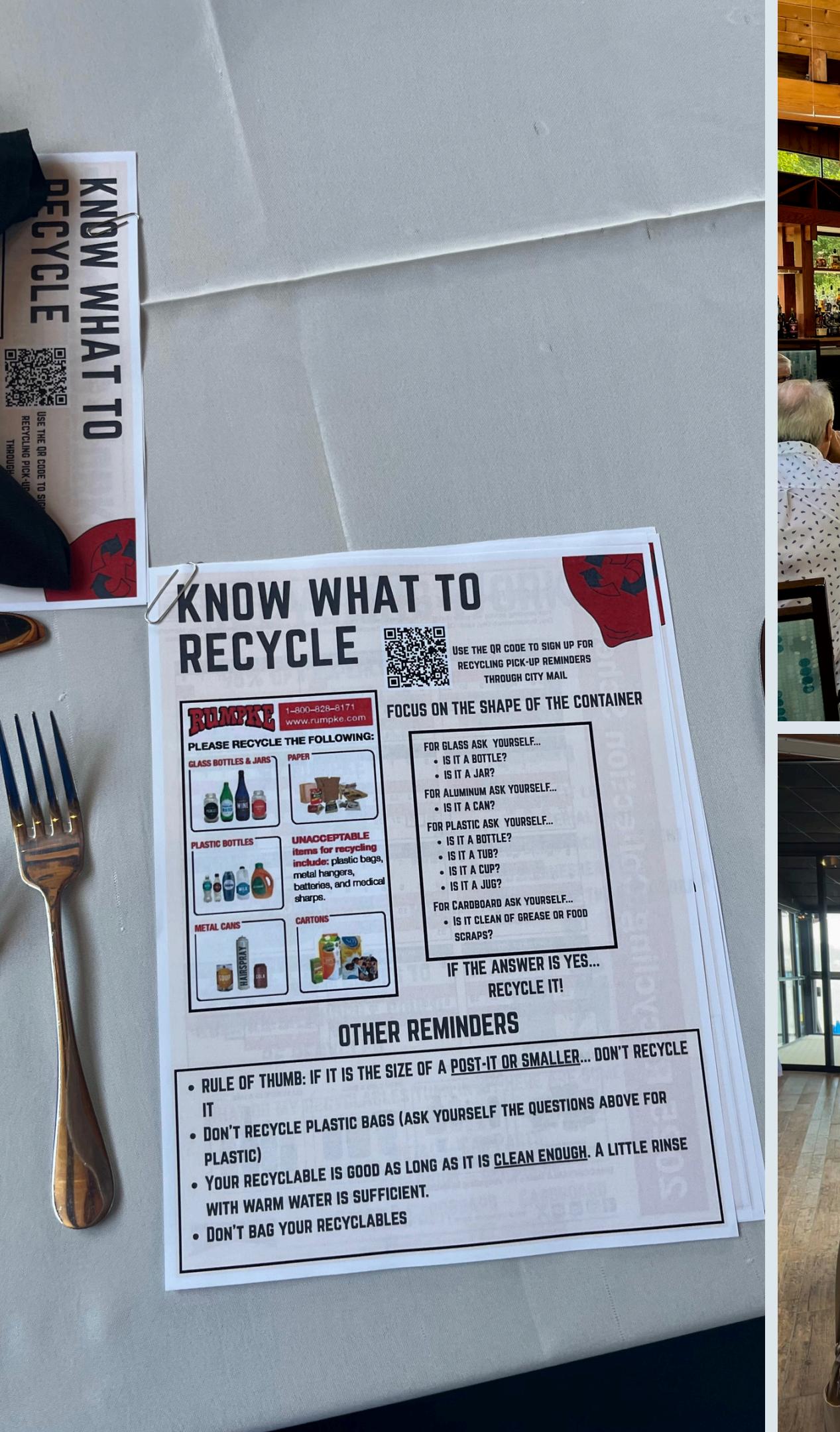


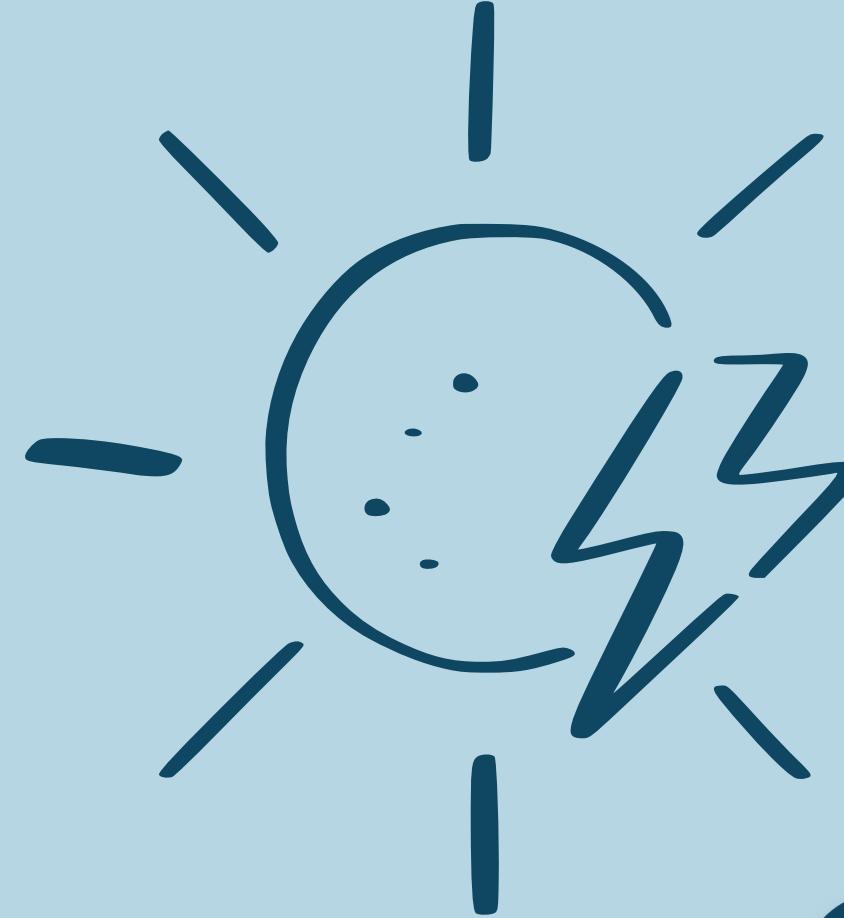
Future

We intend these conversations to develop into a Sustainability Committee working with city government and groups of volunteers for future events.

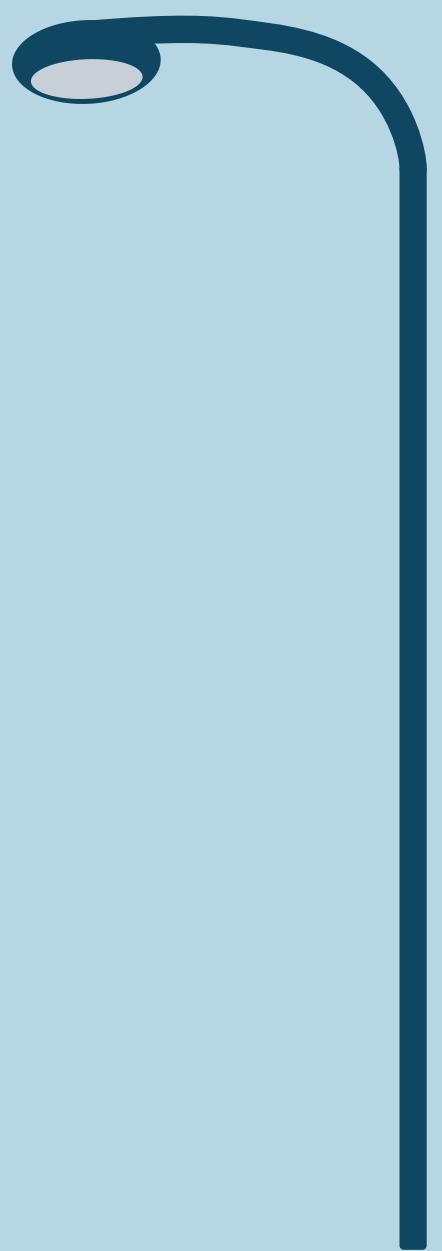
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First Community Conversation, 7/12/25





SOLAR STREET LIGHTS



GUIDING QUESTIONS

Should the city of Prospect buy out all streetlights from the provider, LG&E, or remain under contract and encourage LG&E to switch to LED/solar lights?

How cost-effective, in general, are LED and solar streetlights as opposed to typical halogen and high pressure sodium (HPS) streetlights?

What are the positive and negative implications of switching to LED/solar streetlighting, and what are potential mitigation options?

Given the geographic location and weather patterns in Prospect, KY, would solar streetlights be a feasible and sustainable option in the long-term?

What is the best financing option for this project?

A Look at Other Communities



Boulder, CO

Population: 105,898

Utility: *Xcel Energy*

Contact: *Lex Telischak*

Decorah, IA

Population: 7,578

Utility: *Alliant Energy*

Contact: *Jim Martin-Schramm*

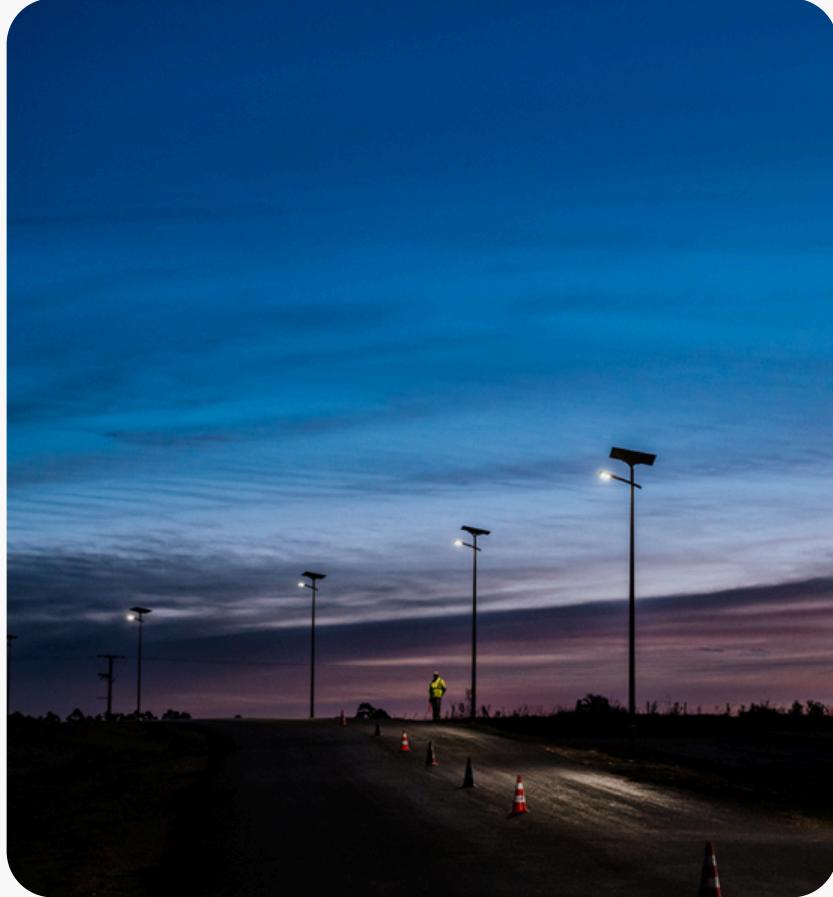
Beachwood, OH

Population: 13,734

Utility: *FirstEnergy*

Contact: *Ben Lombardi*

Recommendations



97%
OPERATIONS
AND
MAINTENANCE
SAVINGS

Via [Fonroche Lighting](#).

LG&E Overcharging the City of Prospect by:
186% to 6718% above actual
electricity costs.

Municipalization of Streetlights

- Prospect would take over operational and ownership control of the city's streetlights.
- Prospect could cut their \$450k+ annual cost by up to 80%

Creating Leverage with Utility Companies

- Identify unmetered fixtures or excessive maintenance fees
- Work with Kentucky Public Service Commission

Solar Streetlight Pilot Program

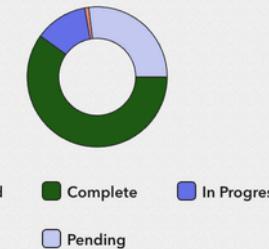
- Pilot streetlights in locations where it would not be critical if a technical problem occurred (e.g. City Hall parking lot, Harrods Creek Park, Little Hunting Creek Park)

Street Lighting Pilot Program

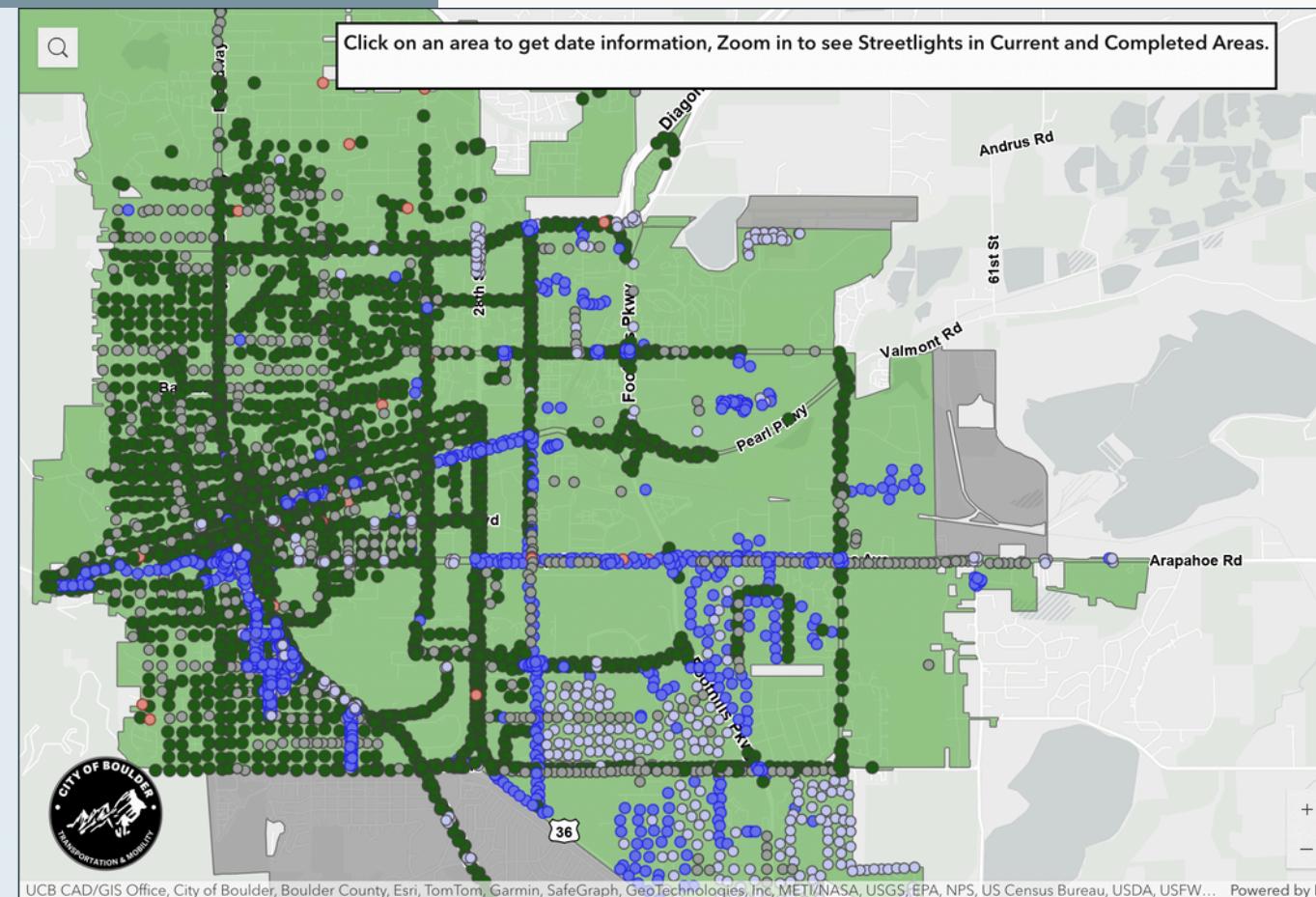
Boulder, CO - GIS

Number of LED's Installed:
2,288

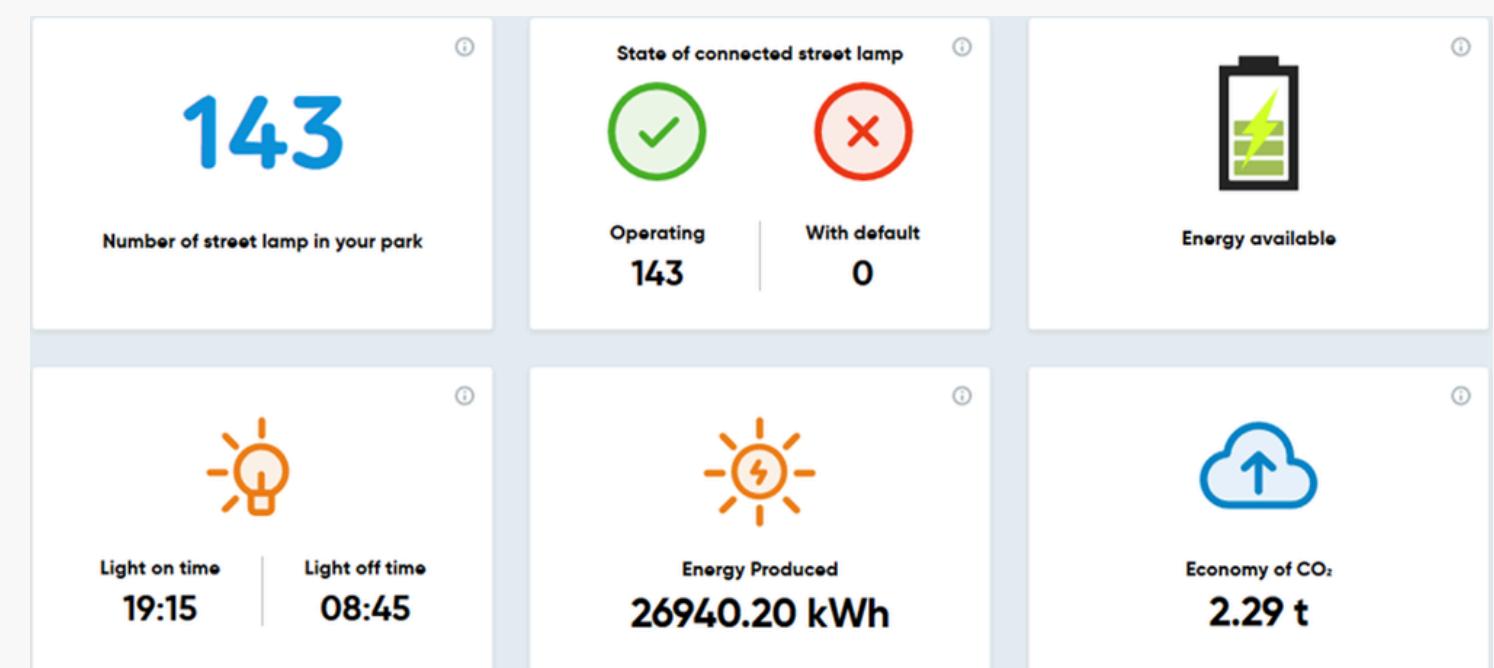
Phase 1 Conversion Progress



The grey dots on the map are Streetlights in Phases 2 and 3



Louisville, KY - GIS



FINANCIAL MODELS

| A. Current lighting system - ongoing cost for operations and maintenance | | | | | | | |
|--|------------------|--|-------------|--|----------------|--|-------------|
| | Lamp type 1 | | Lamp type 2 | | Lamp type 3 | | Lamp type 4 |
| Lamp type (enter description) | Coach Acorn 9500 | | LED Acorn | | HPS Acorn 9500 | | Cobra Heads |
| Number of lamps/fixtures | 318 | | 29 | | 9 | | 10 |
| Monthly tariff charge per fixture - rate | \$21.56 | | \$7.30 | | \$27.08 | | \$16.08 |
| Monthly tariff charge per fixture - rate | | | \$15.72 | | | | |
| Monthly tariff charge per fixture - rate | | | | | | | |
| Total monthly utility cost per fixture | \$21.56 | | \$23.02 | | \$27.08 | | \$16.08 |
| Total annual cost for lamp type | \$82,273 | | \$8,011 | | \$2,925 | | \$1,930 |
| Total current cost (\$/year) | \$95,138 | | | | | | |

| B. Proposed lighting system - ongoing cost for operations and maintenance | | | | |
|---|-------------|--|-------------|--|
| | Lamp type 1 | | Lamp type 2 | |
| Lamp type (enter description) | LED Acorn | | Cobra Heads | |
| Number of lamps/fixtures | 356 | | 10 | |
| Monthly tariff charge per fixture - rate component #1 | \$0.39 | | \$10.01 | |
| Monthly tariff charge per fixture - rate component #2 | | | | |
| Monthly tariff charge per fixture - rate component #3 | | | | |
| Total monthly tariff | \$0.39 | | \$10.01 | |
| Total utility annual cost for lamp type | \$1,666 | | \$1,201 | |
| Total projected per-fixture cost (\$/year) | \$2,867 | | | |
| Other projected non-utility costs (\$/year) | | | | |
| Total projected cost (\$/year) | \$2,867 | | | |

| D. Municipal system acquisition costs paid to non-utilities | | | | | |
|---|-------------|-------------|-------------|-------------|-----------|
| | Lamp type 1 | | Lamp type 2 | | Total |
| Lamp type (enter description) | LED Acorn | | Cobra Head | | |
| Number of fixtures to acquire | 365 | | 10 | | |
| Equipment acquisition | \$800 | per fixture | \$600.00 | per fixture | \$298,000 |
| Equipment installation | \$500 | per fixture | 450 | per fixture | \$187,000 |
| Disposal costs | | per fixture | | per fixture | \$0 |
| Other costs | | per fixture | | per fixture | \$0 |
| Total up front non-utility cost | \$485,000 | | | | |

| Inflation/cost escalation | | | I. Summary project financial metrics | |
|---------------------------------------|--|-------|---|-------------|
| Current system | | 8.30% | | |
| Proposed system | | 3.00% | | |
| Time-limited charges, proposed system | | | Net present value at chosen discount rate | \$1,326,485 |
| | | | Internal rate of return | 25.30% |
| | | | Chosen discount rate (nominal dollars) | 4.00% |

Financing Options



Bonds

- Municipal Bonds
- Green Bonds
- Louisville Green Bank



Grants/Local Incentives

- Kentucky Energy Office
- Solarize Louisville Discount Program
- EPAD



Contracts/Agreements

- Tax-Exempt Leasing Purchases
- Energy Performance Contracts

ELECTRIC FLEET VEHICLES





Fleet Electrification



Police Fleet Conversion

Prospect has the chance to partially electrify the police fleet the next time a new non-patrol vehicle is needed. Prospect officers are open to the possibility.

Charging Station Infrastructure

If Prospect adds EVs to its fleet, charging stations must be implemented at City Hall. Prices vary with the installation preference and type of charger.

Charging Station Ordinances

Prospect also lacks public EV charging. The Mayor can issue an ordinance that requires new commercial centers to have a certain number of EV parking spots per regular parking spots.

Why Electric Vehicles?

Environmental
Benefits



Performance

Cost Savings



Fleet Electrification



Prospect's Police Vehicles

- 14 Fleet Vehicles
- Replace cars at 120,000 miles (~ every 4-6 years)
- ~ \$22,000 for police equipment
- \$39,000 for current detective car (Dodge Charger)

Annual TCOs

| Operating Cost | Cost | Notes |
|-------------------------|-------------|---|
| Purchase Price | \$39,000.00 | Dodge Charger (non-EV) |
| Police Equipment Cost | \$22,000.00 | |
| Charger Cost | N/A | |
| Charger Cost Annualized | N/A | |
| Estimated Life, Years | 6 | |
| Purchase Annualized | \$10,166.67 | |
| Cost of Fuel | \$3.15 | AAA Jefferson County estimate, unleaded |
| Fuel Economy | 23 | EPA Fuel Economy mpg equivalent, 2023 |
| Annual Fuel Cost | \$2,100.00 | |
| Maintenance | \$884.80 | Edmunds True Cost to Own 2023 |
| TCO Annual | \$13,151.47 | |

| Fuel Economy | Cost | Notes |
|-------------------------|-------------|---|
| Purchase Price | \$52,495.00 | Ford Mustang Mach-E GT (EV) |
| Police Equipment Cost | \$22,000.00 | |
| Charger Cost | \$2,700.00 | Base Level 2 Charger; Install Estimate |
| Charger Cost Annualized | \$337.50 | |
| Estimated Life, Years | 8 | |
| Purchase Annualized | \$9,311.88 | |
| Cost of Fuel | \$3.15 | AAA Jefferson County estimate, unleaded |
| Fuel Economy | 90 | EPA Fuel Economy mpg equivalent, 2025 |
| Annual Fuel Cost | \$850.00 | |
| Maintenance | \$783.80 | Edmunds True Cost to Own 2024 |
| TCO Annual | \$11,283.18 | |

Charging Options

LG&E

- Host chargers through LG&E (Non-networked Clipper Creek HCS-40R)
- \$30.71 per month
- 2 Installation Options
 - **Install-Only:** Hire electrician to install power source and have LG&E physically install charger (~ \$650-\$1000)
 - **Turnkey Solutions:** Pay LG&E to install power source and physical charger (~ <\$20,000)

Third-Party Provider

- Partner with EV charging company
 - **ChargePoint**
 - **BlinkCharging**
 - **EVGo**
- ~ \$5000 to buy and install



EV Financing Options

Green Bonds

- Bonds marketed to investors focused on environmental impact.
- These bonds are similar to municipal bonds in terms of interest payments and maturity.
- The costs for the vehicles, the charging infrastructure, and the work required to implement the program could all be placed under a green bond.

CALIFORNIA TO ISSUE \$1B GREEN BONDS TO POWER LONG-TERM ESG AND CARBON NEUTRAL STRATEGY GOALS

by AnhNguyen — 2025-07-15



The California Community Choice Financing Authority (CCCFA) is set to issue \$1 billion in green bonds to finance a 30-year supply of renewable and carbon-free energy for San Diego Community Power (SDCP), marking a major milestone in the state's push to advance its ESG objectives and long-term carbon neutral strategy.

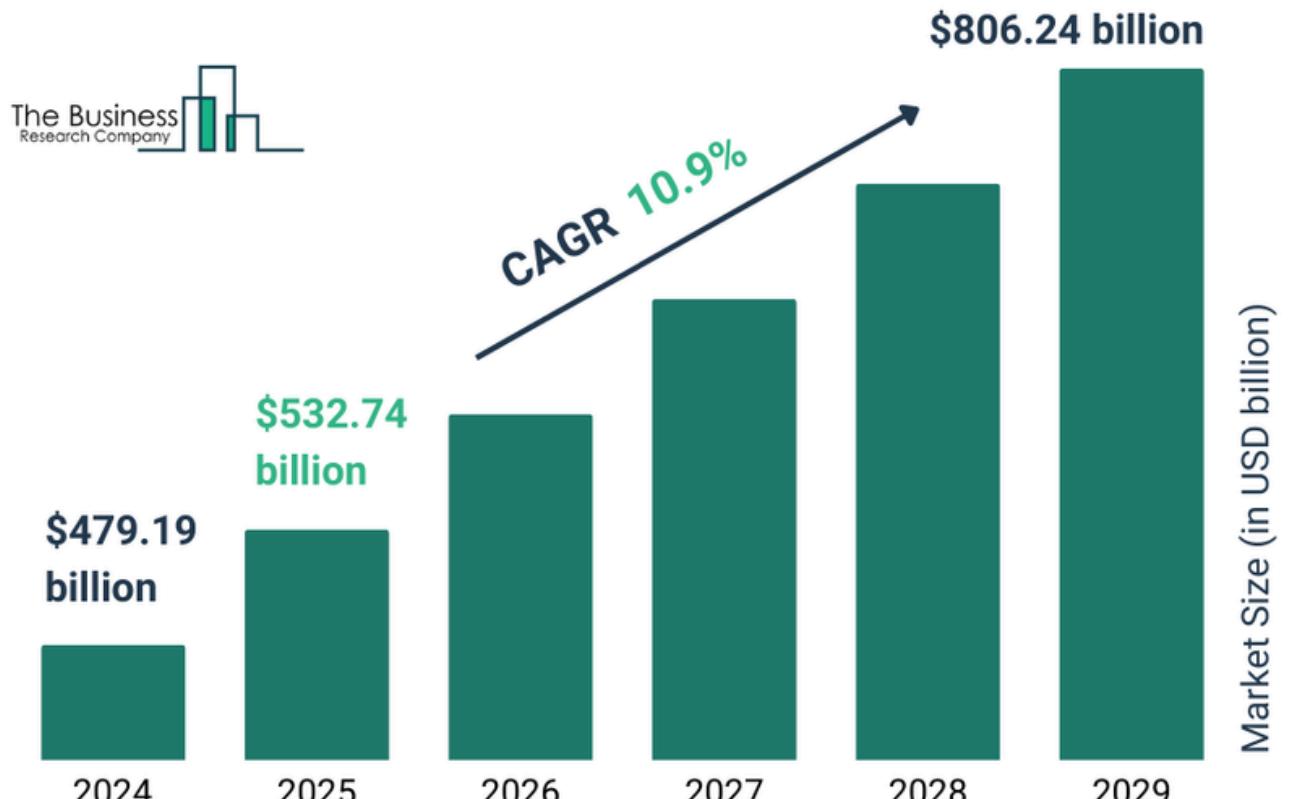
Formerly titled the *Clean Energy Project Revenue Bonds*, the funds will be used to prepay for emissions performance standard (EPS)-compliant clean energy under an agreement with Energy Prepay III, a subsidiary of Morgan Stanley Capital Group. The initiative is designed to deliver stable, long-term access to renewable power sources, contributing to California's decarbonization and energy resilience goals.

The 2025D Green Bonds are expected to be delivered the week of July 14, with maturity dates spanning from 2030 to 2034, and a final term bond maturing in 2055. Morgan Stanley will underwrite the offering, which is backed by revenue from SDCP's Clean Energy Project.

Currently, SDCP services over 956,000 active accounts, representing about 7.7 million megawatt-hours of annual energy sales. The project has earned an A2 rating from Moody's, signaling strong financial backing and confidence in the long-term sustainability of the clean energy supply.

This bond issuance supports California's broader strategy to decarbonize its power grid, strengthen climate resilience, and scale

Green Bonds Global Market Report 2025



Charger Financing Options

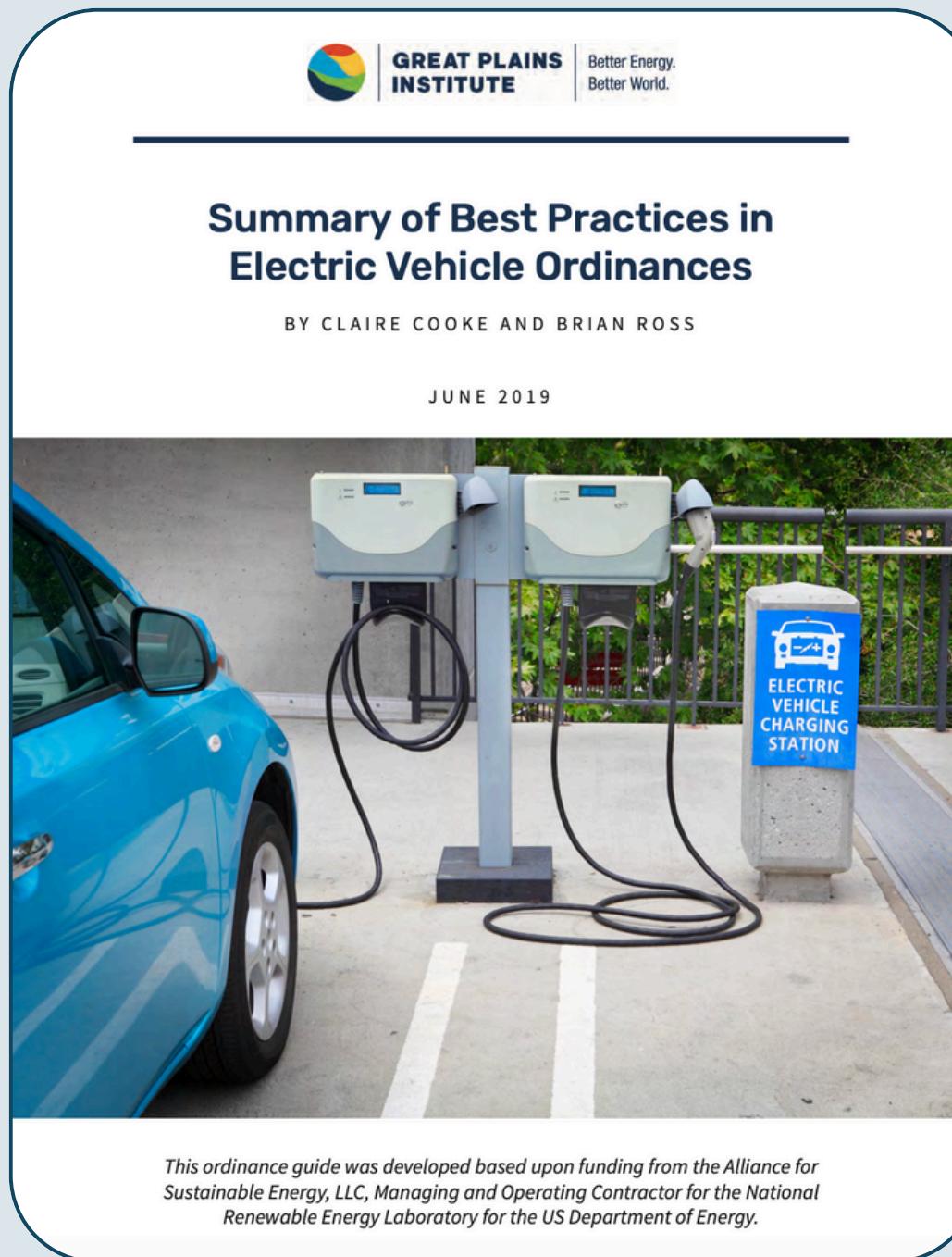
Volkswagen Settlement



- Through the Volkswagen Environmental Mitigation Settlement, Kentucky allocated \$3,056,700 for Light Duty Zero Emission Vehicle (ZEV) infrastructure funding.
- There was roughly \$765,000 allotted for Level 2 chargers.
- Up to 50% of a charger installation project could be covered by the mitigation trust funds.

Ordinances

We highly recommend the Great Plains Institute's "Summary of Best Practices in Electrical Vehicle Ordinances", which is linked in the online version of our report.



The image shows the front cover of a report titled "Summary of Best Practices in Electric Vehicle Ordinances" by Great Plains Institute. The cover features the Great Plains Institute logo and tagline "Better Energy. Better World." Below the title, it says "BY CLAIRE COOKE AND BRIAN ROSS" and "JUNE 2019". A photograph of a blue electric car connected to a charging station is on the left, and a small text at the bottom states: "This ordinance guide was developed based upon funding from the Alliance for Sustainable Energy, LLC, Managing and Operating Contractor for the National Renewable Energy Laboratory for the US Department of Energy."

| Indianapolis, IN | "Two electric vehicle charging stations shall be required for developments that provide 500 or more off-street parking spaces." | | | | | | | | |
|---|--|---|-----------------------------|---------|---|----------|---|------|--|
| Middletown, CT | "Any new development that requires 25 or more parking spaces, as calculated by Section 40.04 of these regulations, shall have a minimum of 1 charging space or 3% of the total number of spaces allocated to Electric Vehicles (EVs) (whichever is greater) and must have a Level 2 or 3 charging station/connection per EV parking space." | | | | | | | | |
| Salt Lake City, UT | "The number of required minimum parking spaces is determined after applying any applicable reductions and exemptions. The number of required EV parking spaces shall be as follows:" <table border="1"><thead><tr><th>Required Minimum Number of Parking Spaces</th><th>Number of EV Parking Spaces</th></tr></thead><tbody><tr><td>0 to 49</td><td>0</td></tr><tr><td>50 to 99</td><td>1</td></tr><tr><td>100+</td><td>2, plus 1 for each additional 100 stalls</td></tr></tbody></table> | Required Minimum Number of Parking Spaces | Number of EV Parking Spaces | 0 to 49 | 0 | 50 to 99 | 1 | 100+ | 2, plus 1 for each additional 100 stalls |
| Required Minimum Number of Parking Spaces | Number of EV Parking Spaces | | | | | | | | |
| 0 to 49 | 0 | | | | | | | | |
| 50 to 99 | 1 | | | | | | | | |
| 100+ | 2, plus 1 for each additional 100 stalls | | | | | | | | |

Conclusion

Prospect/Louisville have been a wonderful home for us this summer, and we could not be more grateful for all the people we were lucky enough to meet during our time here. Keep us posted!



Thank you!

Questions?