EVANSTON GREEN HOMES PILOT PROJECT

FINAL REPORT



CNT
CENTER FOR NEIGHBORHOOD TECHNOLOGY

City of Evanston™

ELEVATE

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Cover Image Caption: Evanston Green Homes team celebrates the first home to be retrofitted (picture credit: Elevate)

INTRODUCTION

The Evanston Green Homes Pilot Program (2019-2026) is supported by the City of Evanston to carry out renovations of existing affordable housing stock, with a focus on making buildings more climate-resilient, energy-efficient, and healthy. The pilot was intentionally designed to prioritize Evanston's most vulnerable community members by retrofitting existing affordable housing units with improved energy efficiency and decarbonization.

The City of Evanston provided the initial funding to support the program (with funds from the American Rescue Plan Act[1]) and was implemented by the Center for Neighborhood Technology (CNT) and Elevate Energy (Elevate).

Mission

The Green Homes pilot program is offering Evanston homeowners and landlords no-cost home repairs and upgrades - paid for by the City - to help residents feel healthier in their homes and lower utility bills.

Vision & Goals

The City of Evanston's overall goal is to preserve affordability, improve quality, and increase resilience to climate change for existing affordable housing in Evanston. Evanston Green Homes – a pilot project to test a new method to provide these improvements – is meant to demonstrate the value of a one-stop shop approach to attract more resources for a larger future program, and to use human-centered design to structure participant engagement in this program.

Project Background

The City of Evanston has a well-documented history of racial segregation, including relocation of Black residents in the 1920s, as well as redlining, racial zoning practices, and segregation-driven housing practices. This history, exacerbated by the mortgage foreclosure crisis and 2008 economic recession, made it difficult for the City's Black, Indigenous, and Person of Color (BIPOC) residents to access safe and decent affordable housing, including climate-resilient homes. People of color disproportionately bear the burden of unaffordable housing in Evanston.

The Evanston Green Home Pilot's planning started in 2019 when the City of Evanston received a $250,000 grant to study climate-related housing vulnerabilities. Later in 2019, the City of

[1] In May 2024 the program received $300,000 from the re-established Good Neighbor Fund to specifically fund heat pumps and induction stoves.

Evanston, CNT, Elevate, Evanston Community Foundation, the Chicago Community Trust, and the Evanston Development Cooperative (until dissolved after a year with the program) partnered to look at barriers to affordable, resilient, net-zero homes in Evanston, primarily focused on Evanston's Climate Action and Resilience Plan (CARP) implementation. The initial task was to do social and climate vulnerability mapping.

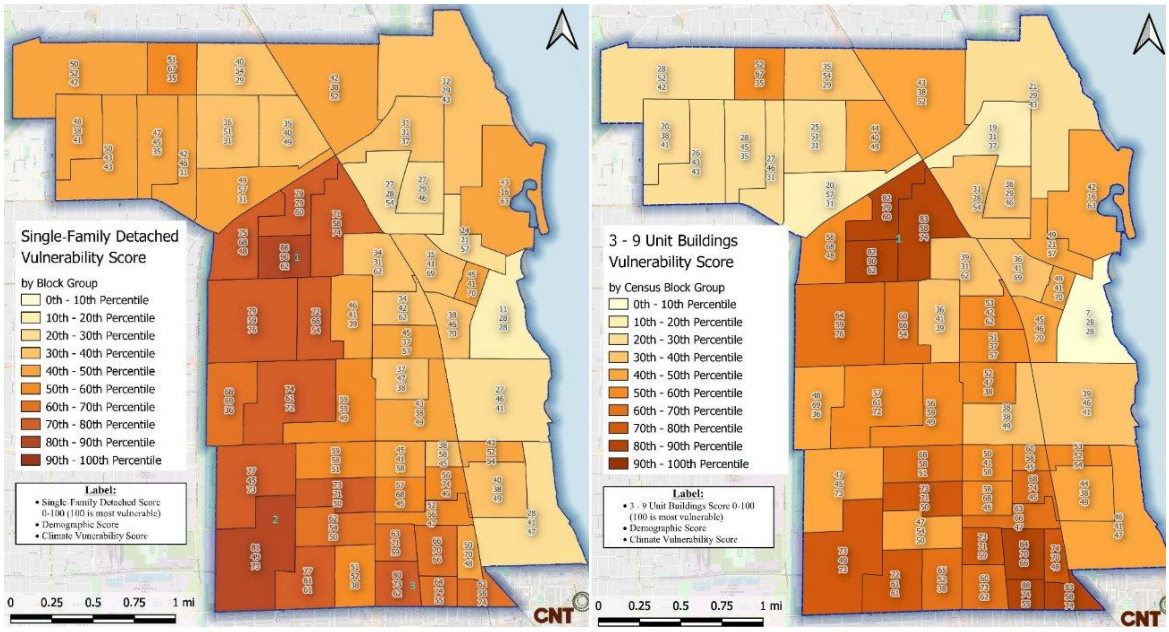


Image Caption: Initial findings of CNT's Vulnerability Analysis

Between 2019 - 2020, CNT engaged in a community-centered approach to understand Evanston's affordable housing context, climate risks and impacts, and higher-vulnerability block groups based on an affordability and climate impact index. Following conversations with several stakeholders (including a series of community conversations, and long-form interviews with residents) and a comprehensive Vulnerability Analysis, two census tracts were selected for the pilot.

This project serves two census tracts (8092 and 8102) that are home to nearly 11,500 residents. These areas were selected through CNT research using a Vulnerability Score to map the degree to which housing affordability is threatened by climate change, social factors, and gentrification. This research was confirmed by Justice40 Initiative analysis (an analysis conducted by CNT on President Biden's Justice40 Initiative, which aims to deliver 40 percent of the overall benefits of federal investments in climate and clean energy, including sustainable transportation, to disadvantaged communities). Both census tracts have a high concentration of Black (54% and 35%) and Latino residents (24% and 18%), and a median household income that is approximately half the average in Evanston. Justice40 identified tract 8092 in the top 10% nationally in housing burden and historic underinvestment in critical clean water and waste infrastructure.

This project addresses the legacy of racism in these communities and advances environmental justice, climate, and public health by providing no-cost health and safety improvements, along with energy conservation and efficiency upgrades. It represents a significant investment that takes the first steps in ensuring that all Evanston residents have access to healthier, more climate-resilient homes.

Alignment to Existing Efforts

The City of Evanston's vision through its 2018 Climate Action and Resilience Plan (CARP) states, "by 2050, Evanston will be a climate ready and resilient city that has successfully prioritized the needs of its most vulnerable while combating climate change." CARP sets a goal of achieving carbon neutrality by 2050, securing 100% renewable energy for all Evanston properties by 2030, achieving zero waste by 2050, shifting to low- or non-polluting transportation methods, enhancing their stormwater systems, and ensuring that all residents, including the most vulnerable, are prepared for the impacts of a changing climate.

The City identified several climate hazards facing the community, including extreme heat, the increasing frequency of storms, and extreme precipitation events. There is a particularly high risk for flooding damage and associated high stress on physical infrastructure from severe storms.

Climate Vulnerability maps prepared by CNT for the City of Evanston in 2020 identified how vulnerable homes in specific census blocks are to the impacts of climate change. These areas correspond with the location of disadvantaged and BIPOC communities.

COMMUNITY ENGAGEMENT

Evanston Green Homes was informed by community members, key stakeholders, and municipal leaders. To ensure that marginalized residents shaped program planning, design, and implementation, CNT formed a resident advisory group in 2022. They organized five qualitative focus groups of affordable housing residents and building owners and partnered with BIPOC-led community organizations and leaders to engage residents. Partners included Family Focus, Latinos en Evanston Northshore, and City of Evanston Councilmember Bobby Burns.

In the initial phases of engaging with the Evanston community to explore options to achieve affordable, resilient, net-zero homes, key stakeholders voiced many policy ideas, opportunities, and concerns about program design.

Focus Groups

Five focus groups were held from March 2022 – May 2022, each with a different constituency:

- One with landlords; two with renters; two with homeowners
- Three in English; two in Spanish
- Two hosted at Family Focus' building; two at Robert Crown Community Center; one online

There were approximately 35 total participants (about 6-8 per focus group). Family Focus and Latinos en Evanston/Northshore (LENS) assisted with the recruitment and facilitation of those meetings. All the participants were compensated with gift cards. Community partners and facilitators were also compensated.

Focus Group results covered interest and concern in home improvement types, income, application, and program communication. Major concerns included preserving affordability, developing equitable procurement, and workforce development policies that support the city's values around racial equity.

- Home Improvement Types of Greatest Interest
    - Upgrading electrical (due to both efficiency and safety concerns)
    - Upgrading plumbing
    - Roof repair or replacement
    - Insulation improvement or installation
    - Window replacement
    - General interest in advice on energy efficiency
- Income Level
    - Some participants expressed concerns that no homeowners in Evanston would be eligible
    - No real concern about finding renters who would be eligible – there was concern about whether their landlords would be willing to participate
- Application and Program Communication
    - Most participants preferred to fill-out an online form
    - Texts, calls, and home visits were also popular – going to the Civic Center was not
    - Strong preference for emails and text messages to stay in touch about the program
    - Nobody wanted door hangers – preferred electronic communication

Resident Advisory Group

A Resident Advisory Group was formed to provide feedback to the project team at different points in the process. Members' role was to serve as the "voice" of the community during the program design, rollout, and evaluation phases of the pilot "One Stop Shop" Program (the Evanston Green Homes initially was called the "one-stop stop" reflecting the goal of a program that would only require residents to have to apply at one location/speak to one person, rather than having to take multiple steps to enroll and participate in the program). The group's participants were asked to attend 6-8 meetings during the program's three phases: design phase (December 2022-March 2023), implementation phase (April 2023), and once the pilot was near completion (Fall 2025). Participants of the Resident Advisory Group received a stipend of $1,000 for their participation in the program.

Participating Members



- Mercedes Fernandez, Latinos in Evanston Northshore (LENS) Former President, Centro de Desarrollo Latino (CEDEL) Founder and President, and Latino Liaison and Minority Language Coordinator of Evanston Township High School
- Theodore Manning, Founder of Socially Responsible Ventures L3C and Climate Action Evanston member
- Nate Kipnis, Principal of Nathan Kipnis Architecture + Planning
- Mayra Alvarez, Latinos en Evanston Northshore (LENS) member
- Hal Sprague, Community Engagement Manager of Trajectory Energy Partners and Citizens Greener Evanston member
- John Fuller, First Vice President of the NAACP Evanston Branch
- Loren Berlin, Housing and Community Development Committee member (previous) and Land Use Commission Chair
- Robyn Hurtig, Environmental Justice Evanston member
- Bob Parris, Managing Broker of Manchester Realty

Image Caption: PowerPoint slide for the first Advisory Group meeting of the Evanston Green Homes Pilot Program

Summary of Feedback Received

A variety of thoughtful feedback and information was received from the Resident Advisory Group throughout the program's cycle, conversations ranged from:

- Project goals
- Geographic priorities, including prioritizing areas of highest vulnerability to climate change impacts
- Application process, including translating documents to Spanish and having information available online and through paper application
- Participant recruitment (including income limits) and contractor engagement process (such as starting by using the City's database)
- Pilot's design, including debates on renters versus homeowners, and workforce development
- Communications, use of approachable language and content

HOW THE PROGRAM WORKS

The Evanston Green Homes Pilot officially launched in June 2023 and the pilot runs through 2026. Information on the program and application can be found on the project website Evanston Green Homes | Pilot.

To enroll, homeowners, landlords, and/or tenants submitted an application, then project staff followed up within three business days to confirm eligibility. After confirming eligibility, an energy assessment was scheduled, and participants received a detailed report with observations and recommendations. After selecting desired upgrades, the project team hired a qualified contractor and oversaw the construction process, ensuring consistent communication throughout. Staff maintained contact post-completion to ensure upgrades met expectations.

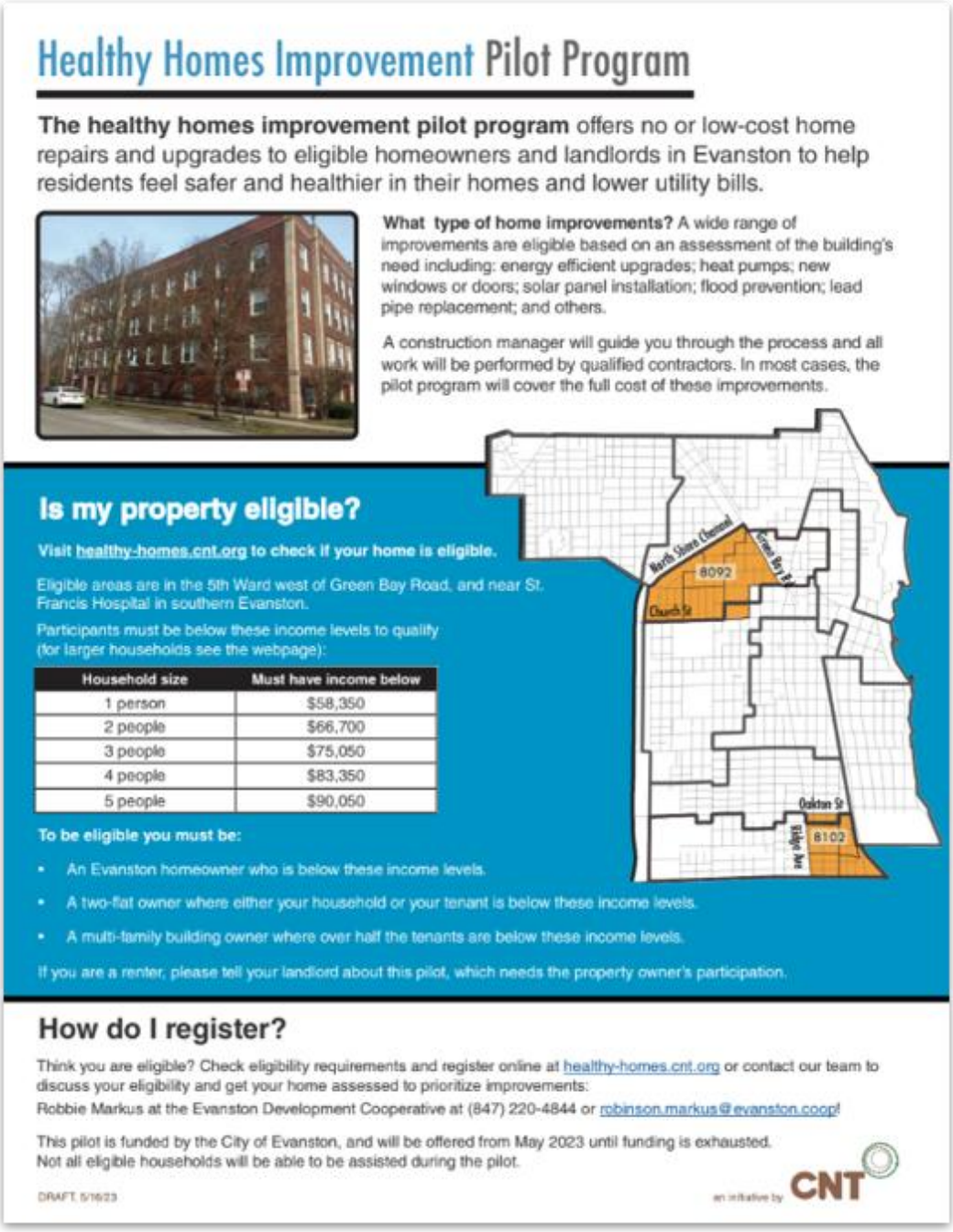


Image caption: The original Evanston Green Homes Pilot program flyer to recruit participants.

Geography & Eligibility

Eligible areas are in the 5th Ward west of Green Bay Road (Census tract 8092), and near St. Francis Hospital in southern Evanston (the four eastern Census block groups in Census tract 8102). A mobile-friendly webpage, greenhomes.cnt.org, contains a map and address lookup tool.

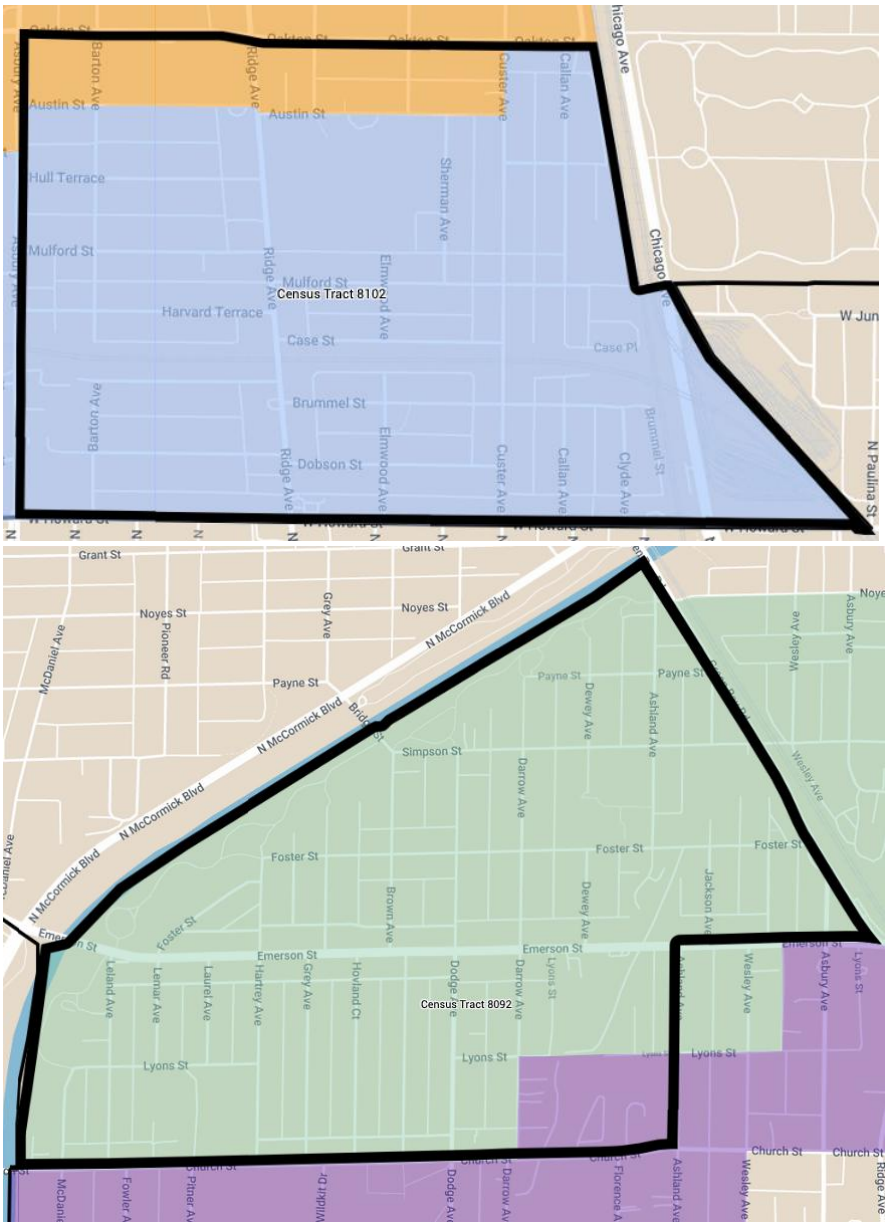


Image Caption: Boundaries of Census Tracts 8102 (top) and 8092 (bottom).

Participants must be below these income levels to qualify. Income levels are based on the Chicago-Joliet-Naperville, IL HUD Metro FMR area, and are set at 80% of AMI. These eligibility requirements will be updated in future years using annual income. Eligibility requirements for the pilot are listed below.

- Single-family owner-occupied with an income qualified household
- Single-family non-owner-occupied with an income qualified household
- Multi-family, attached or detached, owner-occupied with a majority of income (>=50% for 2 unit buildings or >51% for 3+ unit buildings) qualified households
- Multi-family, attached or detached, non-owner-occupied, with a majority of income qualified households
- Rental Accessory Dwelling Units (ADUs), containing appropriate permits
- Detached site condominiums - please note that these are technically eligible but will not be among the first several properties because of the additional complexity of working in condominiums

- Household Size must have income below:

    - 1 person $62,800
    - 2 people $71,800
    - 3 people $80,750
    - 4 people $89,700
    - 5 people $96,900

- Affordability Preservation Requirements:
    - Participants who are landlords will be required to maintain affordability for a number of years.
    - Affordability will be protected in two ways: (1) annual review of rents by the City of Evanston to ensure they remain within comparable ranges; and (2) review of tenant income by the City of Evanston whenever apartments turn over.
    - With sensitivity towards the socio-economic climate of the census tracts, it was a requirement that renting landowners do not increase rent beyond the Illinois Housing Development Agency (IHDA) rent limits within 5 years of the project implementation to maintain affordability.

- Participants are required to live in the pilot areas, and occupants are to be within the established income limits.

Application Process

Once eligibility was confirmed, the application process allowed property owners to declare their desired outcomes from the project, such as the decrease in energy bills, increased health conditions, or enhanced comfort. The application asked for generalizations about air quality, heating and cooling abilities within the property, and whether occupants have any underlying health conditions. These components of the application helped implementers ensure that the project was in line with the needs of the applicants. Once applicants are selected, Elevate conducted an on-site assessment of the property to suggest where repairs and upgrades were needed. This assessment included the extent of damage, the remediation possibilities, and estimated costs.

Contractor Recruitment

Contractors expressed interest in the program through a Contractor Signup Form. This form asked questions regarding experience within the City of Evanston, insurance qualifications, certifications for the practice, and how many employees they have. Contractors were vetted to ensure the contractor had proper insurance and qualifications for the project. This process proceeded throughout the entirety of the project to ensure those selected remained qualified. Upon assessment, contractors were selected through a ranking system and finally a bidding process. The ranking system sorted those who qualified for the project by their past work experience. After a contractor was selected, construction began with frequent contact between Elevate and the property owner. Pre- and post-photos were taken to validate the work completed. The conclusion of each project was followed up with a survey to assess the satisfaction of the owner with the completed retrofitting.

Elevate conducted a formal Request for Qualifications process as required per the value of the projects and Code of Federal Regulations (CFR). The Contractor Sign Up form was generally used as an indicator of interest before directing contractors to our RFQ, which was posted on Elevate's website, calling out use of Cook County prevailing wage.

Are you a Residential Contractor?

Join the Evanston Green Homes Pilot program to gain access to bidding opportunities on a new $1 million home rehab project in Evanston. We're looking for skilled trades to carry out rehab work in single- and multi-family homes. Examples of relevant work include:

- Health and safety remediation
- Insulation
- HVAC
- Electric
- Window and door replacements
- Building Envelope and framing work
- Caulking
- Plumbing

Complete the interest form here to be notified of bid opportunities for projects like these. Applications are accepted on a rolling basis. Work is expected to begin late summer/early fall 2024.

To learn more

Scan the QR code or visit **greenhomes.cnt.org**

Call **312-292-9017**

Email **geenhomes@elevatenp.org**

CNT

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Equity through climate action

City of Evanston

Image Caption: The Evanston Green Home Program's flyer to recruit local contractors for the pilot.

PROJECT IMPLEMENTATION

The following section outlines properties that were accepted into the program, listing homeowner goals, construction improvements, areas of work completed, and project costs (including labor and materials, and the Cook County prevailing wage requirement).

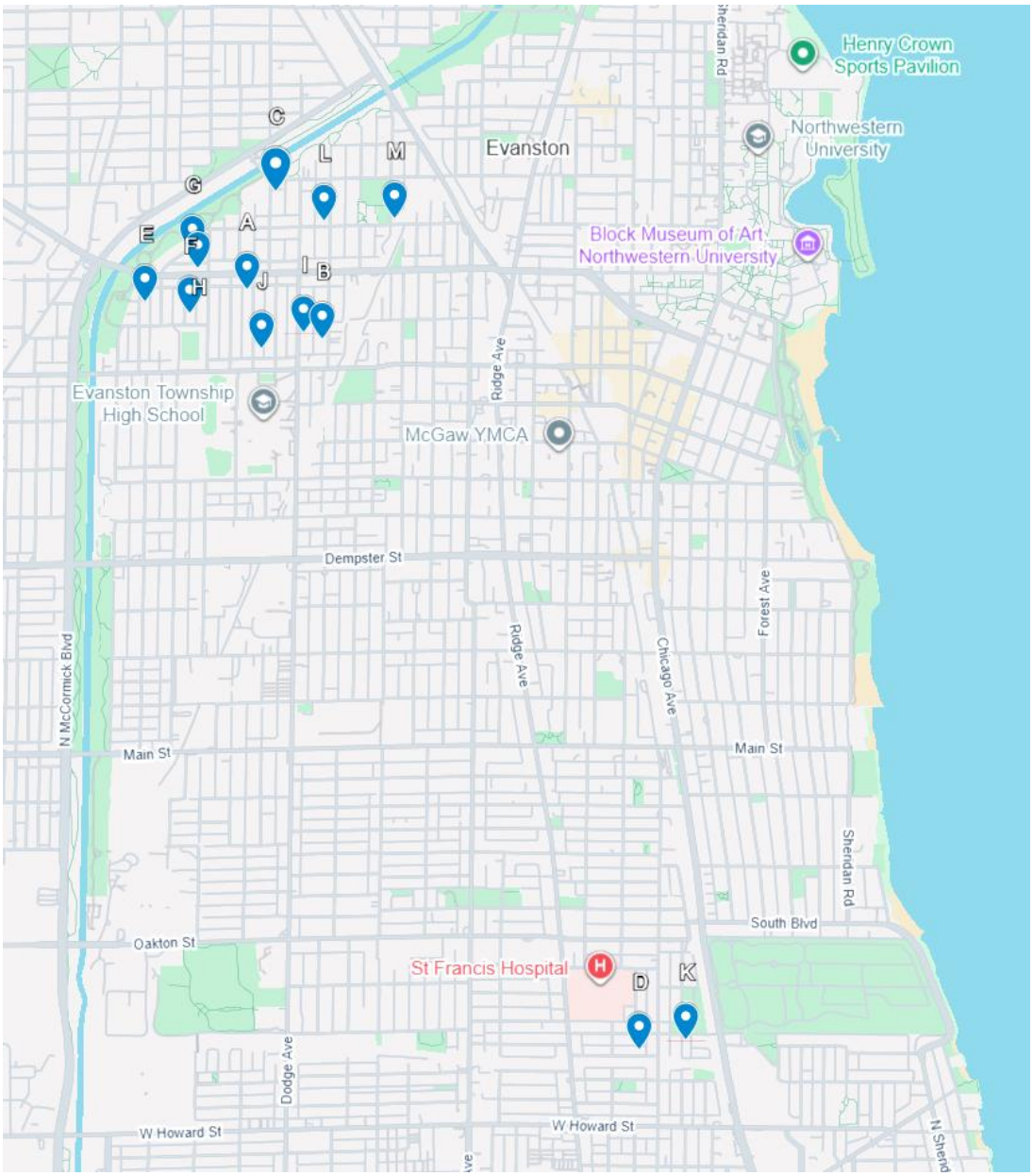


Image caption: Map depicts corresponding (below) locations of properties in the Evanston Green Homes Pilot Program.

A) [redacted] Hovland Court, Evanston, IL 60201[2]



Property Details:

- Single-Family 3-Bedroom House
- Units: 1
- Construction Start: 04/21/2025
- Construction End: 05/09/2025
- Total Project Cost (with permits): $36,050

Homeowner Goals:

- Health and Safety Improvements
- Energy Conservation and Weatherization
- Reduced Utility Bills
- Enhanced Comfort

Work Completed:

1. Health and Safety
    a. Summary: Bathroom had moldy tiling surrounding the shower and tub. Moisture damage permeated bathroom floor resulting in damage observed in basement ceiling. Bathroom also had internal plumbing leak within the shower compartment coupled with general missing plumbing hardware.
    b. Work Completed: Mold identification and remediation comprised of entire surface removal or complete location overhaul. Shower tub was demolished and

[2] Case Study in Appendix

disposed of as well as a damaged stud plate and subfloor removed. Installation of new drywall, shower tub, and was paired with mold fungicide and sealer to avoid mold regrowth.

c. Cost: $12,000

2. Health and Safety, Energy Conservation
    a. Summary: No mechanized ventilation.
    b. Work Completed: Insulation of new, Energy Star-certified bathroom fan to assist with moisture build-up in the future.
    c. Cost: $2,200

3. Health and Safety, Weatherization
    a. Summary: Draft and mold expansion were a concern due to an old bathroom window not working properly.
    b. Work Completed: A new double hung Energy Star PG20 Northern Climate Zone rated window was installed and properly sealed.
    c. Cost: $1,450

4. Health and Safety, Weatherization
    a. Summary: Chimney was not properly sealed, thus creating the possibility of combustible gases entering the living room. The exterior of the chimney was crumbling.
    b. Work Completed: Repairs included replacing damaged or missing bricks, using a sealant to prevent combustible gases from entering the other areas of the home, and replacing the capstone on the exterior of the chimney.
    c. Cost: $6,500

5. Energy Efficiency and Weatherization
    a. Summary: There was missing or damaged weather stripping at the exterior door of the unit.
    b. Work Completed: The door was cleaned, stripped of the previous stripping, and replaced with newer, properly sealed stripping.
    c. Cost: $400

6. Health and Safety
    a. Summary: Gutters and downspouts were damaged and leaking, specifically near the chimney, which damaged the wood fascia.

b. Work Completed: All gutters and downspouts were removed and replaced to ensure the water flowed properly and didn't leak.
c. Cost: $7,000

7. Health and Safety
    a) Summary: Seepage into the basement under the interior stairs and chimney vicinity.
    b) Work Completed: An epoxy injection was inserted into the cracks at the foundation, and a sealant was applied to a separation between the foundation and the sidewalk.
    c) Cost: $2,500

8. Health and Safety
    a. Summary: External fascia's paint was peeling from previous damage.
    b. Work Completed: Rotten boards were replaced and capped with existing aluminum fascia.
    c. Cost: $4,000

Before & After Pictures

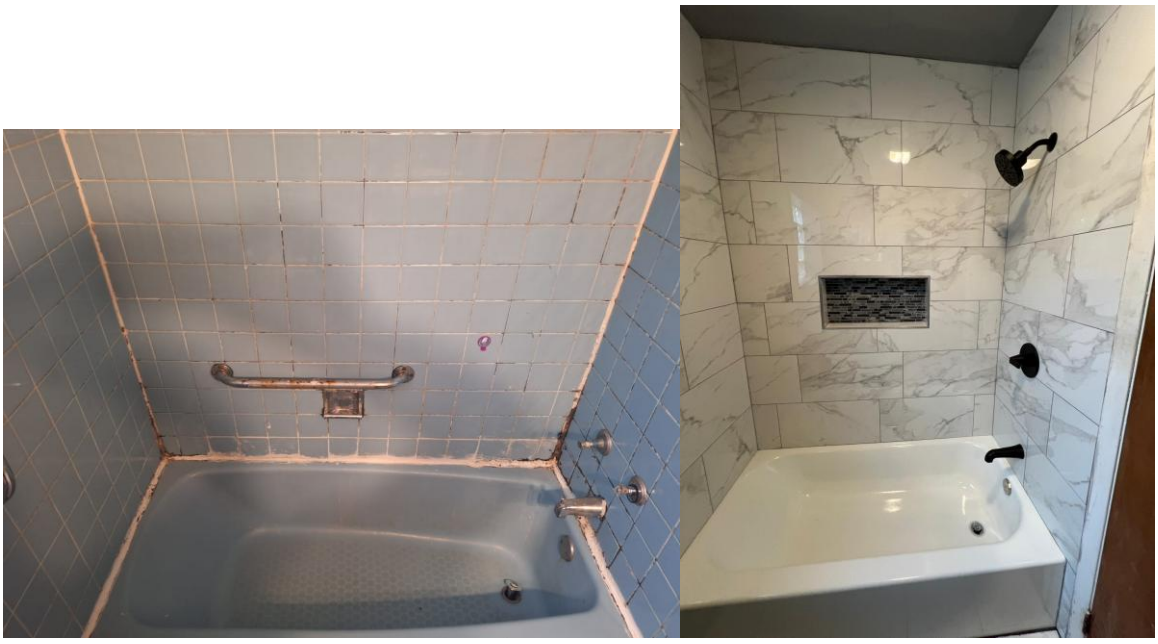


Image Caption: Mold identification and remediation comprised of replacing bathtub and bathroom tile.

B) [redacted] Darrow Avenue, Evanston, IL 60201



Property Details:

- 2-Story Multifamily Residence
- Units: 2
- Construction Start: 03/25/2025
- Construction End: 06/02/2025
- Total Project Cost (with permits): $65,400

Homeowner Goals:

- Electrification
- Health and Safety Improvements
- Energy Conservation and Weatherization
- Reduced Utility Bills
- Enhanced Comfort

Work Completed:

1. Health and Safety
    a. Summary: Electrical hazards existed with the attic crawlspace and basement such as junction boxes without covers, loose fittings, and exposed wires.

b. Work Completed: All electrical hazards were repaired, and the electrical system was upgraded to 200A per unit (400A total) to sustain the new upgrades.
c. Cost: $37,000

2. Health and Safety
    a. Summary: The bathroom ventilation fan was not properly vented as the vent led to the basement rather than outside for proper air flow.
    b. Work Completed: The upstairs bathroom fan was fitted and vented up to code.
    c. Cost: $2,500

3. Health and Safety
    a. Summary: The base of the chimney and the floor had gaps and holes from water ingress, and there were backdraft issues and rust on one of the boilers.
    b. Work Completed: Chimney repair was comprised of anti-corrosion material, a new chimney cap, and brick replacement.
    c. Cost: $4,500

4. Energy Efficiency
    a. Summary: The back portion of the attic lacked proper air sealing and insulation.
    b. Work Completed: The back portion was brought up to code to match the front portion with insulation and air-tight sealants.
    c. Cost: $2,900

5. Energy Efficiency
    a. Summary: The exterior wall cavity needed new air sealant and insulation
    b. Work Completed: All accessible spaces were finished with an air seal.
    c. Cost: $5,500

Before & After Pictures





Image Caption: The owner's natural gas-fired range was replaced with an induction range.

C) [redacted] Brown Avenue, Evanston, IL 60201[3]



Property Details:

- One-Story, 2-Bedroom Family Residence
- Units: 1
- Construction Start: 03/13/2025
- Construction End: 06/26/2025
- Total Project Cost (with permits): $59,700

Homeowner Goals:

- Electrification
- Energy Conservation and Weatherization
- Reduced Utility Bills
- Enhanced Comfort

Work Completed:

1. Electrification
    a. Summary: Electrical system within the building was insufficient at only 100A.
    b. Work Completed: Existing electrical system was upgraded to 200A and brought up to code.
    c. Cost: $18,000

[3] Case Study in Appendix

2. Energy Efficiency
    a. Summary: The existing basement rim joist was degraded by condensation and moisture.
    b. Work Completed: Existing rim joist insulation was removed and replaced with a 2” foam board aluminum face.
    c. Cost: $4,000

3. Electrification
    a. Summary: The basement contained a natural gas furnace.
    b. Work Completed: A new ducted Heat Pump system was installed along with line set copper.
    c. Cost: $23,000

4. Electrification
    a. Summary: The basement contained a gas tank water heater.
    b. Work Completed: The gas tank water heater system was replaced with an Energy Star electrical heat pump system. A new electrical line and circuits were installed, specifically dedicated to the new system.
    c. Cost: $8,800

5. Energy Efficiency
    a. Summary: The hot water pipes were uninsulated within the basement.
    b. Work Completed: Insulation for the new hot water system was installed.
    c. Cost: $600

6. Electrification
    a. Summary: The kitchen contained an old gas range.
    b. Work Completed: A new electric induction range was installed and given a dedicated electrical line and circuit.
    c. Cost: $3,300

Before & After Pictures





Image Caption: An outdoor heat pump unit replaced the property's air conditioner.

D) [redacted] Case Street, Evanston, IL 60202[4]



Property Details:

- 3-Bedroom, Single-Story Single-Family Residence
- Units: 1
- Construction Start: 07/14/2025
- Construction End: 07/16/2025
- Total Project Cost (with permits): $20,700

Homeowner Goals:

- Health and Safety Improvements
- Electrification
- Energy Conservation and Weatherization
- Reduced Utility Bills
- Enhanced Comfort

Work Completed:

1. Health and Safety
    a. Summary: Miscellaneous electrical repairs were needed, such as open junction boxes and other electrical hazards.
    b. Work Completed: All open junction boxes were covered before insulation within the attic began.

[4] Case Study in Appendix

c. Cost: $780

2. Health and Safety
    a. Summary: The flue pipe sloped down into the chimney, presenting a health risk that could release combustible gases.
    b. Work Completed: The chimney was drilled into to increase the water heater flue pipe pitch. A new flue pipe was installed, and the chimney was sealed.
    c. Cost: $970

3. Health and Safety
    a. Summary: The kitchen window had a section that was not air-sealed or insulted properly.
    b. Work Competed: The kitchen window was insulated and air sealed. Drywall was also added to the kitchen window to further the effectiveness and stability of the sealing.
    c. Cost: $450

4. Health and Safety
    a. Summary: There was a lead service line within the home, presenting a health risk in the form of possible lead consumption.
    b. Work Completed: A lead-removal filter was installed under the sink to ensure the faucet water was safe for consumption and use.
    c. Cost: $2,300

5. Health and Safety
    a. Summary: The unit had unknown ASHRAE 62.2 compliance, and the bathroom fan only had an on/off feature.
    b. Work Completed: A new motion sensor, ASHRAE 62.2 compliant, Energy Star fan was installed, and the exhaust to the roof was insulated.
    c. Cost: $2,400

6. Energy Efficiency
    a. Summary: The basement lacked sufficient insulation and air sealing at the rim joist.
    b. Work Completed: The basement was properly insulated and air sealed at the rim joist.
    c. Cost: $2,100

7. Energy Efficiency
    a. Summary: The attic lacked proper insulation and air sealing.
    b. Work Completed: A blower door test and infrared scans were conducted throughout the unit to determine the air leakage rate and the locations of the insufficient air sealing and insulation. Once the tests were completed, the attic was properly insulated and air sealed to prevent future leaks.
    c. Cost: $9,200

Before & After Pictures



Image Caption: The kitchen window was insulated and air sealed.

E) [redacted] Leland Avenue, Evanston, IL 60201



Property Details:

- 2-Bedroom, Two Story Single-Family Residence
- Units: 1
- Construction Start: 08/06/2025
- Construction End: 08/08/2025
- Total Project Cost (with permits): $59,165

Homeowner Goals:

- Energy Conversation and Weatherization

Work Completed (property fully electrified):

1. Electrification
    a. Summary: The previous electrical system was 100A and insufficient for the upgrades.
    b. Work Completed: The electrical panel was upgraded to 200A as well as a new meter socket and riser installed. New circuits were put in place for all the new electrical appliances.
    c. Cost: $16,000

2. Electrification
    a. Summary: The unit had a gas fired furnace system and central A/C.
    b. Work Completed: The gas furnace and HVAC system were replaced by a ducted electrical Heat Pump system.

    c. Cost: $27,000

3. Electrification
    a. Summary: The unit contained a gas water heater.
    b. Work Completed: The unit was fitted with a Heat Pump water heater.
    c. Cost: $4,650

4. Electrification
    a. Summary: The unit had a separate gas cooktop and gas wall oven.
    b. Work Completed: The appliances were replaced with electric appliances and wired to the new dedicated circuits.
    c. Cost: $4,650

5. Electrification
    a. Summary: The unit had a gas-power clothing dryer.
    b. Work Completed: The unit was fitted with an Energy Star rated heat pump, electric dryer.
    c. Cost: $2,690

6. Energy Efficiency
    a. Summary: A cavity within the attic had ineffective insulation and air sealing. No insulation or ail sealing was present on the kneewall or the attic floor.
    b. Work Completed: Fiberglass insulation was installed in the kneewall and in the attic floor with proper air sealing.
    c. Cost: $3,000

7. Health and Safety
    a. Summary: The front door threshold was damaged and leaked from moisture intrusion.
    b. Work completed: Weatherstripping was installed to prevent future leaks.
    c. Cost: $175

Before & After Pictures



Picture caption: The gas-fueled water heater was replaced with a heat pump water heater.

F) [redacted] Laurel Avenue, Evanston, IL 60201



Property Details:

- 3-Bedroom, Two-Story Single-Family Residence
- Units: 1
- Construction Start: 05/17/2025
- Construction End: 07/30/2025
- Total Project Cost (with permits): $18,658.50

Homeowner Goals:

- Energy Conversation and Weatherization
- Health and Safety Improvements
- Reduced Utility Bills
- Enhanced Comfort

Work Completed:

1. Energy Efficiency
    a. Summary: The attic insulation was soiled, and the attic was unsealed.
    b. Work Completed: Eco-friendly insulation was installed and sealed.
    c. Cost: $6,000

2. Health and Safety
    a. Summary: The attic crawlspace insulation had insufficient insulation, and certain parts were entirely unavailable (the crawlspace in the attic required more

extensive labor due to accessibility issues and thus the project amount was increased).

   b. Work Completed: The attic crawlspace was insulated within the portion that was accessible. A transfer grill was installed for air circulation and then air sealed.
   c. Cost: $8,228.50

3. Energy Efficiency
   a. Summary: The exterior doors either lacked weatherstripping or were damaged. The front door also needed a new strike plate and adjustment for proper closure.
   b. Work Completed: The strike plate was replaced, and the door was reinstalled with weatherstrips.
   c. Cost: $280

4. Energy Efficiency
   a. Summary: There was a lack of air sealing and insulation for the rim joists on the exterior walls of the basement.
   b. Work Completed: The rim joists were insulated with a foam spray that allowed for expansion and compression with weather changes.
   c. Cost: $1,800

5. Health and Safety
   a. Summary: The unit had unknown air quality compliance.
   b. Work Completed: A full door blower test was implemented both before and after the aforementioned work.
   c. Cost: $900

6. Health and Safety
   a. Summary: The attic had no external exhaust ventilation.
   b. Work Completed: 4 vents leading to the exterior from the attic were installed.
   c. Cost: $1,000

Before & After Pictures



Image Caption: The property's crawlspace was air sealed and insulated.

G) [redacted] Foster Street, Evanston, IL 60201



Property Details:

- 3-bedroom, Single-Story Single-Family Residence
- Units: 1
- Construction Start: 09/29/2025
- Construction End: 10/07/2025
- Total Project Cost (with permits): $34,000

Homeowner Goals:

- Energy Conservation and Weatherization
- Health and Safety Improvements
- Enhanced Comfort

Work Completed:

1. Energy Efficiency
    a. Summary: The attic insulation was minimal, and the air sealing was insufficient.
    b. Work Completed: Cellulose blown insulation replaced the former insulation, additional hatch height was added to prevent cellulose fall off from the attic, and the insulation was air sealed.
    c. Cost: $14,000

2. Health and Safety
    a. Summary: The unit had an unknown level of compliance with ASHRAE 62.2 internal air quality standards.

b. Work Completed: An exhaust fan was installed in the bathroom and a blower door test was conducted prior to the installation of the new insulation and after.
c. Cost: $4,500

3. Health and Safety
    a. Summary: The tub/shower compartment was non-ADA compliant.
    b. Work Completed: An ADA-compliant walk-in shower was installed after the previous walls and bathtub were removed.
    c. Cost: $11,500

4. Health and Safety
    a. Summary: The toilet seat was uncomfortably low for the resident.
    b. Work Completed: The previous toilet was removed and disposed of and replaced with a more comfortable toilet. The ADA improvements made it more comfortable for the 90-year-old occupant.
    c. Cost: $1,500

Before & After Pictures



Image Caption: Cellulose blown insulation replaced the former insulation, additional hatch height was added to prevent cellulose fall off from the attic, and the insulation was air sealed.

H) [redacted] Emerson Street, Evanston, IL 60201



Property Details:

- 3 Bedrooms, Two-Story Multifamily Residence
- Units: 2
- Construction Start: 10/27/2025
- Construction End: 11/21/2025
- Total Project Cost (with permits): $87,888.72

Homeowner Goals:

- Energy Conservation and Weatherization

Work Completed:

1. Electrification
    a. Summary: The property had cloth wiring and a 100A panel.
    b. Work Completed: The unit was upgraded to a 200A panel that would be able to sustain the new electrical appliances, and the cloth wiring was replaced.
    c. Cost: $25,000

2. Electrification
    a. Summary: The property had a gas-powered furnace.
    b. Work Completed: The gas furnace was removed and replaced with an electric Energy Start Heat Pump furnace.

c. Cost: $28,400

3. Electrification
    a. Summary: Unit 2 basement had a gas water heater.
    b. Work Completed: Unit installed with an Energy Star Heat Pump electric system.
    c. Cost: $5,200

4. Electrification
    a. Summary: Unit 2's kitchen contained a gas stove.
    b. Work Completed: An Energy Star electric oven/range was installed in place of the gas powered one.
    c. Cost: $3,600

5. Energy Efficiency
    a. Summary: The attic for the property lacked sufficient insulation and air sealing.
    b. Work Completed: A pre and post blower door test was conducted following the installation of proper insulation and air sealing.
    c. Cost: $8,915.38

6. Health and Safety
    a. Summary: The attic lacked proper ventilation and the capabilities for outflow.
    b. Work Completed: The attic was equipped with proper ventilation for outflow.
    c. Cost: $3,000

7. Energy Efficiency
    a. Summary: The exterior walls had an unknown level of insulation.
    b. Work Completed: The walls were insulated with densely packed formaldehyde-free insulation materials.
    c. Cost: $8,976.84

8. Energy Efficiency
    a. Summary: The basement pipes were uninsulated.
    b. Work Completed: The hot water pipes were insulated for energy efficiency.
    c. Cost: $401.50

9. Health and Safety

a. Summary: The property had an unknown level of compliance with ASHRAE 62.2 internal air quality standards.
b. Work Completed: ASHRAE fans were installed throughout the property.
c. Cost: $1,395

Before & After Pictures



Image Caption: The gas furnace was removed and replaced with an electric Energy Start Heat Pump furnace.

I) [redacted] Dodge Avenue, Evanston, IL 60201



Property Details:

- Two-Story Multifamily Residence, 4 Bedrooms
- Units: 2
- Construction Start: 11/10/2025
- Construction End: 11/21/2025
- Total Project Cost (with permits): $100,195

Homeowner Goals:

- Energy Conservation and Weatherization
- Reduced Utility Bills
- Enhanced Comfort

Work Completed:

1. Electrification
    a. Summary: The property has two 100A panels in the basement.
    b. Work Completed: The panel system was upgraded to a 200A panel with dedicated circuits for the new electrical appliances being installed.
    c. Cost: $60,000

2. Electrification
    a. Summary: The first-floor unit had a freestanding gas stove.

b. Work Completed: The unit was installed with an Energy Star electric induction range.
c. Cost: $4,000

3. Energy Efficiency
    a. Summary: A duct on the first floor was disconnected. Some of the ducts were also damaged and structurally insufficient.
    b. Work Completed: The ventilation was repaired and upgraded to sufficient sizing and stability.
    c. Cost: $4,500

4. Energy Efficiency
    a. Summary: The basement rim joist lacked air sealing and proper insulation.
    b. Work Completed: The basement rim joist was air sealed and insulated with rigid foam board and spray foam.
    c. Cost: $2,695

5. Energy Efficiency
    a. Summary: The exterior walls had an unknown level of insulation and air sealing.
    b. Work Completed: The walls were densely packed with formaldehyde-free insulation and then air sealed.
    c. Cost: $19,000

6. Health and Safety
    a. Summary: The property had an unknown level of compliance with ASHRAE 62.2 internal air quality standards.
    b. Work Completed: A blower door test was completed, and the entirety of the property was air sealed where needed.
    c. Cost: $8,000

Before & After Pictures



Image Caption: The basement rim joist was air sealed and insulated with rigid foam board and spray foam.

J) [redacted] Hovland Court, Evanston, IL 60201



Property Details:

- 2-Bedroom, One-Story Family Residence
- Units: 1
- Construction Start: 02/09/2026
- Construction End: 02/27/2026
- Total Project Cost (with permits): $86,000

Homeowner Goals:

- Energy Conservation and Weatherization
- Reduced Utility Bills

Work Completed (property fully electrified):

1. Electrification
    a. Summary: The unit had an older 100A electrical panel.
    b. Work Completed: The unit was upgraded to a 200A panel for the new electrical appliances being installed.
    c. Cost: $19,900

2. Energy Efficiency
    a. Summary: The attic had insufficient air sealing and cellulose insulation.
    b. Work Completed: A blower door test was completed, and the locations with insufficient air sealing and insulation were properly repaired.

c. Cost: $7,400

3. Energy Efficiency
    a. Summary: The exterior walls lacked insulation.
    b. Work Completed: The walls were insulated with formaldehyde-free insulation.
    c. Cost: $7,200

4. Energy Efficiency
    a. Summary: The exterior doors' stripping and sweeps were either missing or damaged.
    b. Work Completed: Weather strips and sweeps were installed to all exterior doors and sealed around the edges of the door to prevent airflow.
    c. Cost: $200

5. Electrification
    a. Summary: The unit had a gas-powered furnace.
    b. Work Completed: An Energy Star certified electric heat pump system was installed, replacing the gas-powered system.
    c. Cost: $23,700

6. Electrification
    a. Summary: The basement had a 17-year-old gas-powered water heater.
    b. Work Completed: The gas-powered system was replaced by an Energy Star electric heat pump system.
    c. Cost: $7,600

7. Electrification
    a. Summary: The kitchen has a gas range.
    b. Work Completed: An Energy Star certified electric range was installed to replace the gas-powered system.
    c. Cost: $5,800

8. Electrification
    a. Summary: The unit had a gas-powered dryer.
    b. Work Completed: The unit was upgraded to an Energy Star electric dryer.
    c. Cost: $3,500

9. Health and Safety
    a. Summary: The first basement stair tread was supported from below, a possible safety issue.
    b. Work Completed: The basement stairs were repaired, and the tread was replaced above the stairs.
    c. Cost: $1,600

10. Energy Efficiency
    a. Summary: The kitchen, dining room, and bedroom wooden windows didn't close properly. Some frames were broken or out of alignment.
    b. Work Completed: Three new windows were installed across the property with new trims, frames, and weatherstrips.
    c. Cost: $4,900

11. Health and Safety
    a. Summary: The property had an unknown level of compliance with ASHRAE 62.2 internal air quality standards.
    b. Work Completed: The bathroom was upgraded with a compliant exhaust fan and any other gaps throughout the property were sealed.
    c. Cost: $2,200

Before & After Pictures



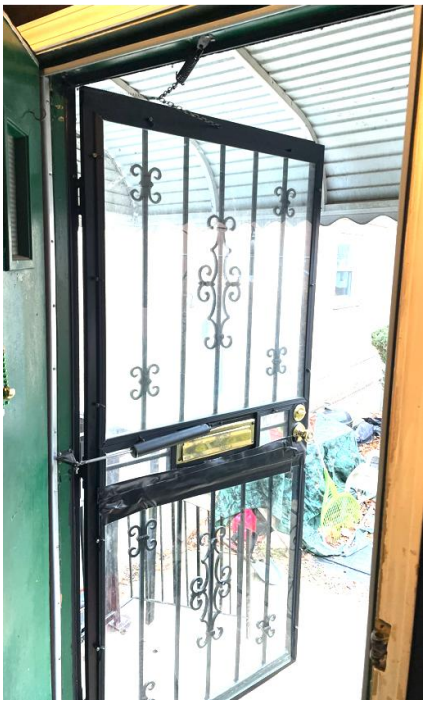


Image Caption: Weather strips and sweeps were installed to all exterior doors and sealed around the edges of the door to prevent airflow.

K) [redacted] Callan Ave, Evanston, IL 60202



Property Details:

- Three-Story Multi-Family Residence
- Units: 5
- Construction Start: 12/24/2025
- Construction End: 12/30/2025
- Total Project Cost (with permits): $246,744.66

Work Completed (full electrification of tenant units):

1. Health and Safety
    a. Summary: Each unit had a 100A panel which was insufficient for electrical appliance upgrades.
    b. Work Completed: Each unit was upgraded to a 200A panel with new circuits and patching.
    c. Cost: $46,501

2. Electrification
    a. Summary: The HVAC system had a gas furnace.
    b. Work Completed: The system was upgraded to Energy Star certified electric heat pump systems.
    c. Cost: $158,500

3. Electrification
    a. Summary: Units previously contained gas-powered ranges.
    b. Work Completed: The units were upgraded with electrical ranges.

c. Cost: $12,500

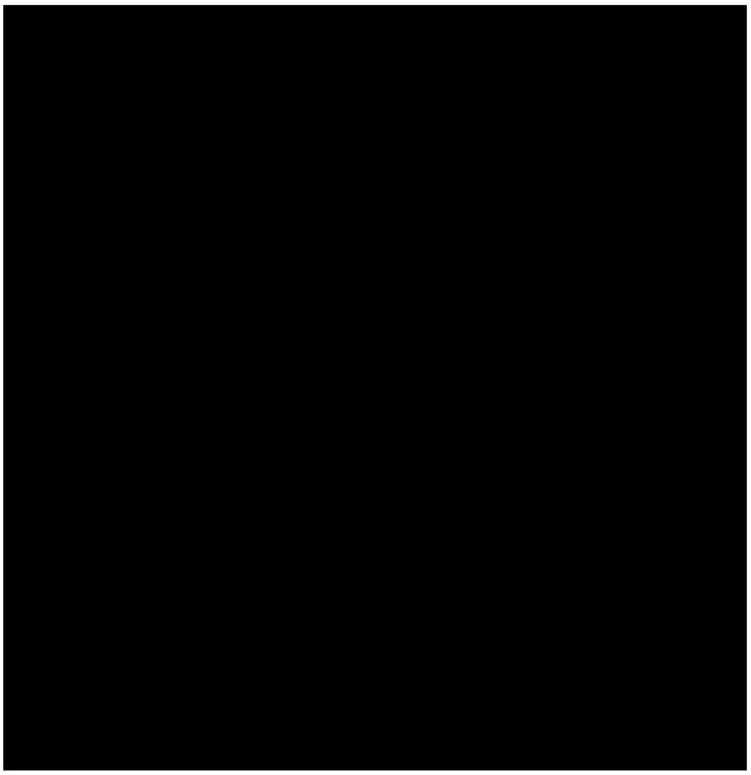
4. Electrification
    a. Summary: Units contained gas-powered washers and dryers.
    b. Work Completed: The units were upgraded to electrical Energy Star rated combination washer/dryer.
    c. Cost: $22,500

Before & After Pictures



Image Caption: The units were upgraded with electrical ranges.

L) [redacted] Darrow Avenue, Evanston, IL 60201



Property Details:

- 7-Bedroom, Two-Story Multifamily Residence
- Units: 2
- Construction Start: 05/14/2026
- Construction End: 05/29/2026
- Total Project Cost (with permits): $149,550 ($24,545 of Evanston Green Homes funds)

M) [redacted] Foster Street, Evanston, IL 60201

Property Details:

The below summary includes project work across 7 properties facilitated between Evanston Green Homes, the ComEd Whole Home Electric program, and the property owner. The cost of retrofitting was split by a combination of the three sources. This overview serves as a summary of all 7 properties under Oaktree Apartments. Construction at these properties is ongoing and is scheduled to complete by the end of 2026.

- 7 properties
- Construction Start: 05/2026
- Construction End: In Progress
- Project Total: $988,923.20
- Cost to EGH: $200,364.36
- Cost to ComEd: $788,558.84
- Cost to Client: $0

Work Completed:

1) Energy Efficiency
    a) Summary: Properties had outdated fixtures that reduced efficiency with water consumption. The ducts were incompatible with the newer appliances, modern thermostats were needed to regulate temperature, and previous fans were unable to properly facilitate air flow. Insulation across the properties was inconsistent, often insufficient or lacking entirely.
    b) Work Completed: Electronic thermostats were installed to regulate temperature and energy usage. Ducts to accompany the new HVAC systems were installed. Energy Star rated exhaust fans were installed for proper airflow. Air sealing was conducted throughout each property to ensure there were no air leakages.
    c) Cost: $157,052.30

2) Electrification
    a) Summary: The properties had multiple inefficient appliances such as gas stoves, water heaters, and washer/dryers.
    b) Work Completed: The appliances were removed and upgraded to Energy Star rated electric appliances.
    c) Cost: $654,923

3) Site Prep Work

a) Work Completed: Insulation in attics was installed, along with any walls that needed it.
b) Cost: $129,500

FROM LESSONS TO ACTION: FUTURE RECOMMENDATIONS

The Evanston Green Homes Program Team collected lessons to improve the program's design and implementation throughout the entirety of the pilot. These lessons were informed by the project consultants, City staff, and conversations with the Resident Advisory Group, City Officials, and other stakeholders. This section combines reflective lessons learned with proactive recommendations for future implementation.

Program Design

1. Leverage a Housing Coalition as an Advisory Committee
    - Evanston Green Homes' Resident Advisory Committee was successful in designing a human-centered approach to building electrification that prioritized the needs of housing occupants and elevated the priorities of beneficial electrification and health and safety improvements. However, broader and deeper engagement with multifamily property owners is needed to scale the program to larger buildings and further preserve affordable housing.
    - The continued use of a Resident Advisory Committee should focus on integrating multifamily property owner input into the most effective strategies for tenant data intake, including the collection of utility and income information needed for energy assessments and program eligibility verification. Effective engagement with multifamily property owners would also provide deeper insight into what motivates multifamily property owner participation in building decarbonization initiatives—such as the value of improvements, operational cost reductions, enhanced health and safety, and their willingness to meet affordability preservation requirements.
    - To strengthen this engagement, Elevate recommends partnering with a housing coalition to establish ongoing feedback loops among building owners, tenants, and program implementers. This structure would help identify the most effective approaches for recruiting multifamily properties and support continuous improvement in program service delivery.

2. Continue the "One-Stop-Shop" Model

    - The model facilitates the building of relationships with community members and streamlining services and funding.

- This allows building owners to engage with a mediary between government and market which builds a level of trust that is critical when making significant changes to people's living environment. It also streamlines access to multiple services and resources.

3. Expand Geographic Focus Areas
    - Throughout the program cycle, there was consistent interest in expanding Evanston Green Homes to other parts of the city, suggesting a broader vision for long-term program growth. Further clarifying the rationale for selecting certain communities, such as economic and environmental variables, would help facilitate discussions around expansion.
    - Census tract 8096, which was identified as a priority area climate mitigation and resilience strategies across multiple federal, state, and philanthropic funding opportunities, represents a strong next step for expansion of the program into other parts of the city for the next iteration of Evanston Green Homes.
4. Continue Communicating Project Mission Linkages
    - Strengthening the connection between housing conditions and residents' vulnerability to climate change—for example, how rising temperatures increase the need for proper air sealing, insulation, energy efficient heating and cooling systems—creates strong opportunities for business development and targeted funding campaigns. Framing these essential climate-resilience measures as affordable housing preservation improvements and as an anti-displacement strategy can help the program attract new partners, expand its impact, and build broader support for programs funding healthier, safer, and more efficient homes.

Outreach and Engagement

1. Leverage Earned Media and Community Partnerships to Drive Recruitment

    - Earned media received through attendance at community meetings, plus email communications shared with the community at large via City e-news, were the most effective approaches to achieving program awareness and securing program registrations, while community events were helpful for establishing a trusted presence within the community.
    - Increase Project Awareness through partnerships with local community-based organizations (CBOs) and Continuum of Care Partners that center affordable housing. Leveraging connections with local CBOs and professional associations patronized by multifamily building owners who may not operate, live, or use the resources of a local CBO can help improve multifamily recruitment. There is also

an opportunity to build capacity for collaborations with Continuum of Care partners that have existing relationships with landlord of Naturally Occurring Affordable Housing (NOAH) and with low-income homeowners.

2. Communicate Frequently with Resident Advisory Group and Participants
    - Projects spanning over multiple years require frequent and open communication with participants to make the goals clear and remind them why they are part of the project. This can inform the feedback process and increase trust amongst participants and the project. It also creates local champions for the program to help advertise it and build communal support.
3. Explore ways for Community Members to Provide Feedback on the Program Design or Project Prioritization
    - Create opportunities for community members to provide feedback on the program without having to join a formal group like the Resident Advisory Committee. Options can include:
        i. A section of the project webpage for community members to leave comments/concerns/questions.
        ii. A designated program email for community members to submit feedback.
        iii. Quick surveying that can be done through social media venues, such as Facebook or Instagram.
4. Develop and Implement a Strategic Communications Plan
    - Focus on building broader community awareness and support, including messaging that can be used for fundraising and transferability of the program (communicating the program nationally could help with the transferability of the program to other cities and regions).
    - Craft case studies and other communication pieces that promote the program's successes and speak to its intersections of affordable housing, public health, energy, climate change, and equity.
    - A strong communications plan could help attract and secure new funding and partnership opportunities. It can also Increase political will among city leaders to continue investing in the program.

Partnerships

1. Deepen and Expand Relationships with State- and Utility-led Rebate, Incentive, and Assistance Programs
    - Future iterations of Evanston Green Homes should deepen and formalize partnerships with state and utility rebate, incentive, and assistance programs to

better align resources and streamline program processes. While the project consultants consistently communicated program needs to stakeholders such as ComEd and Illinois Weatherization Assistance Program (IWAP) administrators and cultivated relationships around shared goals—reducing carbon emissions and lowering utility costs for low-income households—misaligned technical and administrative factors limited the ability to fully leverage these opportunities. Moving forward, adopting a more coordinated and structured approach to integrating external funding and incentives may strengthen program outcomes and improve the overall efficiency and reach of Evanston Green Homes.

- There are several pathways for deepening and expanding these partnerships that would remove some of the technical and administrative barriers, secure resources up front, and ultimately improve program outcomes. One option is for the program implementer to establish a collaborative, nonbinding partnership—such as a Memorandum of Understanding (MOU)—that outlines shared goals, roles, and expectations, with or without stipend compensation. Another approach would be to engage state- and utility-led programs through contractual agreements that specify terms, funding commitments, and targeted outcomes.
- Such structured partnerships would expand capacity for deep retrofit work within practical timelines—an essential advantage when serving aging, under-resourced housing stock.

2. Encourage Interdepartmental Coordination at the City of Evanston

    - Stronger coordination between the City of Evanston's Community Development and Sustainability departments—particularly in aligning funding sources, expediting permitting, and tracking housing affordability outcomes—would significantly enhance the service delivery and impact of Evanston Green Homes.
        i. For example, braiding housing rehabilitation funds and retrofit funds to address health and safety measures would maximize funding for weatherization and electrification improvements.
    - Establishing clear, consistent criteria for evaluating permit applications would help projects advance on schedule, support timely fund spenddown, and improve the experience of both participants and contractors. Program implementers can facilitate this by providing permitting staff with a consolidated list of enrolled properties, anticipated construction timelines, contractor information, and a representative scope of work. This would allow the permit desk to follow up on comments more effectively and complete reviews in a timely manner.

3. Develop Stronger and Clearer Affordable Housing Preservation Mechanisms

- To preserve the affordability of naturally occurring affordable housing, Evanston Green Homes incorporated the City of Evanston's expressed preferences for rental property owners to agree to controlling the amount of rent to be charged for a period of five years on the Illinois Housing Development Authority's (IHDA) affordable rent by number of bedrooms schedule and consistent with program income eligibility criteria at 80% AMI. This strategy was intended to reduce the risk of "green gentrification", or an increase in housing cost driven by value increases as a result of building retrofits.
- However, several technicalities within the language of the preservation agreement made it difficult to accomplish these goals, and the structure of the agreement within the property's construction and installation agreement made the requirements difficult to enforce.
- Specifically, intake requirements were based on household size and income, while preservation requirements were tied to the number of bedrooms and the percentage below area median income (AMI). This misalignment between eligibility and preservation criteria created gaps in coverage and, in some cases, placed tenants at risk of displacement.
- To enhance housing affordability preservation outcomes in future iterations of the program, it is recommended the city consider the following strategies:
    i. The City of Evanston considers a process to record preservation requirements on property deeds, thus resulting in stronger enforceability.
    ii. Affordability requirements being aligned with entry requirements of the program, using consistent measures of affordability at both the start and end of the perseveration period.

Implementation

1. Participant Experience
    - Participants in Evanston Green Homes reported strong satisfaction with the program's improvements and outcomes, frequently noting better indoor air quality and overall health. Post installation survey responses reflected a consistently positive experience: participants described the process as good or excellent, felt well supported throughout, and were satisfied with the quality of the work completed. Notably, every respondent indicated they would recommend Evanston Green Homes to others. Evanston Green Homes can enhance the participant experience by shortening project timelines and ensuring consistent, proactive communication from recruitment through project completion.

2. Contractor Recruitment
    - Contractors were recruited through a Request for Qualifications (RFQ) process that outlined the program's goals, objectives, scope of work, and minimum participation requirements. The RFQ was posted on Elevate's website, shared broadly across contractor networks, and promoted at community outreach events alongside participant recruitment. Despite targeted efforts to engage Evanston-based firms, none responded. The program ultimately received 30 RFQ submissions, 9 of which met all qualifications. These firms were invited to bid on projects estimated at $50,000 or more and were directly assigned to projects below that threshold. Six of the nine qualified contractors were awarded work, including four that were MWBE-certified or eligible. To strengthen future contractor response and increase diversity, the program should consider breaking projects into trade-specific scopes whenever feasible and practical. Contractors who completed the post-installation survey expressed satisfaction with their experience in the program and indicated they would participate in Evanston Green Homes again. They also noted that improved coordination among Elevate, homeowners, and their businesses during scheduling would further enhance the process.
3. Program Documentation
    - Collecting eligibility documentation could be challenging at times, particularly for multifamily properties, as some participants had limited access to the internet or found it difficult to keep materials organized. These challenges were compounded by long project timelines, as initial documentation often expired before installation agreements could be executed among the program, participants, and contractors. Participants also expressed frustration with the additional requirement to provide utility usage data for their energy assessment, which added to the overall documentation burden.
    - In future iterations of Evanston Green Homes, eligibility should be assumed by geography when feasible. In addition, the program team should record the date each participant is determined eligible, enabling staff to verify the continued validity of documentation if substantial time has lapsed by the time the participant signs an installation agreement. The program team should also forge relationships with utility providers that improve access to usage data to reduce barriers to entry and participation and streamline the assessment process.
    - The program team should also strengthen relationships with utility providers to improve access to usage data, reducing barriers to participation and streamlining the assessment process.
4. Energy Assessments

- The assessment protocol effectively identified weatherization and electrification opportunities alongside necessary health and safety improvements. Contractor site walks were valuable for uncovering structural needs, which, when incorporated into the scope of work, enhanced both program impact and participant satisfaction. The customized format of the energy reports also supported a high degree of accuracy in utility analysis and cost savings estimates.
- In future iterations of Evanston Green Homes, the scope of health and safety observations within energy assessments should be considered based on the City's goals, as addressing health and safety requires redirecting funds away from weatherization and electrification improvements, making it difficult to achieve energy savings. If energy upgrades are the primary goal, health and safety measures should be narrowed only to immediate hazards and code enforcement. Housing rehabilitation loans and other existing resources may be better suited to address broader health issues and can be leveraged alongside funding for energy improvements.
- The program should also consider adopting automated energy assessment software to generate reports more efficiently and accelerate the overall assessment process.

5. Installation
    - Construction costs were significantly influenced by Illinois Prevailing Wage, which elevated overall project budgets. For example, attic insulation and air sealing, which are foundations of energy efficiency programs and pre-cursors to electrification, were much costlier than initially anticipated – averaging about $12,000 per property.
    - Partial electrification also posed challenges, as households could face higher electricity usage while still incurring natural gas charges, potentially increasing annual energy costs more than full electrification would. This made the spend down of funding restricted to induction stoves and heat pumps challenging. In some cases, full electrification emerged as the only viable path to meaningful performance improvements alongside spend down of electrification-specific funding.
    - Future iterations of the program should build-in funding for heat pump water heaters and electric or heat pump dryers to make beneficial electrification more attainable.

Metrics and Program Impact

1. Measure both quantitative and qualitative impacts across the household and community level
    - Evanston Green Homes measured its impact using both quantitative and qualitative household level data. This approach captured initial recruitment

efforts and activity, energy and cost savings, the scale and value of improvements, and participant experiences throughout the program. While these metrics were useful for assessing performance, they did not fully reflect the long term benefits for participating households or the broader impact of the project.

- Energy savings were estimated through kWh, therm, and mmBTU reductions, and cost savings were calculated separately for property owners and tenants as well as cumulatively across the program. The program also tracked the number of energy audits and retrofits completed across property types, along with the number of installations of health and safety, weatherization, and electrification measures. These data points helped contextualize lower-than-expected energy and cost savings in cases where health and safety needs had to be prioritized over deeper efficiency upgrades, or where full building electrification increased overall electrical load. Participant feedback was gathered through an anonymous post installation survey and supplemented by spontaneous, unprompted comments received via email from participants throughout the program.
- Future iterations of Evanston Green Homes should streamline performance metrics to focus on core indicators over multiple years and to demonstrate community-wide impact on health and environmental impact, as well as affordable housing preservation efficacy. For example, key retrofit metrics could include: the number of properties fully weatherized, partially electrified, or fully electrified, along with estimated utility cost savings and greenhouse gas emissions reductions. Participant feedback should continue to be collected through formal surveys, complemented by communication practices that encourage ongoing, participantinput.
- Performance related to affordable housing preservation could include stability indicators—such as the percentage of households remaining in place 12–24 months post-retrofit or the number of code violations resolved—as well as affordability outcomes, including changes in total housing cost burden or monthly utility burden.
- Refining metrics around these key outcomes will more clearly demonstrate the program's contributions to preserving affordable housing and strengthening climate resilience. It will also better capture community level health and environmental benefits driven by emissions reductions—benefits that are often obscured when relying solely on individual energy use metrics, particularly in fully electrified buildings.

Funding

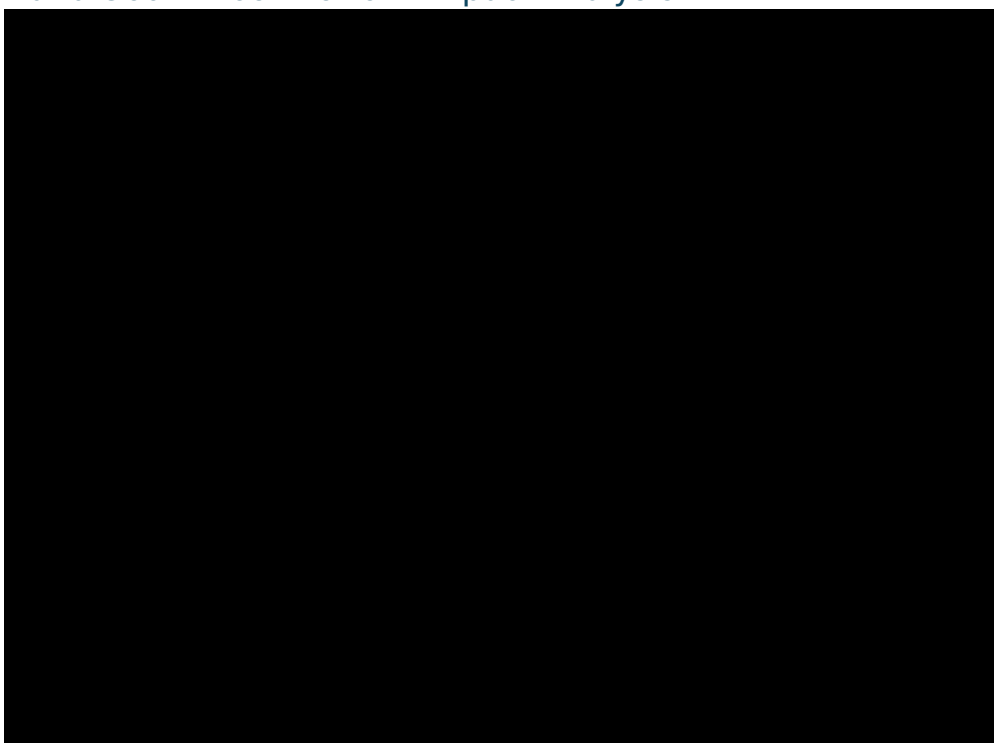
1. Continue to seek funding to extend the program's life and impact
    - Identify sustainable funding sources through the City of Evanston, federal and state opportunities, and philanthropic sources.
    - Maintain relationships with community-based organizations – organizations like Climate Action Evanston (CAE) expressed interest in expanding and deepening Evanston Green Homes' work through grant-funded contractual relationships. This organization and its mission could help to establish a sustainable program model. Relationships between the project team and Climate Action Evanston should continue to be stewarded for future business development opportunities.
2. Consider Evolving into an Energy Concierge Model
    - Energy concierge models, or service delivery models in which an energy assessment and technical assistance are provided to individual households are an alternative approach to programs that also perform installations, provide retrofit funding, and manage construction and contractor payments. These models can help property owners access state, utility, and municipal (as applicable) rebate, incentive, and grant programs without the added cost of construction management services. These models offer more scalable climate resiliency solutions across communities and can be leveraged alongside other project-specific funding resources.
3. Review overall program costs and ensure it is addressed for future program cycles
    - The project identified an imbalance and lack of program administrative funding in the past few years. Ensuring the program is fully funded will create a more sustainable and comprehensive environment for project implementation.

APPENDIX

Case Studies

The following three homes provide detailed examples of the types of upgrades, utility bill impacts, and other insights uncovered during the pilot.

[redacted] Hovland Court: Post-Retrofit Impact Analysis



Structure Type: Brick Bungalow
Units: 1
Year Built: c 1961

Property Ownership

- **Ownership Status:** Applicant owns building
- **Applicant Occupies All Building:** No

Building Data (Pre-Retrofit)

- **Primary Heat Fuel:** Natural Gas

- **Heating System:** Gas-fired furnace
- **Additional Heating:** N/A
- **Cooling:** Window unit A/C
- **Number of Heated Floors:** 1
- **Gross Floor Area:** 1,045

Owner Concerns

- **Mold:** Presence of mold detected in bathroom.
- **Drafty doors:** Inadequate weatherstripping on exterior doors.

Site Observations

Mold was present in the bathroom, and the lack of an exhaust fan contributed to poor air quality. The chimney also required a proper lining to keep debris from entering the furnace tubes. In addition, the basement rim joists had no insulation, which can lead to energy loss and moisture issues. Upon further inspection by contractors, issues with the fascia and foundation were found.

Summary of Post-Installation Impact

The property's energy assessment and subsequent contractor site walk revealed the property required multiple health and safety improvements before it could be fully weatherized or electrified. Following construction, the project achieved substantial improvements to the home's overall performance and safety. Identified moisture sources in the bathroom were eliminated, preventing continued deterioration and mold growth, while the installation of code-compliant ventilation significantly improved indoor air quality. Repairs to the chimney restored proper function and reinforced the building envelope, reducing pathways for air and moisture infiltration. Foundation waterproofing and drainage corrections reduced water intrusion, addressing a key source of long-term structural risk. Collectively, these interventions improved the durability of the building, reduced the likelihood of future maintenance issues, and enhanced occupant health and safety by creating a drier, more stable, and healthier living environment.

The homeowner shared the following note with the retrofit team expressing her satisfaction with the project:

"We no longer have leaking from the bathtub to the basement, and when it rains we don't have water coming in anymore in the basement. I feel a lot safer now that the chimney is fixed knowing that we won't be in danger of carbon monoxide poisoning. I saw all the garbage that was in the chimney and I was stunned.

Also, the best part of this construction is that my kids were finally able to have a bubble bath in our tub—they were so happy and excited! The bathroom is mold free!"

Bill Impacts

While the project was not driven by energy savings, air sealing and envelope repairs are expected to modestly improve thermal comfort and reduce uncontrolled infiltration which can result in reduced gas usage.

Installed Measures

#	Measure Name	Description	Cost
1	Remediate mold in bathroom and other issue areas	Demolish and proper dispose of shower tub and components in affected area. Remove damaged stud (as needed) plate and subfloor from shower tub. Treat affected area with mold fungicide and apply sealer to avoid regrow of mold.	$12,000
2	Replace bathroom exhaust fan	Remove and dispose existing glass block window located in bathroom. Install (1) new double hung window. Ultraview 2000 Vinyl E-270 FREE NEAT/ARGON U-Value 0.30, Solar heat 0.34, Visible light 0.55	$1,450
3	Replace bathroom glass block window	Remove and dispose existing glass block window located in bathroom. Install (1) new double hung window. Ultraview 2000 Vinyl E-270 FREE NEAT/ARGON U-Value 0.30, Solar heat 0.34, Visible light 0.55	$1,450
4	Seal chimney and flue	Mfr., and model #'s as applicable) Work Category Door Sweeps / Weatherstripping Installation Purpose Energy Efficiency Contractor to Complete: Scope of Work: (materials, quantity, Mfr., and model #'s as applicable) Chimney Repair: Repair existing Chimney by brick replacement, tuckpointing, flashing, capstone, and sealant repairs as necessary. Contractor shall schedule with home owner to	$6,500

		complete the work in an unobtrusive manner. Re-point using Type S Portland cement-lime mortar as necessary, replace damaged brick as necessary using brick that shall conform to ASTM C 216, Grade SW, or ASTM C 62, Grade SW, to assure durability. Face brick shall match facing brick of the existing building(s) as close as practical. Replace worn or damaged chimney cap with approved pre-fabricated cap. Check and reseal flue liner with high temperature sealant as appropriate; replace chimney liner if necessary. Provide and install an appropriately-sized corrosion resistant rain cap. Provide submittals as appropriate along with your proposal. Contractor shall be responsible to provide adequate protection of all adjacent areas as well as cleanup and final restoration to any adjacent surfaces and landscaping. Contractor is solely responsible for securing all permits necessary and subsequent approvals by the authority having jurisdiction. Provide post installation photos with your invoice. Repair existing Chimney by brick replacement, tuckpointing, flashing, capstone, and sealant repairs as necessary. Re-point using Type S Portland cement-lime mortar as necessary. Replace damaged brick as needed using brick that shall conform to ASTM C 216, Grade SW, or ASTM C 62, Grade SW, to assure durability.	
5	Install weatherstripping on exterior doors	Remove existing weather stripping and clean surface. Install continuous and complete weather stripping for sides and top of door so no visible gaps exist when the door is closed. Lap exterior weather stripping, if any, to channel water away from the door. Install a door sweep on the bottom of the door slab with no	$400

		visible gaps when door is closed. Seal mechanically installed weather stripping to installation surface.	
6	Repair gutters and downspouts	Remove and replace all gutters system and downspouts, ensure properly discharge of water. Add 6' extensions.	$7,000
7	Waterproof foundation	Fix of existing crack under the stair with epoxy injection. Seal the exterior separation (between the sidewalk and foundation wall) with exterior grade sealer.	$2,500
8	Repair fascia with peeling paint	Cap with aluminum existing fascia wooden boards, repair/replace rotten boards as needed.	$4,000

[redacted] Brown Avenue: Post-Retrofit Impact Analysis



Structure Type: Wood Frame
Year Built: c 1933
Last Major Renovation: 2013

Property Ownership

- **Ownership Status:** Applicant owns building
- **Applicant Occupies All Building:** Yes

Building Data (Pre-Retrofit)

- **Primary Heat Fuel:** Natural Gas
- **Heating System:** Central Gas Forced Air
- **Additional Heating:** N/A
- **Cooling:** Central A/C
- **Number of Heated Floors:** 2
- **Gross Floor Area:** 944

Owner Concerns

- **Natural Light:** Inadequate
- **Range Replacement:** Interested in the benefits of induction.

Site Observations

The site visit revealed several key issues, including a lead water supply line, blocked AC coils, uninsulated or poorly sealed areas, and moisture concerns at the rim joist. Additional findings included missing safety features like a carbon monoxide alarm, inadequate attic insulation, outdated lighting, and recommended upgrades such as a daylighting device, a 4-inch return air filter, and a 200-amp electrical service.

Summary of Post-Retrofit Findings

A comparison of the pre- and post-upgrade savings, when all other contributing factors are controlled, showed lower savings than expected. The actual savings of $24.50 was less than the estimated $140. Additionally, the estimated energy reduction was lower, 39.9 x 10^6 Btu vs 35.4 x 10^6 Btu (See Table 2: Post-upgrade analysis using actual data, actual savings, and estimation variance). This means the modeling to predict the energy use is predicting too low, or the actual energy use is too high, or a combination of both.

- **Total utility costs Pre-upgrade**: $1,455.33
- **Total utility costs Post-upgrade**: $2,232.07

Several factors contributed to the variance from initial savings estimates and utility analysis, such as:

- Variance from typical meteorological year (colder winter, hotter summer than the year the pre-installation bills were collected)
    - The period for the pre-retrofit (2023) was more mild for both the heating and cooling seasons. There were 14.8% more heating degree days and 4.6% more cooling degree days in the post-upgrade period compared to the pre-upgrade period.
- Increase in electricity rates
    - Over the 12-month observation period, there was a 14.9% (fixed) and 14.3% (variable) rate increase. The change in electric rates accounted for $225.55 of the utility cost increase.
- Rate plans implemented later than anticipated (electric heat rate)
    - The space heat rate change accounted for $439.83 of the utility cost increase.

Installing an advanced energy-monitoring system and extending the observation period can provide clearer insight into the specific drivers of increased consumption, while also revealing behavioral patterns that influence both energy use and potential cost savings.

Installed Measures

#	Measure Name	Description	Cost
1	Replace basement rim joist insulation affected by moisture/condensation	Remove and dispose of existing rim joist insulation. Install new 2" foam board aluminum faced.	$4,000
2	Domestic Hot Water Pipe Insulation	Insulate hot water lines near the hot water heater.	$600
3	Replace natural gas range with induction range	Replace gas stove with new: Samsung 6.3 Cu Ft. Stainless Steel - Free Standing Model #NE63A6511SS/AA Install new dedicated electrical line and circuit.	$3,000
4	Electrical service upgrade	Upgrade the existing electrical service to 200 AMP. Bring up to code all the visible and observed upgrades needed.	$18,000
5	Water Heater Replacement	Remove and replace gas water heater with new Richmond® Encore® 50 Gallon 10-Year Plug-in Heat PuModel Number: 10E50-HP120Mmp Water Heater with HydroBoost™ Install new dedicated electrical line and circuit.	$9,000
6	Replace furnace with air source heat pump	1. Mitsubishi Air Handler SVZ-KP36NA 2. Line set copper 3/8 and 5/8 3. Mitsubishi Outdoor Unit NTXSKH36-36K 4. Surge Protector Cable 5. 10k Heat Kit for Air Handler 6. 36K SVZ NAXAMT Wireless Stat-- 7. Mitsubishi Electric Heat Lockout Controller ETC-211000-MIT.	$23,000

Bill Impacts

Table 1: Pre-upgrade savings end-use estimates based on weather normalized energy consumption and utility rates at the time of analysis.

Measure Name	Annual Electricity Savings (kWh)	Annual Natural Gas Savings (therms)	Annual Owner Utility Cost Savings
Perform Air Sealing	40 kWh	10 Therms	$10
Replace Existing Natural Gas Heating System with High Efficiency Cold Climate Heat Pumps	-4,040 kWh	340 Therms	-$200
Replace Gas Fueled Water Heater with Heat Pump Water Heater	-530 kWh	140 Therms	$50
Replace Gas Stove with Induction/Electric Stove	-390	30 Therms	-$20
Electric Variable Space Heat Rate Change Savings	0 kWh	0 Therms	$90
Electric Fixed Space Heat Rate Change Savings	0 kWh	0 Therms	-$10
Gas meter fee savings	0 kWh	0 Therms	$230
Total	**-4,920 kWh**	**520 Therms**	**$140**

Table 2: Post-upgrade analysis using actual energy usage data, savings, and estimation variance

Post Upgrade: Estimated vs. Actual	Annual Electricity Use (kWh)	Natural Gas use (Therms)	Greenhouse Gas Emissions (MTCO2e)	Car-Equivalent Emissions Offset	Annual Utility Cost Savings
Total Pre-Upgrade Energy Use	3,725	611.5	6.02	1.31	$1,455
Total Estimated Energy Use	8,617	0	6.41	1.39	$1,315
Normalized Post-Upgrade Energy Use	11,267	0	8.38	1.82	$1,430
Variance from Estimation	2,650	0	1.97	.43	$115

[redacted] Case Street: Post-Retrofit Impact Analysis



Structure Type: Brick Bungalow
Year Built: c 1922

Property Ownership

- **Ownership Status:** Applicant owns building
- **Applicant Occupies All Building:** Yes

Building Data (Pre-Retrofit)

- **Primary Heat Fuel:** Natural Gas
- **Heating System:** Gas-fired hydronic boiler
- **Additional Heating:** N/A
- **Cooling:** Window unit A/C
- **Number of Heated Floors:** 2
- **Gross Floor Area:** 2,300

Owner Concerns

- Kitchen Window: Kitchen window extends below counter surface, opaque section (sheet metal) can be improved

Site Observations

The site visit identified several key issues that should be addressed to improve safety, efficiency, and overall building performance. Most notably, the property has a lead water supply line, which presents a potential health concern and should be prioritized for replacement. In addition, the domestic hot water heater was found to have improper flue routing, raising concerns about safe operation and adequate ventilation.

The visit also highlighted several opportunities for energy efficiency improvements. The existing bathroom fan should be replaced with a high efficiency, ENERGY STAR®–certified model to improve ventilation while reducing energy use. Furthermore, air sealing the attic and adding additional attic insulation were recommended to reduce air leakage, improve thermal performance, and enhance occupant comfort while lowering energy costs.

Summary of Post-Retrofit Findings

A comparison of the pre- and post-upgrade savings, when all other contributing factors are controlled, showed higher electricity savings but lower natural gas savings than expected. The actual savings of $315 was greater than the estimated $80. Additionally, the estimated energy reduction was lower, 11.1 MMBtu vs 12.2 MMBtu (See Table 2: Post-upgrade analysis using actual data, actual savings, and estimation variance).

- Total utility costs Pre-upgrade: $1,936.13
- Total utility costs Post-upgrade: $2,043.60

Several factors contributed to the cost variance. The factors that contributed to the cost increase were:

- Weather variance between study periods (colder winter, summer had no significant variance)
    - The period for the pre-retrofit (2023) was more mild for the heating (the cooling seasons were very similar.) There were 24.0% more heating degree days and 0.5% fewer cooling degree days in the post-upgrade period compared to the pre-upgrade period.
- Increase in electricity and natural gas rates

- Between the two 12-month observation periods, there was a 23.7% (fixed) and 8.9% (variable) rate increase in electrical costs.
- Between the two 12-month observation periods, there was a 7.3% (fixed) and 32.4% (variable) rate increase in natural gas costs.
- The change in electricity and natural gas rates accounted for $274.26 of the utility cost increase.

Installed Measures

#	Measure Name	Description	Cost
1	Repair open junction boxes and other electrical hazards	Cover junction boxes in attic prior to insulation.	$780
2	Flue repair/replacement	Drill chimney to increase water heater flue pipe pitch, install new flue pipe and seal chimney.	$970
3	Remove and replace existing window.	Seal, insulate, and add drywall to kitchen window.	$450
4	Install an under-sink lead removal filter with faucet.	AO Smith Under Sink Water Filter System - Reduces PFAS, Lead, 2-Stage - AO-US-200	$2,300
5	Install bathroom exhaust fan to improve indoor air quality and comply with ASHRAE 62.2	Install a motion sensor ASRAE Bathroom Exhaust Fan (62.2, Energy Star with 6" pipe, seal, insulate to r8 and vent throught the roof and Exhaust fan flow test will be perfoormed. Panasonic model FV-0511VKSL2	$2,400
6	Insulate and air seal basement rim joists	Air seal and insulate basement rim joist to R-13.	$2,100
7	Insulate and air seal attic	Conduct a blower door test and perform infrared scans throughout the home to determine the air leakage rate and identify areas with insufficient air sealing, including caulking the windows from the inside, which is part of the airseal package, as well as areas with inadequate insulation. Air-seal and insulate the home attic with cellulose R49, insulate the hatch to R52, create a hatch barrier, add baffles, install a	$9,200

		can light box, mark junction boxes, perform a post-weatherization blower door test, and provide a comprehensive report detailing the weatherization work performed.	

Bill Impacts

Table 1: Pre-upgrade savings end-use estimates

Measure Name	Annual Electricity Savings (kWh)	Annual Natural Gas Savings (therms)	Annual Owner Utility Cost Savings
Insulate Roof/Attic	40 kWh	70 Therms	$50
Perform Air Sealing	0 kWh	50 Therms	$30
Total	**40 kWh**	**120 Therms**	**$80**

Table 2: Post-upgrade actual use data, actual savings, and estimation variance

Post Upgrade: Estimated vs. Actual	Annual Electricity Use (kWh)	Natural Gas use (Therms)	Greenhouse Gas Emissions (MTCO2e)	Car-Equivalent Emissions Offset	Annual Utility Cost
Total Pre-Upgrade Energy Use	6380 kWh	800 Therms	9	1.96	$1940
Total Estimated Energy Use and Costs	6340 kWh	680 Therms	8.3	1.81	$1860
Scaled Post-Upgrade Energy Use and Costs	4790 kWh	735 Therms	7.46	1.62	$1625
Variance from Estimation	-1490 kWh	55 Therms	-.82	-.18	-$235

Bill Impacts Methodology

**Applies to both Case Studies: [redacted] Brown Avenue and [redacted] Case Street*

- Methodology
  - There are three factors that impact the utility costs:
    - Equipment change (efficiency increase from envelope improvements)
    - Rate changes (increases or decreases in fixed utility costs and variable utility costs)
    - Weather changes (a very cold vs a mild winter or a very hot summer vs a mild summer)
  - A pre- and post- comparison using actual usage data must control changes in weather and rates to accurately see the effects of equipment changes.
    - A comparison that does not control for rate changes may inaccurately attribute savings/increases to equipment, e.g. an improvement in boiler efficiency would show an increase in utility cost if implemented before the invasion of Ukraine (where there was a significant increase in the natural gas cost per Therm)
    - A comparison that does not control for the weather changes may inaccurately attribute savings/increase to equipment, e.g. an improvement in air conditioning efficiency would show an increase in utility cost if implemented after a very mild summer or before a very hot summer. (where there is a significant increase in cooling energy)
  - The actual usage and cost data were collected for the pre- and post-retrofit periods. Adjustments were made to control for the weather conditions and changes to the electricity rates.
  - To control for weather conditions:
    - Heating and cooling energy were scaled proportionally to the ratio of pre-/post- retrofit heating degree days (HDD) for heat energy and cooling degree days (CDD) for cooling energy. The total energy was disaggregated into separate end uses (Baseload, DHW, Cooking, Heating, and Cooling) to determine what portion of the total energy was used by heating or cooling. The scaled heat and cooling energy were then added to the baseload, DHW and cooking energies (which are not significantly affected by hot/cold/mild weather) to determine the total scaled energy use.
    - There were 3697 heating degree days (HDD) and 1155 cooling degree days (CDD) while the post-retrofit period (2025/2026) had 4585 HDD and 1150 CDD
    - Compared to 12 months in 2023, the 12 months in the 2025/2026 study period had 24.0% more HDD. This means the heating system needed to provide 24.0% more heat through heating season.

        - Compared to 12 months in 2023, the 12 months in the 2025/2026 study period had 0.5% more CDD. This means the cooling system needs had no significant change between the two study periods.
    - To control for the rate changes:
        - The post-retrofit cost was then calculated using the scaled energy use with the pre-retrofit rates.
        - Initial utility bill (pre-upgrade) calculations based on 2023 utility bills:
            - Average fixed electricity costs: $15.74/month
            - Average variable electricity costs: $0.1506/kWh
            - Average fixed natural gas costs: $22.06/month
            - Average variable natural gas costs: $0.6040/Therm
        - Final utility bill (post-upgrade) calculations based on 2025/2026 utility bills:
            - Average fixed electricity costs: $19.48/month
            - Average variable electricity costs: $0.1640/kWh
            - Average fixed natural gas costs: $23.68/month
            - Average variable natural gas costs: $0.7995/Therm
            - Controlling for the weather change only (i.e. not taking into account natural gas and electricity rate changes) the total annual cost at 2025/2026 rates was $1900.79. If the rates had remained constant (2023 rates) the total annual cost post retrofit would have been $1625.53
            - The rate changes accounted for $274.26 of the utility cost increase

The entries for the **Normalized Post-Upgrade Energy Use** result from applying the controls for the weather conditions and rate changes, shown in Table 2.

Key Definitions

Affordable Housing: Housing available to those with a median household income at or below 120% of area median income (AMI), with a focus on households below 80% of AMI. Affordable housing may be either income-qualified, or "naturally occurring" housing that is rented or mortgaged at an affordable cost. This project prioritizes buildings that house low-income residents and/or people of color.

Climate Resilient Housing: Housing that reduces vulnerability of residents to climate impacts, such as utility expenses, indoor health quality, and building integrity. Climate data indicates that Evanston may experience more extremely hot days and severe storms, which could cause impacts such as heat-related illness and home flooding.

Decarbonization: The process of reducing or eliminating carbon dioxide and other greenhouse gas emissions from the atmosphere.

Equity: Racial equity is achieved when racial identity is no longer a predictor of life outcomes. Learn more about Evanston's Commitment to end structural racism and achieve racial equity.

Energy Efficient: Homes designed to minimize energy consumption while maximizing comfort and sustainability.

Net-Zero Building: Highly energy efficient housing, where the amount of energy used by the building equals the amount of clean energy produced, either at the building or off-site. Clean energy examples include rooftop solar and community solar. Energy from non-renewable sources, such as natural gas, creates greenhouse gas emissions that drive climate change impacts.