



NEW JERSEY WHOLE HOUSE PILOT DESIGN PROJECT

ASSET AND GAP ANALYSIS



Green & Healthy
Homes Initiative®

Prepared for the New Jersey Board of Public Utilities

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EXECUTIVE SUMMARY



New Jersey is embarking on a journey to achieve a just clean energy transition – one that all New Jerseyans can benefit from – across all sectors of the economy, including the housing and building sectors.

Governor Murphy and his administration have stated “climate change is the single greatest threat currently facing humanity”, and that “addressing [this problem] requires a level of integration, mobilization of resources, political will, and sustained commitment that can only be driven through government-wide leadership.”ⁱ According to the 2021 Climate Change Resilience Strategy, the Energy Master Plan, and the Global Warming Response Act report, meeting the state’s climate goals will require scaling up residential energy efficiency services and programs in the state, particularly for limited income residents, Black and Brown residents, and residents of underserved, under-resourced, and historically excluded communities.

These residents often occupy older, deteriorated housing, with conditions that negatively impact health, academic achievement, and financial and housing stability for families, and are often the same conditions that result in deferral from programs providing critical energy-efficiency services. In New Jersey, poor housing quality disproportionately impacts Black and Brown families and communities, where discriminatory housing policies and a legacy of disinvestment, have resulted in deferred maintenance for aging homes. The New Jersey Board of Public Utilities is supporting the design and implementation of a ‘Whole House’ approach to holistic energy, health, and safety interventions in low-to-moderate income (LMI) housing built upon the framework of service delivery for the utility rate payer-funded Comfort Partners Program. The Whole House Pilot will demonstrate

operational coordination of existing housing, health and energy programs serving LMI housing, and provide insights for a scaled-up statewide Whole House model for holistic housing services.

The Comfort Partners Program is co-managed by the state of New Jersey New Jersey Board of Public Utilities, and major electric and gas utilities serving most customers in all areas of the state, aligned around a single program design, and working with community-based vendors to publicize the program, assess housing and energy needs, and provide energy upgrades in income-eligible housing. The current landscape of programs that serve homes occupied by families with LMI include healthy homes programs (Lead-Safe Home and Single Family Lead Program, Lead Hazard Control, and Healthy Homes Programs), community development and housing stability programs (HOME Program and Community Development Block Grants), anchor institution investments, and residential energy-efficiency programs (Weatherization Assistance Programs, Comfort Partners, municipal utility energy efficiency programs), and resources in the pipeline, including a new \$10 million DCA lead-based paint remediation program (Lead Elimination Assistance Program), an expected additional \$60 to \$80 million in WAP funds from the federal Bipartisan Infrastructure and Jobs Act, and a potential pilot investing healthcare dollars in occupied housing repair (New Jersey Housing Mortgage Finance Agency Home Repair Pilot). The capacity to provide services and funding levels are variable across sectors.

Energy efficiency services have a much larger annual service delivery capacity (over 5,000 units) than existing lead remediation, healthy homes, and home repair programs (averaging 700 units annually).

Aligned, holistic housing programs are most successful when a robust referral network is established, utilizing a single point of entry for access to housing, health and energy services, and coordinated home assessment, work scope sequencing and quality control are paired with resident education and linkage to wrap-around services. Impact evaluation typically tracks health, social, and economic outcomes to capture the full value of holistic housing interventions.



It is estimated that a Whole House Pilot serving 100 homes will cost \$3.41 million, including leverage funding from Comfort Partners; WAP (energy efficiency interventions); NJDCA Lead Remediation programs (lead and healthy homes); and CDBG, HOME, and locally-supported home repair programs.

There is an opportunity in New Jersey to align Comfort Partners with state-funded programs including the NJDCA Lead-Safe Home Remediation and Single Family Home Remediation programs and alignment with anchor institution investments including healthcare investment in housing as a social determinant of health. These programs can be more effectively coordinated because state agencies can align eligibility criteria, intake processes, and vendors more effectively than federally-funded programs. Potential changes to the eligibility criteria for the WAP program may also facilitate increased coordination, and new and more flexible federal resources including American Rescue Plan Act (ARPA) and supplemental HOME ARPA and WAP dollars can also be directed to support lead remediation, healthy homes and energy efficiency interventions. Longer term, flexible investment in housing repair, workforce development and cross-training, and data systems will support a scaled-up, statewide model for holistic housing service delivery.

INTRODUCTION



New Jersey, under Governor Phil Murphy's leadership, has taken numerous steps to act on climate change and reduce the state's greenhouse gas emissions.

This includes joining the U.S. Climate Alliance, the passage of the Clean Energy Act, rejoining the Regional Greenhouse Gas Initiative (RGGI), the commitment to achieve 100% clean energy by 2050, the commitment by executive order 274 to reduce greenhouse gas emissions 50% by 2030, and most recently, the release of the Climate Change Resilience Strategy – which outlines the broad policy framework to help minimize the impact of climate change on New Jersey. The State has made progress on elements of its climate goals including historic investments in solar and offshore wind, and the establishment of plans for regulated utilities to achieve energy savings of 2.15% of electric use and 1.10% of natural gas use. The Murphy Administration also oversaw the development of the 2019 New Jersey Energy Master Plan, which sets forth the strategic vision for the production, distribution, consumption, and conservation of energy in the state, and the Global Warming Response Act report, which lays out a pathway to reduce its greenhouse gas emissions by 80% of 2006 levels by 2050. The Governor also put into place a number of other Executive Orders related to clean energy and housing, including:

- **Executive order 8:** requiring the New Jersey Board of Public Utilities, the Department of Environmental Protection and other state agencies to meet a goal of 3,500 megawatts of offshore wind energy generation by 2030.
- **Executive Order 28:** Creates the 2019 Master Energy Plan to reach 100% clean energy by 1/1/2050 and goals to achieve 200 MW of clean energy storage by January 1, 2030.
- **Executive Order 89:** Establishes a statewide climate change resilience strategy
- **Executive Order 100:** Directs the Department of Environmental Protection to adopt the Protecting Against Climate Threats regulations. Monitor and reduce greenhouse gases, and integrate climate change considerations into regulatory and permitting programs.
- **Executive Order 221:** Establishes the Office of Climate Action and the Green Economyⁱⁱ

The 2019 New Jersey Energy Master Plan and the Global Warming Response Act highlight the importance of reducing greenhouse gas emissions and energy consumption of the existing housing stock in achieving the State's climate goals. Housing in New Jersey represent 15.6% of the State's GHG emissions and 25% of the total end-use energy consumption. An analysis performed for the GWRA report found that meeting the State's climate goals requires that at least 90% of the residential and commercial buildings are retrofitted and converted to clean electricity by 2050. This estimate likely includes a significant number of New Jersey's older, energy inefficient housing stock.

The condition of aged housing stock in New Jersey can present a barrier to transitioning the homes to clean energy, and also can affect residents' physical health, mental wellbeing, and energy burdens. These challenges are more acutely experienced in low to moderate income communities and households and among renters. The Whole House Pilot model offers the opportunity to prove the viability of a statewide,

holistic model to address energy inefficiency, health and safety hazards, and housing conditions in New Jersey. The Pilot will be administered at the level of one municipality. It will demonstrate the operational alignment, braiding and coordination of existing resources and programs, and measure the impact of interventions designed to address the housing, health, and energy efficiency needs of New Jersey communities. The goal is to prove the viability of a scaled-up statewide model for holistic housing services. New Jersey's Comfort Partners Program (Comfort Partners) will provide a framework for healthy homes and housing repair service delivery through the pilot.

Comfort Partners is an existing energy-efficiency program, free to those who meet the income eligibility and/or geographical (or location-based) criteria, that helps income-eligible customers reduce their utility bills through implementing cost effective measures which save energy and money while improving comfort by adequately cooling and heating the home. Comfort Partners is co-managed by the New Jersey Board of Public Utilities (NJBPU) and major New Jersey electric and natural gas utilities. The program has been successful in helping over 118,000 income-eligible families reduce energy consumption and improve comfort. Still, providers, regulators, and other stakeholders have identified several barriers to reaching income-eligible New Jersey residents, including those most in need of housing quality improvement and residential energy efficiency services. The Whole House Pilot Design Project (elsewhere this is referred to as Whole House Pilot Project, Whole House Pilot or just Pilot) is a stakeholder-driven effort to design, implement, and measure the impacts of a holistic housing intervention program that will address the upstream health, safety, and housing quality issues that may cause deferral from or reduction of Comfort Partners Program services in limited income housing. As described in more detail below, the current Comfort Partners budget for health and safety repairs does not meet the housing needs of limited income New Jersey residents sufficiently and comprehensively. The Whole House Pilot will demonstrate the impact of increased access to energy efficiency programs in historically underserved communities.



The availability of resources for residents of underserved communities to improve the health and energy efficiency of their homes is particularly important given the trajectory of New Jersey's climate. According to the 2020 New Jersey Scientific Report on Climate Change:ⁱⁱⁱ

- Heatwaves are expected to impact larger areas, with more frequency and longer duration by 2050
- Climate change could result in a 55% increase in summer heat-related mortalities
- Annual precipitation in New Jersey is expected to increase by 4-11% by 2050
- The intensity and frequency of precipitation events is anticipated to increase due to climate change
- The size and frequency of floods will increase as annual precipitation increases.
- Tropical storms have the potential to increase in intensity due to the warmer atmosphere and warmer oceans that will occur with climate change
- By 2050, there is a 50% chance that sea-level rise will meet or exceed 1.4 feet and a 17% chance that it will exceed 2.1 feet. Those levels increase to 3.3 and 5.1 feet by the end of the century.
- "Sunny day flooding" will occur more often across the entire coast area of New Jersey due to sea-level rise.

The State of New Jersey has acknowledged that some communities, namely low-income communities, and communities of color, are disproportionately impacted by climate change.^{ivvi} Therefore, as these changes occur, it is critical that those residents and communities that are disproportionately impacted can receive resources to help mitigate these impacts, which is a goal that the State has committed to meeting. The Whole House Pilot can serve as a mechanism to advance environmental, energy, and climate justice.

The following report is an analysis of the current landscape of assets, gaps, and opportunities around housing programs and resources.

Section 1 summarizes assets and gaps within the design and implementation of the Comfort Partners program, as the core program utilizing publicly available data and information from stakeholder interviews. This section will also articulate various barriers to full weatherization for limited income households.

Section 2 outlines the connection between barriers to weatherization and poor health outcomes, supporting the case for alignment of healthy homes and residential energy efficiency resources.

Section 3 identifies existing housing rehabilitation, health-related housing, and energy efficiency related resources that could be leveraged with Comfort Partners to increase access among limited income households to weatherization.

Section 4 examines indicators of need at the municipal level with a deep dive in a few municipalities that will help to identify specific target pilot sites. The target pilot sites will be determined based on indicators of need and available resources.

Section 5 provides context for NJBPU's decision for a Whole House Pilot site.



people in population². Since eligibility for assistance through the Universal Service Fund automatically qualifies a customer for Comfort Partners, contractors in some of the implementing utilities are using the USF list as the basis for outreach. Contractors also participate in community outreach events and fairs and work with community organizers, churches, and other community groups to identify customers that might be interested in participating. Utilities also perform marketing efforts to enhance statewide awareness of the Comfort Partners Program. If eligibility is not confirmed during intake, it will be determined by a contractor during the initial home audit.

Once qualified, an auditor performs an audit or assessment of the property and develops a scope of work containing opportunities to improve the efficiency of the home. If the scope of work is within the budget that has been allocated for that house or unit, a contractor then performs the work.

The average cost for energy efficiency upgrades provided by Comfort Partners-participating utilities is below:

Comfort Partners Implementation Data, 2020³

	Customers served	Average cost per job
ACE	326	\$ 3,017.94
JCP&L	567	\$ 3,541.54
PSEG - Electric	1,696	\$ 1,868.57
ETG	286	\$ 4,618.24
NJNG	435	\$ 8,273.11
PSEG - Gas	1,450	\$ 5,726.03
SJG	299	\$ 5,340.16
Total*	5,059	\$ 4,626.14

Source: NJBPU, 2021 **annual total was impacted by COVID-19, lowering from an annual average of about 7,000*

There are several reasons why households that qualify and need assistance through Comfort Partners may not receive assistance. These reasons can be split into categories of customer barriers and housing barriers. Customer barriers include lack of awareness of the program, lack of interest in the program, difficulty providing or unwillingness to provide proof of eligibility documentation, and difficulty scheduling the energy audit or efficiency improvement work. Despite the availability of Comfort Partners resources and services, many New Jerseyans are unaware that these programs exist or that these programs apply to them. In addition, there are barriers to eligibility, where customers or applicants may not have the proper documentation readily available or may not want to provide the documentation. As for barriers to eligibility, customers can provide proof of receipt of another income eligible program such as Medicaid, SNAP, or LIHEAP as proof of eligibility, but some applicants still either do not have that documentation or do not want to provide it. In addition, the scheduling of the audit or efficiency improvements presents additional challenges. The energy audit and energy efficiency upgrades both require residents to be home, meaning that participants often must take time off work. Energy audits can take several hours, and upgrades several days or more. This is time that participants with limited disposable income may not be able to afford. This may be a disproportionate barrier for customers in low-wage jobs with limited flexibility in work hours or paid time off.

Housing barriers include the presence of health and safety issues or other structural issues that threaten the ability to deliver the entirety of the program, including weatherization. Health and safety issues include, but are not limited to, roof leaks, mold, moisture, lead-based paint, and knob and tube wiring. The most challenging issues to overcome have been mold and moisture, particularly for projects requiring costly foundation-related repairs such as bulk moisture in

¹Federal Supplemental Security Income (“SSI”), Home Energy Assistance (“HEAP”), Universal Service Fund (“USF”), Lifeline, Pharmaceutical Assistance to the Aged and Disabled (“PAAD”), Temporary Assistance to Needy Families (“TANF”), Section 8 Housing, Medicaid, Supplemental Nutrition Assistance Program (“SNAP”), or General Assistance

²US Census, 2022 Available: https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_13

³The average cost per job varies widely by utility, however the typical Comfort Partners interventions include insulation, sealing, replacement of non-working appliances/installation of efficient appliances and programmable thermostats, and addressing other housing issues including moisture infiltration, knob and tube wiring, electrical system upgrades, and window replacement. The variation in per-unit cost is a result of additional health and safety funding available through some utility partnerships, and variations in housing type and condition by service area.

crawl spaces or basements. These types of issues can be addressed within the scope of Comfort Partners but may exceed the limit for allowable spending for non-energy repairs.

In Comfort Partners, there are four buckets of spending. The first is baseload spending, which covers lighting, refrigeration, and other items that are on baseload usage. Funding for baseload spending is unlimited and the measures are usually quite inexpensive or are not repaired or replaced as frequently. The second bucket is seasonal spending, which is traditional weatherization — air sealing, insulation, weather-stripping, and window and door caulking. The amount of seasonal spending available for a home is based on the customer's energy usage. This allows customers with high usage to benefit from a high budget for efficiency measures to reduce energy usage. The last two buckets of spending are both health and safety related. The third bucket is traditional or immediate health and safety issues such as repairing or replacing equipment to address gas leaks or high carbon monoxide. The energy audits performed through Comfort Partners also include combustion and gas testing of space and water heating equipment. An analysis by PSE&G in 2021 found that there are gas leaks in about 60% of homes and replacing or repairing these systems is expensive and can take up a significant portion of the project budget.

The last bucket is barrier-to-work spending, which includes roof leaks, asbestos, mold, knob and tube wiring, and lead-based paint that all must be addressed to perform deep energy retrofits and weatherization. Comfort Partners only allows up to \$5,000 to be spent on barrier-to-work spending. Small roof repairs are among the most common repairs performed in the program, while more significant roof repairs and moisture and mold issues are often too expensive to address with program funding. The health and safety issues that prevent weatherization, such as moisture infiltration and mold growth, create an opportunity for cross-sector collaboration and investment to remove these barriers.



Comfort Partners contractors often identify health and safety issues, but sometimes the total cost for non-energy repairs can rise quickly to upwards of \$10,000 to \$20,000 per home. While Comfort Partners does promote and advance healthy housing, the primary goal of the program is to achieve maximum household energy efficiency resulting in energy consumption and bill savings. Most of the program funding has to be spent on measures that result in energy consumption savings, and health and safety measures often do not result in energy consumption savings directly. While health and safety measures are allowable as part of the program, the primary issue is the lack of a sufficient budget to address all of the health and safety issues present in an older, substandard home.

Other housing-related barriers are the size and type of the building. The Comfort Partners Program has had limited success in its efforts to improve efficiency of existing multifamily buildings above 14 units because of concerns that these projects require a different skillset than the Comfort Partners contractors possess. Furthermore, rental properties also present a barrier as Comfort Partners primarily seeks to sign up tenants, who must then seek landlord approval.

July 1st, 2021 – June 30th, 2022 - Comfort Partners Budget								
		Admin and Program Development	Sales, Marketing, Call Centers, Web Site	Training	Rebates, Grants and Other Direct Incentives	Rebate Processing, Inspections, Other QC	Evaluation & Research	Contractor Perf. Incentives
ACE	\$2,142,357	\$256,671	\$36,949	\$34,999	\$1,713,665	\$100,073	\$0	\$0
JCP&L	\$5,049,929	\$573,738	\$122,354	\$84,354	\$4,061,286	\$195,197	\$13,000	\$0
PSE&G- Elec	\$9,065,255	\$496,255	\$250,538	\$225,517	\$7,749,798	\$343,147	\$0	\$0
RECO	\$430,000	\$71,000	\$16,000	\$16,000	\$300,000	\$27,000	\$0	\$0
NJNG	\$5,741,406	\$344,308	\$115,609	\$108,942	\$4,980,438	\$192,109	\$0	\$0
Elizabethtown	\$3,372,793	\$243,576	\$68,557	\$64,789	\$2,854,776	\$141,095	\$0	\$0
PSE&G-Gas	\$16,795,335	\$802,178	\$440,140	\$387,608	\$14,591,355	\$574,054	\$0	\$0
SJG	\$3,332,925	\$339,251	\$62,970	\$60,233	\$2,762,587	\$107,884	\$0	\$0
TOTAL	\$45,930,000	\$3,126,977	\$1,113,117	\$982,442	\$39,013,905	\$1,680,559	\$13,000	\$0
PSE&G - Combined	\$25,860,590	\$1,298,433	\$690,678	\$613,125	\$22,341,153	\$917,201	\$0	\$0

The Comfort Partners Program annual budget, including administrative costs, training, and evaluation among other costs is just over \$45 million in the current fiscal year (FY 2021-2022). This level of support provides a strong framework for building out further coordination with healthy homes and home repair programs, and potentially cross-training and building capacity among vendors to provide more of these types of services.

Comfort Partners Partnerships

One successful model of partnership to support broader housing interventions is the PSEG Foundation. Growing out of the need to overcome health and safety barriers to weatherization, the PSEG Foundation supported or attempted to support several partnerships across the state.

Another example is the partnership between PSEG and the Jewish Renaissance Foundation (“JRF”) with goals to train apprentices for jobs in the industry through one of the JRF vendors and to remove health and safety related barriers to weatherization in homes. Through this model, PSEG identifies customers in need of weatherization but whose homes possessed health and safety hazards preventing weatherization. The Jewish Renaissance Foundation, funded by the PSEG foundation, addresses the health and safety barriers and then PSEG completes the weatherization work in the now hazard-free home. To begin the process, representatives from the JRF, the general contractor working with the JRF, and the utility energy auditor conduct a joint walkthrough of the property. During the joint walkthrough, the group notes all the repairs and efficiency measures that would be performed and who would perform them. Then the general contractor working with the JRF utilizes subcontractors to address

the health and safety issues after which PSEG would utilize its contractors to perform weatherization. Only customers living in certain geographical areas served by JRF are eligible for this program. PSEG has also partnered with Isles in Trenton and Coopers Ferry in Camden, both non-profits, thanks to the support of the PSEG Foundation.



Another partnership example is Habitat for Humanity of Greater Essex, Hudson, and Union. Through this partnership, utilities identify customers in need of weatherization and perform a joint walkthrough with a Habitat general contractor to develop a scope of work for weatherization and health and safety measures. Habitat assigns health and safety work to the different subcontractors they have on retainer, including plumbers, roofers, and asbestos remediators. Each of the subcontractors completes their assigned work and then, once all of the health and safety work is completed, PSEG returns to the home to perform weatherization.

The last partnership is with NJ Department of Community Affairs through the federally-funded Weatherization Assistance Program (“WAP”), which serves the same or similar customers as Comfort Partners. The Weatherization Assistance Program provides energy saving weatherization measures to low-income customers in New Jersey and requires the work completed to result in reduced energy usage. This requirement makes the partnership difficult to implement since both Comfort Partners and WAP need to accrue energy savings, and there are typically a limited number of measures that provide significant energy savings per cost. WAP does have funding to address health and safety barriers as well but, similar to

Comfort Partners, that funding is limited. To address this issue, Comfort Partners and WAP developed a formal process for coordination.^{viii} In this process, both Comfort Partners and WAP identify where a partnership would be helpful. To be eligible, the customer must be a homeowner, have natural gas or electric heat, and live in a single family or maximum four-unit multifamily home. In addition, it is desirable for the customer to be receiving energy assistance and to live in a home needing a large weatherization scope of work. To begin the partnership, the initiating partner makes a formal request to the assisting partner using the Partnership Request Form. The assisting partner will review the proposed scope and either accept or deny the joint audit. If the customer is not appropriate for a partnership, if the assisting partner rejects the joint audit, or if the customer is not eligible for both programs then the customer will either be informed of deferral if they entered the process through WAP or informed of ‘Complete with Barriers’ job status if entered the process through Comfort Partners. Finally, to determine if a partnership is feasible, the Comfort Partners auditor, the WAP auditor, the WAP monitor, and a representative of the Comfort Partners Utility must all attend the joint audit and walkthrough. This is to ensure all parties agree with the division of labor of the weatherization and barrier work between the WAP provider and Comfort Partners provider.

If the division of labor is agreed upon, then the initiating partner will draft and finalize the scope of work. The scope of work would then be executed with the initiating partner addressing their share of the health and safety work, then the assisting partner would come in afterwards to perform the remaining health and safety work. Then the initiating partner would come back to the property to perform their share of the weatherization work, followed by the assisting partner who would perform the rest of the weatherization scope. An example division of labor for weatherization could be that the utility would take the attic and the WAP program would take the basement. The total budget for the partnership is \$30,000 if heating/cooling equipment replacement is included and \$25,000 if heating/cooling equipment replacement is not included. This approach is to ensure that both

programs can take credit for energy consumption savings as required by both programs. This program has worked well when the interventions achieve enough savings to be divided by both programs and if the customer is okay with a relatively long process made up of multiple visits by both programs. The barriers to successful implementation of this partnership include specific differences in income eligibility criteria and intake requirements for low-to-moderate income households, and barriers to coordination of work scope development and service delivery. To-date, the partnership has completed 20 homes together.

Of these partnerships, Habitat for Humanity, Jewish Renaissance Foundation, Coopers Ferry, and DCA are active, with Habitat as the only partnership with a significant number of homes completed.

Workforce

The key to successful implementation of a statewide model for holistic housing interventions, delivered in an efficient way that supports economic growth and creates pathways to sustainable careers, is building out a workforce with the capacity to deliver holistic health, housing, and energy services. Jobs in the healthy homes and energy efficiency sectors are technical careers, and, unfortunately, there are several systemic and individual barriers to entry, including insurance, equipment and cybersecurity requirements for firms, and training and certification (testing) requirements for individual workers.

Currently, there is an insufficient number of contractors to handle the number and rate of energy efficiency and healthy housing projects that exist. Conversely, there are also not enough new projects being generated to justify an increase in workers looking to sustain careers in the field. Furthermore, if demand for workers were to increase significantly, there would still be an insufficient training capacity in New Jersey to certify and qualify the number of energy efficiency and healthy homes workers needed to meet the demand.

One existing program attempting to address these challenges and build capacity in the energy sector workforce is the PSEG Jobs Program. This program identifies candidates from underserved communities and trains them with basic Building Performance Institute (“BPI”) certification, such as air leakage controller certifications, then places them with a contractor who commits to hire them and retain the employee for 90 days. PSEG has internal goals and requires contractor firms to report the number of jobs created. The program applies to firms’ existing employees, who can be trained to become a crew lead with Building Analyst or Envelope Professional certifications.

Isles Inc., a statewide leader in workforce development in the healthy homes sector, also trains workers in energy efficiency interventions, healthy homes assessment, and lead remediation (offering Renovation, Repair, and Painting certification and preparing workers for New Jersey Lead Abatement Worker or Supervisor certifications and BPI training). Isles’ programs experienced a dip in funding and demand related to COVID-19, but they are once again providing hands-on training. Another challenge for workforce development programs in New Jersey is unsustainable funding. Most programs only receive funding for one year at a time, making long term planning to meet projected workforce demands very challenging.





The following organizations, colleges, and technical schools provide training programs related to housing rehabilitation. Training curricula include programs for adults and high school students. Training institutions can provide support to workforce development programs and initiatives. Partnering with training institutions can also support contractor recruitment for professionals interested in entering the field or in obtaining additional cross-sector training (not an exhaustive list):

- Atlantic County Institute of Technology
- Bergen County Technical School
- Burlington County Institute of Technology
- Camden County College
- Camden County Technical Schools
- Cape May Tech
- Cumberland County Technical Education Center
- Essex County Schools of Technology
- Gloucester County Institute of Technology
- Hudson County Schools of Technology
- Hunterdon County Vocational School District
- Isles (statewide)
- Mercer County Technical Schools
- Middlesex County Vocational and Technical Schools
- Monmouth County Vocational School District
- Morris County Vocational School District
- Ocean County Vocational Technical School
- Passaic County Technical Institute
- Salem County Vocational Technical School District
- Somerset County Vocational & Technical Schools
- Sussex County Community College
- Sussex County Technical School
- Union County Vocational-Technical Schools
- Urban League
- Warren County Technical Schools



Data System

Comfort Partners has a system of record that is housed by JCP&L on behalf of the entire program. The system includes all of the customer data, demographic data, income data, customer profiles (including energy usage and household occupants), and the measures that were installed in the home. The system also functions as the main system for invoicing so vendors can insert all of the measures that were installed for a particular customer and batch multiple customers together. The system also has the appropriate pricing so vendors can bill the utilities for single or multiple customers at once. The BPU, the utilities, and the contractor vendors all have access to the system.

In the Pilot Consideration section, below, this report lays out the data needs to demonstrate the impacts of the pilot, and create a case for support for a scaled-up, statewide model of holistic housing services delivery.

SECTION 2:

CONNECTION BETWEEN HEALTH AND SAFETY BARRIERS TO WEATHERIZATION AND POOR OUTCOMES



The principal goal of the Comfort Partners program is to provide every participant with energy efficiency upgrades. Weatherization is the practice of protecting a building and its interior from the elements-and modifying a building to reduce energy consumption and optimize energy efficiency.

As a multi-step process, weatherization begins with a trained professional performing a comprehensive assessment of the energy infrastructure to identify any structural deficiencies present in the home.^{ix} These deficiencies are then addressed through the repair or replacement of existing infrastructure or the installation of new, energy-efficient features. As a subset of broader residential energy efficiency measures and strategies, weatherization typically refers to the installation of building shell measures such as insulation, air sealing, weatherstripping, window and door caulking, and roof repair or replacement (in rare cases). A weatherization project can also include mechanical measures such as repair or replacement of HVAC systems and installing programmable thermostats; electric and water measures such as the installation of efficient light sources, low-flow showerheads, and energy efficient appliances; health and safety measures such as combustion testing and the installation of smoke and carbon monoxide alarms; and client education measures. However, in most cases, building shell measures are required for the project to be classified as weatherization.

Building shell measures are more invasive and often require interacting with structural elements of a building. In the process of identifying or installing

opportunities to perform building shell measures, energy auditors and contractors often encounter health and safety issues or structural issues that would impact the ability to weatherize the building. This includes structural defects such as roofing issues and holes in walls, ceilings, or floors, fire and safety hazards, as well as health hazards such as lead-based paint, mold, and asbestos. These issues can impact health and well-being directly or indirectly by creating environments and conditions for health hazards like mold, mildew, and moisture to flourish.

As a social determinant of health, there are many ways that housing conditions can impact occupant health. The clearest links connecting poor housing conditions to poor health outcomes are lead poisoning, asthma, and health conditions related to trip and fall hazards. Lead poisoning is caused by exposure to lead, which can occur through inhalation of lead in the air or ingestion of lead in soil and water.^x The most common exposure occurs by ingestion of lead-based paint in residential settings. While the causes of asthma are unknown, much more is known about the causes of the exacerbation of asthma symptoms. Asthma symptoms can be exacerbated by exposure to triggers such as dust, pests, mold, and poor indoor air quality. Further, it is

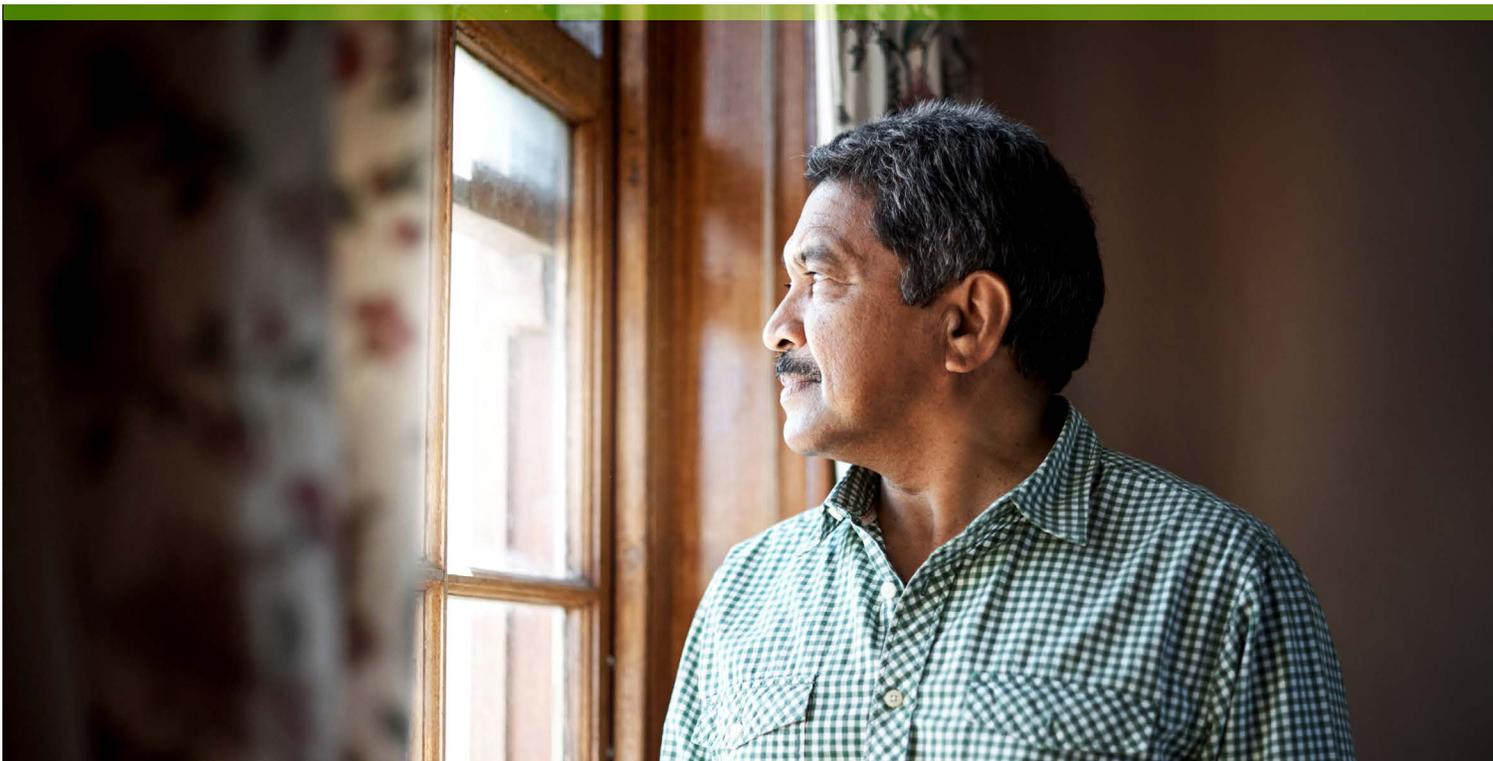
estimated that over 40% of all asthma exacerbations occur in the home.^{xi} Similarly, there are a myriad of poor health conditions that result from trip and falls in residential settings, which can be caused by poor and unsafe housing conditions such as poor lighting, uneven flooring, and even uncomfortable temperatures. Older adults are more susceptible to trips and falls and it is estimated that 33-50% of all trip and fall incidents among this population are caused by home environmental hazards.^{xii}

These conditions are all preventable as they often exist because the home is older and poorly maintained. Lead-based paint is only present in homes built before 1978 and only becomes a hazard if the lead-based paint is exposed — often a result of the lack of consistent maintenance. Similarly, the older and less maintained a home is, the more likely it is there will be deficiencies in the structure of and infrastructure within the home. This can contribute to conditions that lead to the presence of asthma triggers and trip and fall hazards. Together these conditions contribute over \$174 billion in costs to our healthcare system and broader society.^{xiii}

Many of the programs that exist to improve housing conditions are aimed directly at addressing the housing related causes of these health conditions. For example, given the significant healthcare burden

of these conditions and others, many healthcare entities like health systems, hospitals, and managed care organizations are creating programs aimed at improving housing conditions and, subsequently, reducing the prevalence and incidence of poor health outcomes such as lead poisoning, asthma, and health conditions resulting from trip and fall incidents. These programs provide services that remove lead-based paint hazards, remediate mold, and address structural issues that can lead to moisture intrusion as well as trip and fall hazards — all of which are common barriers to weatherization. While not yet universally available, these programs do exist and, given the type of measures offered, there is an opportunity for these programs to be leveraged with Comfort Partners to maximize housing health and safety.

Beyond these health-related housing programs, there are separate energy efficiency programs and more flexible home improvement programs and resources that can also help to improve housing conditions. The next section lists the various programs available in New Jersey that could be leveraged with the Comfort Partners program to overcome barriers to weatherization.



SECTION 3:

COMPENDIUM OF EXISTING RESOURCES AND FUNDING



New Jersey is a national leader in programs and resources to address housing conditions that directly impact energy burden and health, including a robust service delivery framework for residential energy efficiency programs, and state and federal programs to address lead-based paint hazards. The following section lays out the housing related programs available statewide and explores opportunities for more effective coordination among existing resources. This section lists the suite of available resources in the state that can be used improve residential energy efficiency, address housing-related health issues, and rehabilitate or repair the existing housing stock.

Residential Energy Efficiency Programs

► STATE ENERGY PROGRAM

The federal State Energy Program (SEP) provides annual formula grants, competitive awards, and technical assistance to State Energy Offices to advance state-determined initiatives that promote a clean energy future. Through this program, states have complete autonomy to utilize program resources to align with and advance their own priorities. In FY 2020, Congress appropriated \$62.5 million to the State Energy Program, which was an increase from \$55 million in FY 2018 and FY 2019 and \$50 million in previous years. SEP formula grants require a match of state-appropriated funds totaling no less than 20% of the appropriated SEP funds awarded to the state. States may use SEP funding for the purchase and installation of equipment and materials for energy efficiency and renewable energy measures, including reasonable design costs.^{xiv} SEP is prohibited from funding:

- the building of mass-transit systems or exclusive bus lanes, or for the construction or repair of buildings or structures;

- the purchasing of land, buildings, or structures;
- the subsidization of fares for public transportation;
- the subsidization of utility rate demonstrations or state tax credits for energy conservation or renewable energy measures; and
- the conducting of research, development or demonstration of energy efficiency or renewable energy techniques and technologies not commercially available, or purchase equipment of the conduction thereof

In New Jersey, the Board of Public Utilities receives and administers SEP Funding, investing formula funds into the Clean Energy Program. The WARMAdvantage Program, which provided rebates for high efficiency home heating systems and/or water heaters, is one residential initiative that is funded by SEP in New Jersey. While this program phased out in 2021, it was replaced by comparable utility rebates moving forward.

State Energy Program Formula Grant Allocations: 2014-2020

Year	FY 2020	FY 2019	FY 2018	FY 2017	FY 2016	FY 2015	FY 2014
New Jersey	\$1,471,080.00	\$1,320,460.00	\$1,326,050.00	\$1,096,140.00	\$1,096,290.00	\$1,096,730.00	\$1,101,720.00

► WEATHERIZATION ASSISTANCE PROGRAM

The Weatherization Assistance Program (WAP) is a federal program administered by the Department of Energy (DOE) that seeks to reduce energy costs for income-eligible households by increasing the energy efficiency of their homes. The DOE WAP program received \$290 million dollars for FY 2020, a \$33 million increase from 2018. These funds are funneled through all 50 states, the District of Columbia, Native American Tribes, and the five U.S. territories and are awarded to local agencies that implement the program. For FY 2021, New Jersey received over \$6 million in WAP formula funding which is administered within the state by the New Jersey Department of Community Affairs.^{xv}

WAP primarily supports energy consumption-saving measures but can also address health and safety hazards that otherwise would prevent weatherization. The opportunities for using weatherization funds to address lead hazards in the home lie in using funds for health and safety measures. According to the 2017 Weatherization Program Notice 17-7 for Weatherization Health and Safety Guidance (which supersedes the WAP 11-6 Health and Safety Guidance), up to 15% of a state's weatherization fund can be used for eligible health and safety measures.^{xvi}

According to the guidance document, WAP grantees are allowed to perform health and safety measures if actions are needed to perform energy efficiency measures and costs of performing such measures are reasonable, as decided by DOE.^{xvii} While it is not required, grantees are encouraged to budget the health and safety measures separately from energy efficiency measures so that costs for the former do not have to be cost-justified and can be excluded from cost-benefit calculations in program evaluations.

The guidance also points out that certain measures can be classified as energy efficiency measures and health and safety measures. The official classification of such measures is determined by the savings-to-investment ratio (SIR). The SIR is used to determine whether the potential savings of the measure can justify the cost associated with performing the measure. Any measure that is completed through the WAP program must pass the cost-effectiveness test, that is the SIR must be greater than or equal to 1. An SIR of 1 indicates that the energy cost savings over the lifetime of the measure, discounted to present value, are equal to, at a minimum, the cost of materials, installation, and on-site supervisory personnel. SIR calculations are performed by DOE for every proposed measure highlighted by the energy audit in every weatherization job and any measure that does not meet the SIR equals 1 threshold cannot be completed. In the case where a measure can be classified as either an energy efficiency or a health and safety measure, it will be classified as an energy efficiency measure if the SIR is greater than or equal to 1. Otherwise, the measure will be classified as health and safety and should be budgeted accordingly.

NJDCA aligns the investment of WAP health and safety dollars with Low Income Home Energy Assistance Program (LIHEAP) health and safety dollars, which can include additional interventions like replacement of gas appliances to reduce Carbon Monoxide emissions and radon testing *and* mitigation. This dual funding strategy creates up to \$7,000 for health and safety interventions in participating housing. Both programs are engaging in 'like-for-like' appliance replacements, rather than using the opportunity to move housing toward electrification by replacing gas appliances with electric.

In guidance issued on December 8, 2021, the Department of Energy modified WAP income eligibility guidelines to align with HUD’s housing programs. The new eligibility guidelines are:

- DOE’s WAP accepts households using up to 200% of Federal Poverty Guidelines (FPG).
- HHS’ LIHEAP accepts households using 150% of FPG, or states may elect to use 60% of State Median Income (SMI), whichever is greater for their respective state. Each Grantee is permitted under 42 U.S. Code § 8624(b)(2) (B) to set an income limit within this range.
- HUD’s means-tested programs accept households using percentages of Area Median Income (AMI) ranging from 30% AMI to 80% AMI, depending on specific program parameters. HUD uses 4,684 Fair Market Rent (FMR) areas to establish AMIs, based on metropolitan areas and non-metropolitan counties.^{xviii}

This regulatory change not only aligns WAP more closely with HUD-funded programs, but also moves the eligibility criteria for WAP (at 200% FPL) close to Comfort Partners (at 250% FPL). NJDCA also anticipates that the additional \$350 billion in federal investment in WAP will result in \$60-80 million in additional WAP funds flowing to New Jersey. While DOE has not issued official guidance around these additional funds, NJDCA anticipates that states will be asked to focus on workforce development in the first year/s of additional funding. While additional training and workforce development funding and support will be helpful, a potential challenge remains in the wage disparity between the community-based WAP service providers and the commercial Comfort Partners vendors. Often, trained certified energy auditors and installers will move to the commercial vendor side to earn higher wages, leaving a gap in the WAP workforce. The bureaucratic demands and challenges of participating in a DOE-funded program create a lack of interest among contractors in New Jersey as well.^{xix}

Weatherization Assistance Program (2021 State Plan)

Subgrantee	City	Planned Funds	Planned Units
Bergen County Community Action Program, Inc	Hackensack	\$ 868,206.00	95
Camden County Council on Economic Opportunity	Pennsauken	\$ 1,081,420.00	118
Gateway Community Action Partnership	Bridgeton	\$ 725,566.00	79
Isles, Inc	Trenton	\$ 293,791.00	32
LA CASA DE DON Pedro	Newark	\$ 1,309,339.00	143
Native American Advancement Corp	Bridgeton	\$ 661,513.00	72
Northwest NJ Community Action Program, Inc.	Phillipsburg	\$ 425,676.00	46
Ocean Community Action Now, Inc.	Toms River	\$ 1,266,187.00	138
Passaic County Brd of Chosen Freehold	Totowa	\$ 905,532.00	99
Puerto Rican Action Board, Inc (PRAB)	New Brunswick	\$ 1,060,376.00	116
Puerto Rican Organization for Community Economic Development	Elizabeth	\$ 981,344.00	107
Puertorriquenos Asociados for Community Organization	Jersey City	\$ 1,161,149.00	126
The Morris County Organization for Hispanic Affairs, Inc.	Dover	\$ 453,186.00	49
Total		\$ 11,193,285.00	1220

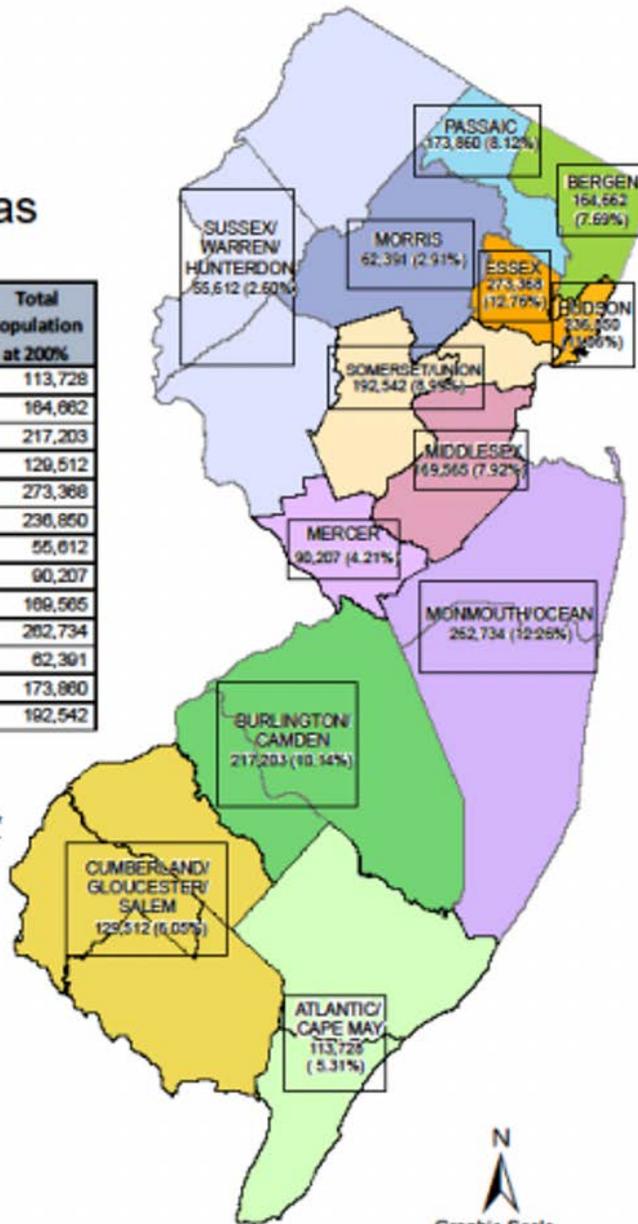
Source: New Jersey Weatherization Assistance Program 2021 Annual State Plan

Weatherization Assistance Program 2020



Target/Service Areas

Service Area	Total Population at 200%
Atlantic and Cape May Counties	113,728
Bergen County	164,662
Burlington and Camden Counties	217,203
Cumberland, Gloucester, and Salem Counties	129,512
Essex County	273,368
Hudson County	236,850
Hunterdon, Sussex, and Warren Counties	55,612
Mercer County	90,207
Middlesex County	169,565
Monmouth and Ocean Counties	262,734
Morris County	62,391
Passaic County	173,860
Somerset and Union Counties	192,542

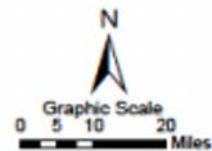


*American Community Survey 2016**

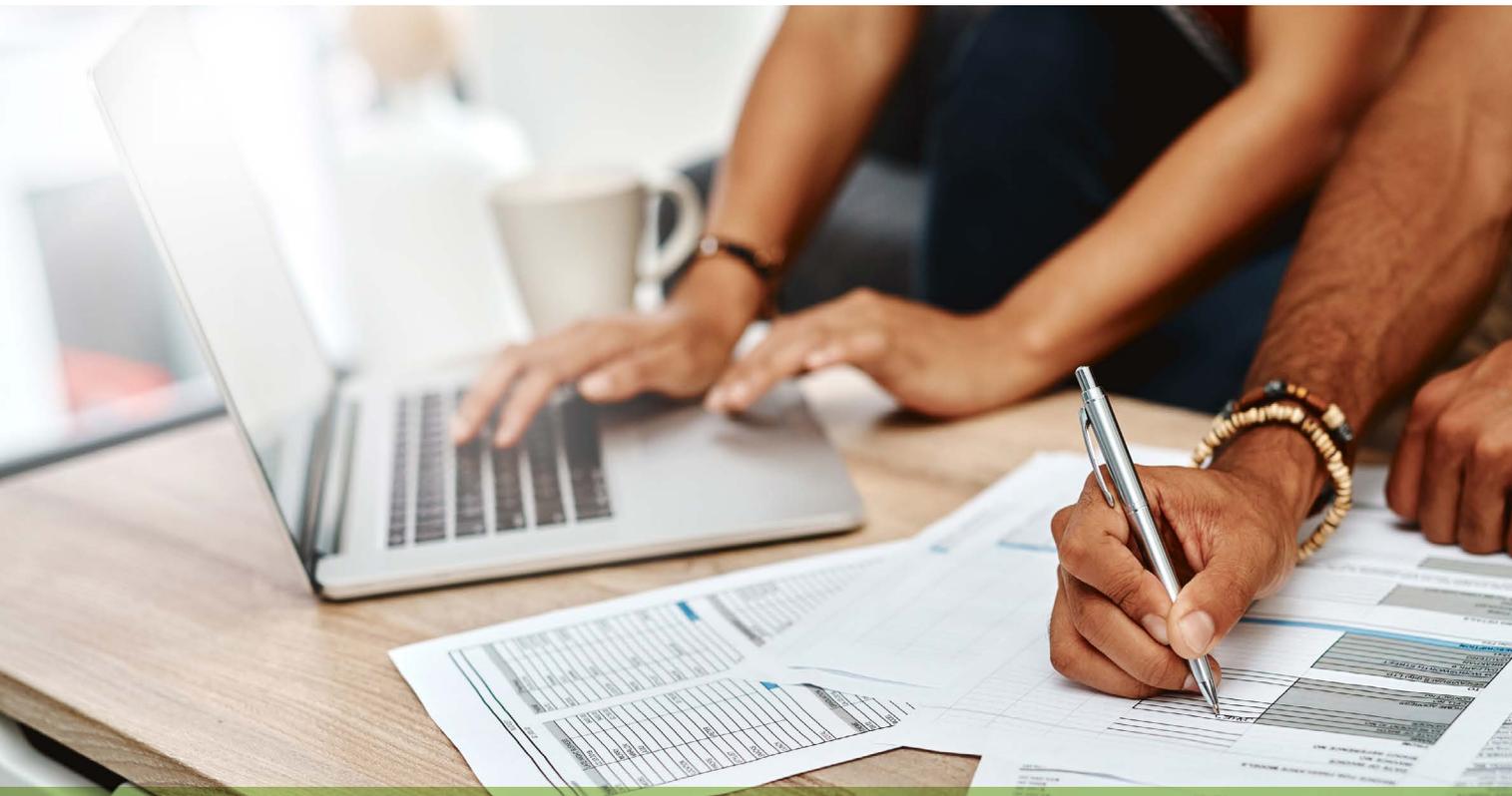
**New Jersey's
State Population:
8,739,058**

**New Jersey
(200% below poverty level):
2,142,234**

**New Jersey
Department of Community Affairs
Weatherization Assistance Program
Office of Low Income Energy Conservation
101 South Broad Street
Trenton, New Jersey 08625
Date: November 2019**



Source: New Jersey Weatherization Assistance Program 2021 Annual State Plan



► LIHEAP

The Low-Income Heating and Energy Assistance Program (LIHEAP) is a federal program that helps residents pay their utility bills and is administered by the New Jersey Department of Community Affairs (DCA), the same agency that administers the NJ WAP program.^{xx} There are four components to LIHEAP in New Jersey: 1) heating assistance, 2) cooling assistance, 3) crisis assistance, and 4) weatherization assistance. LIHEAP heating assistance provides \$118 to \$1,278 in assistance to priority households early in the heating season. LIHEAP cooling assistance provides \$118 to \$1,278 in assistance to households in which at least one member has a medical condition that requires cooling with priority given to older adults, disabled individuals, and families with young children. LIHEAP crisis assistance helps households that are in danger of running out of fuel or that have received a shutoff notice from their utility company by providing bill payment assistance and emergency equipment or heating system replacement. LIHEAP funding can also be used to advance weatherization assistance for income-eligible households. LIHEAP funds for weatherization services are transferred to the DCA Office of Low Income Energy Conservation and support typical weatherization measures. LIHEAP weatherization funding is more flexible than DOE WAP and can also be used for energy related home repair such as mold remediation and roof repairs when these repairs are necessary to enable weatherization. Through the partnership with LIHEAP, New Jersey's WAP program can now address stoves, perform mold remediation, and test and mitigate radon. The below chart highlights the programs that are currently leveraged with LIHEAP to maximize the benefits for income eligible customers. New Jersey's gross LIHEAP allocation for FY2020 was \$121,729,563, which served approximately 219,755 individuals.^{xxi}

LIHEAP Leveraging Resource (2021 Annual Plan)

Type of Resource or Benefit	Source of the Resource	How will the resource be integrated and coordinated with LIHEAP?
Lifeline Assistance	Universal Service Fund Program	The Lifeline Program is administered by the Department of Human Services. Lifeline clients are referred to LIHEAP and LIHEAP clients are referred to Lifeline.
New Jersey Natural Gas Gift of Warmth Program	New Jersey Natural Gas Company	Gift of Warmth benefits will be distributed through the LIHEAP Administrative Office.
New Jersey Natural Gas Universal Service Fund Program	Universal Service Fund Program	The USF benefit is distributed to low income households as a supplement and/or alternative to the LIHEAP program.
New Jersey Natural Gas Fresh Start Program	Universal Service Fund Program	The Fresh Start Program is the debt forgiveness component of the Universal Service Fund Program. The benefit will be distributed as a supplement and/or alternative to the LIHEAP Program.
New Jersey Natural Weatherization Program	New Jersey Natural Gas Company	State of New Jersey negotiated with utilities to institute weatherization services for LIHEAP clients.
New Jersey SHARES (New Jersey Statewide Heating Assistance and Referral for Energy Services)	NJ Unclaimed utility deposits and trust fund donations	New Jersey SHARES benefits will be administered through the LIHEAP administrative CBOs.
Public Service Electric and Gas/Weatherization	PSE&G	State of New Jersey negotiated with utilities to obtain weatherization services for LIHEAP clients.
PSE&G Security Deposit Waiver Program	PSE&G	State of New Jersey negotiated with utilities to obtain security deposit waivers for low income households.
PSE&G Universal Service Fund Program	Universal Service Fund Program	The USF benefit is distributed to low income households as a supplement and/or alternative to the LIHEAP program.
PSE&G Fresh Start Program	Universal Service Fund Program	The Fresh Start Program is the debt forgiveness component of the Universal Service Fund Program. The benefit will be distributed as a supplement and/or alternative to the LIHEAP Program.
First Energy Weatherization	First Energy Company	State of New Jersey negotiated with utilities to obtain weatherization services for LIHEAP clients.
First Energy Universal Service Fund	Universal Service Fund Program	The USF benefit is distributed to low income households as a supplement and/or alternative to the LIHEAP program.
First Energy Fresh Start Program	Universal Service Fund Program	The Fresh Start Program is the debt forgiveness component of the Universal Service Fund Program. The benefit will be distributed as a supplement and/or alternative to the LIHEAP Program.
Atlantic City Electric/Weatherization	Atlantic City Electric	State of New Jersey negotiated with utilities to obtain weatherization services for LIHEAP clients.
Atlantic City Electric Universal Service Fund	Universal Service Fund Program	The USF benefit is distributed to low income households as a supplement and/or alternative to the LIHEAP program.
Atlantic City Electric Fresh Start Program	Universal Service Fund Program	The Fresh Start Program is the debt forgiveness component of the Universal Service Fund Program. The benefit will be distributed as a supplement and/or alternative to the LIHEAP Program.
Rockland Electric/Universal Service Program	Universal Service Fund Program	The USF benefit is distributed to low income households as a supplement and/or alternative to the LIHEAP program.
Rockland Electric Fresh Start Program	Universal Service Fund Program	The Fresh Start Program is the debt forgiveness component of the Universal Service Fund Program. The benefit will be distributed as a supplement and/or alternative to the LIHEAP Program.
Rockland Electric Weatherization	Rockland Electric	State of New Jersey negotiated with utilities to obtain weatherization services for LIHEAP clients.
South Jersey Gas/Universal Service Fund	Universal Service Fund Program	The USF benefit is distributed to low income households as a supplement and/or alternative to the LIHEAP program.
South Jersey Gas/Weatherization	South Jersey Gas	State of New Jersey negotiated with utilities to obtain weatherization services for LIHEAP clients.
South Jersey Gas/Fresh Start	Universal Service Fund Program	The Fresh Start Program is the debt forgiveness component of the Universal Service Fund Program. The benefit will be distributed as a supplement and/or alternative to the LIHEAP Program.
Elizabethtown Gas Company/Weatherization	Elizabethtown Gas Company	State of New Jersey negotiated with utilities to obtain weatherization services for LIHEAP clients.
Elizabethtown Gas Company/Universal Service Fund	Universal Service Fund Program	The USF benefit is distributed to low income households as a supplement and/or alternative to the LIHEAP program.
Elizabethtown Gas Company/Fresh Start Program	Universal Service Fund Program	The Fresh Start Program is the debt forgiveness component of the Universal Service Fund Program. The benefit will be distributed as a supplement and/or alternative to the LIHEAP Program.

Source: New Jersey Weatherization Assistance Program 2021 Annual State Plan

Lead Poisoning Prevention Programs

► HUD LEAD HAZARD CONTROL GRANT PROGRAM

The U.S. Department of Housing and Urban Development releases funding every year through the Office of Lead Hazard Control and Healthy Homes to support remediation of lead and other residential health hazards. The funds from this office come from two sources: the Lead-based Paint Hazard Reduction (LBPHR) Grant Program and the smaller Healthy Homes Supplemental Fund. The LBPHR Grant Fund is specifically for identifying and cleaning up dangerous lead in low-income families' older homes. Those funds are further subdivided into Lead-based Paint Hazard Control (LBPHC) and Lead Hazard Reduction (LHRD) grant programs. The awards are announced together. The LHRD program is targeted to urban jurisdictions and has a higher requirement for the state to provide match funding, at 25%. This match funding is typically used to support the program, including in-kind staff time or additional money for repairs. The LBPHC is open to all and has a 10% grantee match requirement. Healthy Homes Supplemental funding is available to help communities with housing-related health and safety hazards in addition to lead-based paint hazards. States and localities can apply for these

funding opportunities, which together represent the single largest funding opportunity to support the improvement of substandard housing conditions.^{xxii}

The office also offers Lead and Healthy Homes Technical Studies grants as a part of the Healthy Homes Initiative. Previously the Lead Technical Studies program and Health Homes Technical Studies program were awarded separately. Academic institutions, non-profit and for-profit organizations (provided no fees are charged for services), States, Native American Tribes and local governments are eligible to apply.

On August 21, 2021, Secretary Fudge announced that nearly \$95 million in Lead-based Paint Hazard Reduction grants would be awarded to state and local government agencies in 19 states.^{xxiii} New Jersey had no representation in the group of awardees. During the previous year (fiscal year 2021), New Jersey had funding granted to the city of Paterson. Additionally, Rutgers University was awarded a Lead and Healthy Homes Technical Grant. They plan to use this grant to study the cost-effectiveness and impacts of integrated house mouse management programs in multifamily apartment buildings.^{xxiv}

Office of Lead Hazard Control and Healthy Homes Grants to New Jersey FY 2021

Awardee	Lead and Healthy Homes Technical Studies Grant	Lead Hazard Reduction Grant	Healthy Homes Supplemental Funding	OLHCHH Total
City of Paterson	\$0	\$3,000,000.00	\$400,000.00	\$3,400,000.00
Rutgers University	\$641,756.00	\$0	\$0	\$641,756.00
TOTAL	\$641,756.00	\$3,000,000.00	\$400,000.00	\$4,041,756.00

Source: U.S. Department of the Treasury, Bureau of the Fiscal Service^{xxv}

► LEAD-SAFE HOME REMEDIATION GRANT AND SINGLE-FAMILY HOME REMEDIATION PROGRAMS, NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS (NJDCA)

The Lead Safe Home Remediation Grant Program and the Single-Family Home Remediation Program

provide assistance to low- and moderate-income families to remediate and/or abate lead-based paint hazards in owner-occupied and rental homes built before 1978.^{xxvi} The Lead-Safe Home Remediation Grant Program has a statewide target service area and in addition Camden, Newark, Paterson, and Trenton, fall under the Single-Family Program. To be eligible, households must have a household income at or below

80% of the area median income threshold and must reside in one- to four-family residential properties constructed prior to 1978. Households with children under the age of six and/or pregnant women in eligible housing units constructed prior to 1978 where there is an identified lead-based paint hazard will be given priority. The Single-Family Home Remediation program is directed to households of children with elevated blood lead levels, and interventions include lead abatement, with a maximum assistance amount of \$25,000 per home. Households that are deferred from DCA's Weatherization Assistance Program due to the presence of lead-based paint hazards will be given second priority. Projects that cost up to \$20,000 may be completed with prior DCA approval. The average remediation costs per unit is \$13,000. The Lead Safe

Home Remediation Program is funded at \$10 million in state funds annually, and the Single-Family Program is funded at \$3.6 million.

In 2022, NJDCA anticipates adding a new state-funded lead program, funded at \$10 million. The Lead Elimination Assistance Program will bring the total annual statewide funding for lead remediation to \$23.6 million. This program will be directed to projects that meet New Jersey's abatement standard, a higher standard than lead remediation, that requires removal or encapsulation of all leaded components in a home regardless of current condition. Lead abatement is required in New Jersey for homes of children with elevated blood lead levels (EBLL), but this program will not be restricted to EBLL households.^{xxvii}

Lead-Safe Home Remediation Grant Program (2021)		
Awardee	Amount	Target Areas
Community Affairs and Resources Center (CARC)	\$ 897,674.00	Atlantic, Middlesex, and Monmouth Counties
Greater Bergen Community Action	\$ 390,698.00	Bergen County
Isles, Inc.	\$ 284,550.00	Mercer County (except Trenton City)
La Casa de Don Pedro (La Casa)	\$ 463,372.00	Essex County (except Newark)
Morris County Organization for Hispanic Affairs (MCOHA)	\$ 150,000.00	Morris County
Native American Advancement Corp. (NAAC)	\$ 300,000.00	Atlantic and Cape May Counties
NORWESCAP	\$ 300,000.00	Hunterdon, Sussex, and Warren Counties
PROCEED Inc.	\$ 500,000.00	Somerset and Union Counties
Puertorriquenos Asociados for Community Organization, Inc. (PACO)	\$ 346,800.00	Hudson County
Saint Joseph's Carpenter Society (SJCS)	\$ 294,830.00	Burlington, Camden (except Camden City) and Gloucester Counties
Total	\$3,972,924.00	

Single-Family Home Remediation Grant Program (2021)		
Awardee	Amount	Target Areas
Greater Bergen Community Action, Inc.	\$ 725,582.00	Paterson City
Habitat for Humanity of Greater Newark, Inc.	\$ 300,000.00	Newark City
Isles, Inc.	\$ 365,000.00	Trenton City
La Casa de Don Pedro (La Casa)	\$ 491,279.00	Newark City
Saint Joseph's Carpenter Society (SJCS)	\$ 732,610.00	Camden City
United Community Corporation (UCC)	\$ 300,000.00	Newark City
Total Funded	\$2,914,471.00	

Source: NJDCA, 2022 Available: <https://www.nj.gov/dca/divisions/dhcr/offices/leadsafe.html>

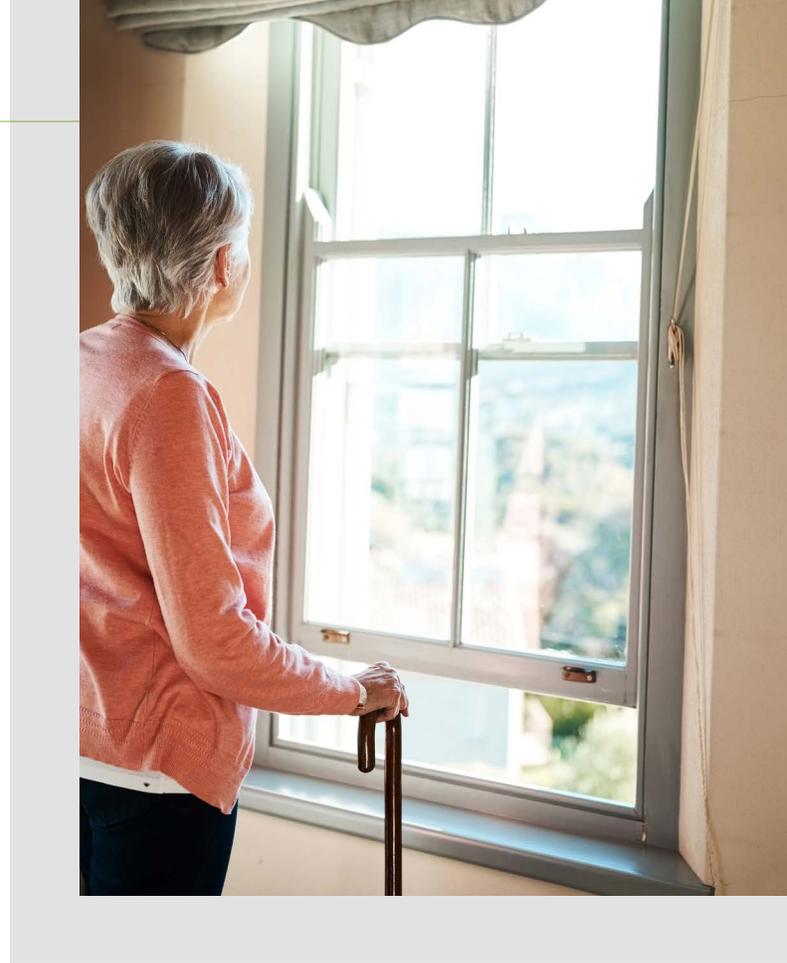
Health Related Housing Programs

► HUD OLDER ADULT HOMES MODIFICATION PROGRAM

The Older Adult Homes Modification Program is intended to assist experienced nonprofit organizations, state and local governments, and public housing authorities in improving home health and safety for low-income older adult homeowners.^{xxviii} The program enables older adults to remain in their homes by installing low-cost, low barrier, high impact home modifications to reduce older adults' risk of falling, improve general safety, increase accessibility, and improve residents' functional abilities in their homes. Example home modifications include the installation of grab bars, railings, and lever-handed doorknobs and faucets as well as the installation of adaptive equipment, such as a temporary ramp, tub/shower transfer bench, handheld shower head, raised toilet seat, risers for chairs and sofas, and non-slip strips for tub/shower or stairs. The model utilizes licensed Occupational Therapists to ensure that the home modifications address the client's specific goals and needs. In the most recent round of awards, there were no NJ grantees.^{xxix}

► HUD SECTION 811 SUPPORTIVE HOUSING FOR PERSONS WITH DISABILITIES PROGRAM

The Section 811 Supportive Housing for Persons with Disabilities Program provides funding to develop and subsidize rental housing with the availability of supportive services for very low- and extremely low-income adults with disabilities. The program provides 1) interest-free capital advances and operating subsidies to nonprofit developments of affordable housing for persons with disabilities and 2) project rental assistance to state housing agencies, which can be applied to new or existing multifamily housing complexes funded through different sources, such as LIHTC, HOME, and other state, federal and local programs.^{xxx} In August 2020, HUD awarded \$6,878,923 to the New Jersey Housing Mortgage Finance Agency to administer the Section 811 Program.^{xxxiii}



Housing Rehabilitation Programs and Resources

► HUD HEALTH HOMES PRODUCTION GRANT

The Healthy Homes Production Grant (HHP), which launched in 1999, takes a comprehensive approach to addressing multiple childhood diseases and injuries in the home by focusing on housing-related hazards in a coordinated fashion.^{xxxiv} The awardees for the most recent HHP grant opportunity have yet to be announced.

► HUD COMMUNITY DEVELOPMENT BLOCK GRANT

The Community Development Block Grant is a flexible source of funding that states and local jurisdictions receive in order to advance community development. Any activity that is performed through CDBG must meet at least one of the following national objectives: benefit low- and moderate-income residents, prevent or eliminate blight or and areas of distressed housing, or

address urgent community development needs, where these conditions pose a serious threat to the health or welfare of the community, and for which other funding is not available. In addition, over the lifetime of the grant, which may be one, two, or three-years, at least 70% of CDBG funds must be used to benefit low- and moderate-income persons. If these two requirements are met, CDBG funds can be used flexibly.

The allowable uses for CDBG funds are broad and include the creation or rehabilitation of affordable housing and the remediation of lead-based paint hazards. The primary CDBG programs to target for lead hazard reduction funding are the CDBG Entitlement Programs and the CDBG State Programs. The CDBG Entitlement Programs are often operated by local City and County housing departments where applicants can apply for lead hazard reduction

grant funding directly through the annual CDBG application and award process. Applicants should monitor the CDBG public announcements of the local application period for any such funding.

In 2019, the most recent year available for reporting, a total of \$80,313,865.80 was disbursed to the State of New Jersey by HUD in the form of Community Development Block Grants.^{xxxv} The amount of CDBG funding spent specifically on the rehabilitation of properties (whether commercial or residential, government or privately owned) is \$13,012,786.20, which is 16.2% of the total amount of CDBG funding disbursed to the State. The specific CDBG funding data on each precinct of New Jersey can be found below; the data on what specific utilization of housing rehabilitation funding can be found in the Appendix.

Grantees	Total Disbursement	Amt. Disbursed for Housing Rehab	Percentage Disbursed for Housing Rehab
Asbury Park	\$514,057.44	\$19,500.00	3.8%
Atlantic City	\$987,186.95	\$147,030.00	14.9%
Atlantic County	\$725,151.30	\$74,079.00	10.2%
Bayonne	\$1,378,067.01	\$141,574.93	10.3%
Bergen County	\$7,775,016.13	\$1,626,311.30	20.9%
Bloomfield	\$633,768.13	\$8,388.00	1.3%
Brick Township	\$316,173.87	\$189,396.67	59.9%
Bridgeton	\$426,512.58	\$113,217.50	26.5%
Burlington County	\$1,379,159.41	\$405,307.77	29.4%
Camden	\$2,820,586.07	\$402,437.31	14.3%
Camden County	\$2,747,182.66	\$125,857.90	4.6%
Cherry Hill	\$440,449.24	\$314,644.59	71.4%
Clifton	\$1,111,356.63	\$275,523.64	24.8%
East Orange	\$1,394,648.49	\$429,670.91	30.8%
Edison (Township)	\$462,492.28	\$95,708.29	20.7%
Elizabeth	\$2,772,537.20	\$16,668.00	0.6%
Essex County	\$5,190,663.18	\$40,292.53	0.8%
Ewing Township	\$225,609.27	\$-	0.0%
Franklin Township	\$200,772.72	\$20,690.50	10.3%
Gloucester County	\$1,267,682.22	\$386,701.95	30.5%
Gloucester Township	\$384,871.70	\$246,456.35	64.0%
Hamilton Township	\$627,730.53	\$180,149.84	28.7%

Grantees	Total Disbursement	Amt. Disbursed for Housing Rehab	Percentage Disbursed for Housing Rehab
Hoboken	\$1,214,325.02	\$856,277.99	70.5%
Hudson County	\$1,612,374.77	\$-	0.0%
Irvington (Township)	\$1,018,398.70	\$212,538.08	20.9%
Jersey City	\$7,296,969.52	\$1,289,121.88	17.7%
Lakewood Township	\$1,366,763.04	\$445,380.36	32.6%
Long Branch	\$582,975.22	\$-	0.0%
Middlesex County	\$769,976.58	\$92,942.18	12.1%
Middletown (Township)	\$263,379.25	\$241,018.83	91.5%
Millville	\$254,584.92	\$113,666.49	44.6%
Monmouth County	\$4,324,985.66	\$705,839.40	16.3%
Morris County	\$1,779,069.76	\$404,437.20	22.7%
New Brunswick	\$772,736.78	\$120,000.00	15.5%
New Jersey	\$2,349,870.28	\$796,145.12	33.9%
Newark	\$7,269,886.42	\$255,083.93	3.5%
North Bergen	\$528,736.28	\$-	0.0%
Ocean City	\$218,090.05	\$-	0.0%
Ocean County	\$1,074,735.54	\$472,721.46	44.0%
Old Bridge Township	\$72,102.66	\$-	0.0%
Parsippany-Troyhills (Township)	\$333,121.84	\$84,335.84	25.3%
Passaic	\$1,698,277.92	\$-	0.0%
Passaic County	\$799,067.24	\$-	0.0%
Paterson	\$822,379.14	\$92,451.41	11.2%
Perth Amboy	\$489,105.91	\$-	0.0%
Sayreville	\$315,859.68	\$-	0.0%
Somerset County	\$1,086,282.94	\$-	0.0%
Toms River	\$300,855.66	\$184,266.78	61.2%
Trenton	\$2,921,690.62	\$96,530.13	3.3%
Union City	\$726,610.57	\$-	0.0%
Union County	\$2,634,791.31	\$807,069.67	30.6%
Union Township	\$523,483.81	\$217,134.04	41.5%
Vineland	\$406,086.09	\$247,523.43	61.0%
Woodbridge (Township)	\$704,617.61	\$18,695.00	2.7%
New Jersey (Statewide)	\$80,313,865.80	\$13,012,786.20	16.2%

Source: U.S. Department of Housing and Urban Development

► HUD HOME

The HOME Investment Partnerships Program (HOME) is a formula block grant program administered by HUD and provided to States and local jurisdictions to fund affordable housing activities. In New Jersey, several jurisdictions use HOME funds to run home repair programs that can be braided or aligned with Comfort Partners to address deferral causes. The participating jurisdiction provides funding primarily to local nonprofit housing development organizations with a mission of constructing or rehabbing affordable housing units to eligible low-to moderate-income individuals and families. HOME is the largest federal block grant to state and local governments designed exclusively to create affordable housing for low-income households. Funding allocated to states is typically disseminated to local jurisdictions or non-profit partners via a request for proposals or a grant application. Like CDBG, HOME funds may also be awarded directly to participating jurisdictions. HOME funding can be used for acquisition, demolition, rehabilitation, and construction of residential properties. HUD requires that 15% of HOME funds in a participating jurisdiction be set aside for affordable housing development activities of Community Housing Development Organizations (CDHO's). CDHO's are private, non-profit community-based service organizations that develop affordable housing in the community that they serve.

► HUD SECTION 203 (k) REHAB MORTGAGE INSURANCE

The 203 (k) program supports homebuyers and homeowners with financing for purchasing (or refinancing) a house and rehabilitating it. For homeowners, it creates a simpler application process as the rehabilitation mortgage is included with the purchasing or refinancing loan. The lender benefits from having the loan insured even if the value of the property will not provide adequate security given the need for rehabilitation. The program also includes the option for a Limited 203(k) mortgage for projects

that will cost less than \$35,000^{xxxvi}. In either case, the eligibility criteria are that the project must exceed \$5,000 in cost, the existing foundation system must remain in place, and basic energy efficiency and structural standards must be met. The loans can be used on a property that also has non-residential uses and can be used to convert a property of any size to a one- to four- unit structure.

Loans are offered by FHA approved lenders and endorsed by local HUD field offices. The two field offices in New Jersey are in Camden and Newark. Both offices are processed by the HUD Home Ownership Center in Philadelphia. See the appendix for loans since 2019 and the loans by lender per year. In both cities, the number of loans approved has declined each year since 2019.

Count of Section 203(k) loans endorsed from New Jersey Field Offices FY 2021		
Field Office	Home Ownership Office	Endorsed Loans 2021 FY
Camden	Philadelphia	197
Newark	Philadelphia	503
TOTAL		700

Source: HUD 203(k) Endorsement Summary Reports^{xxxvii}

► **HUD SECTION 221(d) (4): MULTIFAMILY RENTAL HOUSING FOR MODERATE-INCOME FAMILIES**

Through this program, HUD insures mortgages for projects involving new construction or substantial rehabilitation of multifamily housing for moderate-income families, the elderly, or the handicapped. To qualify for multifamily eligibility, the property must contain five or more units.^{xxxviii} HUD may insure up to 90 percent of replacement cost in the case of new

construction under Section 221(d)(4).^{xxxix} Under current guidance, all families are eligible to occupy dwellings in a structure whose mortgage is insured under this program, subject to normal tenant selection. There are no income limits. Projects may be designed specifically for the elderly or handicapped. Section 221(d)(3), a version of the program with income limits and 100% insurance of replacement costs, was discontinued in 2013.^{xl} Only public, non-profit, and cooperative mortgagors had been eligible for the Section 221(d)(3) program.

Section 221(d)(4) Grantees in New Jersey 2021				
Grantee	Location	Issue Date	Face Value of Loan	Loan Subsidy
Sims Mortgage Funding Inc	Rutherford	9/30/2021	\$9,247,200.00	-\$110,042.00

Source: U.S. Department of the Treasury, Bureau of the Fiscal Service^{xli}

► **HUD HOUSING TRUST FUND**

The Housing Trust Fund (HTF) provides grants to states to produce and preserve affordable housing for extremely low- and very low-income households. Funds are awarded by formula each year. How the state uses the funds is mandated in the following ways: 80 percent must go to rental housing; up to 10 percent for homeownership; and up to 10 percent for the grantee’s reasonable administrative and planning costs. Funds can go towards acquisition, new construction, reconstruction, and/or rehabilitation. All units are required to have a minimum affordability period of 30 years.^{xlii}

Housing Trust Fund 2021 grant amount for New Jersey	
Awardee	HTF Grant
New Jersey	\$24,354,671.00

Source: U.S. Department of Housing and Urban Development^{xliii}

► **HUD PUBLIC HOUSING CAPITAL FUND**

The HUD Capital Fund Program offers annual funding to all public housing authorities to build, renovate, and/or modernize the public housing in their communities. Examples given by HUD include replacing roofs or making energy-efficiency upgrades to heating systems and installing water conservation measures.



HUD Public Housing Capital Fund 2021 New Jersey Allocations

Grantee (Housing Authority of Locality)	HUD Capital Fund Amount
Asbury Park	\$1,509,773.00
Atlantic City	\$4,165,406.00
Bayonne	\$3,524,579.00
Belmar	\$79,566.00
Beverly	\$144,013.00
Boonton	\$141,165.00
Bridgeton	\$993,380.00
Burlington County	\$185,164.00
Camden (City)	\$2,881,185.00
Cape May County	\$169,297.00
Carteret	\$208,653.00
Clementon	\$95,284.00
Collingswood	\$151,331.00
Dover	\$95,112.00
East Orange	\$175,435.00
Edison	\$346,638.00
Elizabeth	\$3,580,448.00
Florence	\$109,662.00
Franklin Township	\$262,743.00
Freehold	\$151,514.00
Garfield	\$1,071,766.00
Gloucester County	\$573,717.00
Guttenberg	\$617,443.00
Haddon	\$162,678.00
Harrison	\$875,950.00
Hightstown	\$198,904.00
Hoboken	\$4,072,314.00
Irvington	\$1,406,351.00
Jersey City	\$6,578,836.00
Linden	\$349,787.00
Lodi (Borough)	\$442,633.00
Long Branch	\$1,049,812.00
Millville	\$973,040.00
Morris County	\$562,478.00
Morristown	\$1,129,960.00
Neptune	\$786,355.00

HUD Public Housing Capital Fund 2021 New Jersey Allocations

Grantee (Housing Authority of Locality)	HUD Capital Fund Amount
New Brunswick	\$1,010,695.00
Newark	\$23,678,318.00
Newton	\$110,388.00
North Bergen	\$2,344,389.00
Ocean City	\$121,578.00
Orange (City)	\$1,032,740.00
Passaic (City)	\$1,216,211.00
Paterson	\$3,420,667.00
Penns Grove	\$321,770.00
Perth Amboy	\$246,651.00
Phillipsburg	\$1,723,490.00
Plainfield	\$1,235,876.00
Rahway	\$649,599.00
Red Bank	\$155,840.00
Salem County	\$583,302.00
South Amboy	\$302,701.00
Trenton	\$5,038,044.00
Union City	\$1,216,918.00
Vineland	\$475,056.00
Wildwood	\$359,528.00
TOTAL	\$85,066,133.00

Source: U.S. Department of Housing and Urban Development^{xlv}

USDA Housing Programs

Our research shows three USDA programs funding housing-related projects in the state: the Section 502 Single Family Housing Direct and Guaranteed Loan programs, the Section 504 Single Family Housing Repair Loans & Grants program, and the USDA Rural Housing Preservation grants. The USDA does offer additional funds including multifamily housing rental assistance, farm labor housing direct loans & grants, and mutual self-help technical assistance grants^{xlvi}.

Count of USDA Awards to New Jersey Awardees by Program FY 2021

USDA Program	Count
Section 502 Housing Loans	492
Section 504 Housing Repair Loans & Grants	19
Rural Housing Preservation Grants	0
TOTAL	511

Source: U.S. Department of the Treasury, Bureau of the Fiscal Service^{xlvii}

► SECTION 502 HOUSING LOANS

The Section 502 Home loan program assists very low-to-moderate income households in rural areas with purchasing modest housing through direct subsidized loans or through guaranteeing loans issued by approved lenders.^{xlviii} Loans can be used to purchase homes, build, renovate, or repair a home. They can also be used to purchase and prepare sites. Whether the loan is direct or simply guaranteed, applicants are able to receive 100% financing, so they do not need to place any money down. To be eligible, the applicant cannot exceed 115% of the median household income for the region, must agree to personally occupy the dwelling

as their primary residence, and must be either a US citizen, non-citizen national, or Qualified Alien. Guaranteed loans are the main use of this program. They are offered at a 30-year fixed rate only. Direct loans occur in much smaller numbers and are only available for low and very-low-income applicants who currently lack decent housing and cannot otherwise obtain financing for a home purchase. Payment assistance subsidies are also available for the direct loans. Loans have a 2.50% interest rate as of November 1, 2021, and up to a 33-year payback period for all qualifiers, and up to a 38-year payback period for very-low-income applicants who cannot afford the 33-year loan term.

Count of 502 Loans to New Jersey Recipients FY 2021			
Type of Loan	Count	Total Face Values of Loans	Total Loan Subsidy
Direct Loan	9	\$1,718,449.00	\$95,202.07
Guaranteed Loan	483	\$97,816,677.30	\$684,716.94
TOTAL	492	\$99,535,126.30	\$779,919.01

Source: U.S. Department of the Treasury, Bureau of the Fiscal Service^{xlix}

► SECTION 504 HOME REPAIR

The Section 504 Home Repair Program assists very low-income households in rural areas with home repair projects that include general repairs to improve or modernize the home, remediation of hazards in the home, and the repair or remodeling of homes that improve access for household occupants with disabilities.¹ USDA Section 504 offers grants and loans to assist program participants. The grant program is limited to homeowners aged 62 and older who can't afford to repay the entire loan amount and has

a maximum amount that can be received of \$7500 in assistance. These grants are not to be repaid unless the home is sold within three years of grant approval. Other very low-income households are eligible for loans. The maximum amount that can be borrowed under the loan program is \$20,000, which is payable in 20 years at a 1% interest rate. To be eligible for assistance under USDA Section 504, the applicant must have an income under 50% of the area median income, must be the owner occupant of the home, and must show a reliable income to support the payback of the loan portion.

Section 504 Awards to New Jersey Recipients FY 2021				
Award Type	Count in 2021	Grant Obligated Amounts	Total Face Values of Loans	Total Loan Subsidy
Grants	13	\$98,132.00	n/a	n/a
Direct Loans	6	n/a	\$353,774.50	\$147,921.00
TOTAL	19	\$98,132.00	\$353,774.50	\$147,921.00

Source: U.S. Department of the Treasury, Bureau of the Fiscal Service¹

► USDA HOUSING PRESERVATION GRANTS

USDA Housing Preservation Grants (also called Section 533 Housing Preservation Grants) provide money to organizations for the rehabilitation of tribal or rural housing for low-income families (50-80% of the Area Median Income) or very low-income families (less than 50% of the Area Median Income). This grant program defines rural areas as towns or jurisdictions with no more than 20,000 people. State and local governments, as well as non-profit organizations are eligible to apply. The national total for the grant allocation is up to \$10 million.

The grant is designated for properties owned by low or very low-income individuals, or rental properties where the landlord agrees to rent to low or very low-income households. The money can be used for various housing preservation activities (full list [here](#)) including the installation of energy conservation measures, roof replacement, relocation costs, and for the removal of health and safety hazards to bring properties in compliance with federal and local codes.

USDA Rural Housing Preservation Grants to New Jersey Counties in 2021

Grantee	2021 Grant Amount
Gloucester County	\$115,407.00
Hopatcong County	\$115,407.00
TOTAL	\$230,814.00

Source: U.S. Department of the Treasury, Bureau of the Fiscal Service^{lii}

► NJ AFFORDABLE HOUSING TRUST FUND

Housing trust funds are flexible funding opportunities to assist local jurisdictions with affordable housing construction and rehabilitation. New Jersey's Affordable Housing Trust Fund (NJAHTF) Program is designed to provide municipalities, and both for-profit, and non-profit developers with financial assistance to spur the development of affordable housing across the state. Financing through the program will be distributed through:^{19,20}

- Municipal Settlement Fund – this fund will help communities create smaller-scale projects that fit into the landscapes of their neighborhoods and assists municipalities in fulfilling their court-sanctioned affordable housing settlements. Applicants may be municipalities or developers authorized by the municipality. Municipalities will be required to provide leverage in the form of funding from their own Affordable Housing Trust Funds or, where there is no AHTF, in the form of publicly owned property made available at low or no cost, or some other form of investment.

Municipalities are eligible to apply for Affordable Housing Trust Funds if they meet one of the following criteria:

- Received Substantive Certification from Council of Affordable Housing (COAH)
- Entered into a Judicially approved compliance agreement to settle a Fair Share Housing Obligation
- Subject to a Court-Ordered Builders Remedy
- Is designated as a receiving municipality under a regional contribution agreement
- Eligible to receive state aid pursuant to P.L. 1978, c.14 (N.J.S.A. 52:27D-178 et seq.).
- The municipality has judicially approved settlement agreement and has not been issues a final Judgement of Compliance and Repose for a court approved Housing Element and Fair Share Plan

NJAHTF First Round of Funds Administered

County	Amount Awarded	Grantee	Project to be Funded
Bergen County	\$ 5,694,000.00	Montvale Family Apartments, LLC	Two buildings containing 25 rental units
Burlington & Mercer Counties	\$ 2,077,280.00	Bordentown Residential Development	Five duplex buildings containing 10 homeownership units
Camden County	\$ 4,701,000.00	E & B Housing, LLC	Three buildings containing 25 rental units
Cape May County	\$ 1,250,000.00	Housing and Community Development Network of New Jersey	Development and implement the Anti-Eviction Pilot
Cape May County	\$ 2,000,000.00	Ocean City Scattered Site Affordable Rentals	Five buildings containing 10 rental units
Monmouth County	\$ 1,250,000.00	Allen House 2	Single building containing 10 senior rental units
Passaic County	\$ 2,608,000.00	Paterson Habitat for Humanity, Inc.	Thirteen single-family homeownership units

Source: https://www.nj.gov/dca/divisions/dhcr/news/approved/dhcrnews_archive.html

For rental projects, funds are provided as a soft second loan at 1% interest compounded annually with a term to match the affordability restriction period and 0% interest during construction. Repayment terms are based on 50% of cash flow. For sale projects are financed at 0% interest during construction. Projects in the innovative category are funded with grants or other arrangements.

► HABITAT FOR HUMANITY (affiliates covering most of state)

A network of 17 Habitat for Humanity affiliates serves New Jersey, including housing repair and affordable housing development programs, and several of these affiliates actively partner with Comfort Partners utilities to assist with deeper housing repair and rehabilitation needs in participating households.

Habitat for Humanity Affiliate	Location/Service Area	Programs
Coastal HFH	Asbury Park/Eastern Monmouth County	Aging in Place, Neighborhood Revitalization (exterior home repairs), Single Family Home Construction, Homeowner Education
Cape May County HFH	Cape May Courthouse/Cape May County	Homeownership (financing, education, repairs), ReStore
HFH of Salem County	Carney's Point/Salem County	Building Homes (new construction), Handyman Services (minor repairs), Ramps (safety/falls prevention), ReStore
HFH in Monmouth County	Freehold/Monmouth County	Build (new construction, ramp installation, clean-up), ReStore
Habitat for Humanity of Burlington and Mercer Counties	Maple Shade/Burlington and Mercer Counties	Homeownership (financing, construction, repairs), Neighborhood Revitalization (exterior repairs, clean-up), Financial Education
HFH of Greater Newark	Newark/Essex County	Critical Repair, Homeownership, Neighborhood Revitalization
Sussex County HFH	Newton/Sussex County	New Construction, Home Repair
Paterson Habitat for Humanity	Paterson/Passaic County	Homeownership (acquisition and rehab), Tenant Education and Services, Community Outreach

Metropolitan Camden HFH	Pennsauken/Camden County	Homeownership (acquisition and rehab, new construction), ReStore, Homeowner Education
Gloucester County HFH	Pitman/Gloucester County	Homeownership, Restore
Raritan Valley HFH	Pluckemin/Somerset County	Home Safety & Repair, 2x4 Sponsorship, Demolition Sales
Morris HFH	Randolph/Morris County	New Home Construction, Aging in Place, Neighborhood Revitalization/Home Repair, Special Builds, Deconstruction
Northern Ocean County HFH	Toms River/Ocean County	Homeownership, Home Repair, Special Builds
Cumberland County HFH	Vineland/Cumberland County	Homeownership (acquisition and rehab, new build), ReStore
Warren County HFH	Washington/Warren County	Building Homes, Critical Home Repair, Neighborhood Revitalization
HFH of Southern Ocean County	West Creek/Southern Ocean County	Homeownership (new build)
Bergen County HFH	Westwood/Bergen County	Homeownership (new construction)

Habitat for Humanity affiliates in eastern Monmouth County and Morris Counties provide services specifically to support older adults aging safely at home, including falls prevention interventions and safety apparatus installation. Greater Newark and Warren County affiliates also provide critical repairs services, which include basic systems repairs, structural and roof repairs. Salem County, Sussex County, Raritan Valley, Morris County, and Northern Ocean County also provide home repairs in occupied housing which could be aligned with other housing services programs.

► **DCA NEIGHBORHOOD REVITALIZATION TAX CREDIT PROGRAM (NRTC)**

The Neighborhood Revitalization Tax Credit Program (NRTC) spurs investment in distressed low- and moderate-income neighborhoods by offering a 100% tax credit against various New Jersey state taxes to businesses that invest in revitalization efforts in the same distressed low- and moderate-income communities. At least sixty percent of tax credit funds must be used for activities related to the development of housing and economic development, while the remaining may be used for complementary activities, including the provision of assistance to small businesses, removing barriers to self-sufficiency,

and promoting the integration of mixed-income neighborhoods. There is \$15 million a year available in tax credits and these funds are available to neighborhood-based non-profit organizations that have prepared, submitted, and received approval from the DCA for a revitalization plan in the neighborhood it serves. These tax incentives can be used to support repairs to existing housing in distressed neighborhoods, making this housing ready for energy efficiency upgrades through Comfort Partners. The max amount available per application is \$985,000. Eligible activities include production of new housing through rehabilitation or new construction, preservation or upgrading of existing housing, and rendering existing more affordable.

Additional Leverageable Resources

► AMERICAN RESCUE PLAN FUNDING

The American Rescue Plan Act (“ARPA”) of 2021 became law on March 11, 2021, and was intended to help Americans recover from economic hardships that arose from the COVID-19 pandemic. The bill included direct relief to working families through stimulus checks, an extension of unemployment insurance benefits, rental assistance, enhanced SNAP benefits, the Child Tax Credit, and more. In addition, the bill distributed over \$360 billion in emergency funding to state, local, territorial, and Tribal governments to provide critical support to communities across the country. The U.S. Department of Treasury issued Interim Final Rule for the State and Local Fiscal Recovery Funds of the American Rescue Plan Act, which details how funds can be used to support communities hardest hit by the COVID-19 crises.

Eligible services include:

- Addressing health disparities and the social determinants of health through funding for remediation of lead hazards, community health workers and other public health service providers.
- Investments in housing and neighborhoods such as services to address individuals experiencing homelessness, affordable housing development, housing vouchers, and residential counseling and housing navigation assistance
- Assistance to families and households including rent and utility payment assistance and emergency assistance for home repairs and weatherization
- Investments in water and sewer infrastructure including the replacement of lead service lines

There are a few examples of states and localities allocating ARPA funding towards healthy housing. The Maine Legislature enacted a bill in July 2021 to allocate its ARPA funds, including \$50 million to Efficiency Maine Trust to accelerate weatherization and efficiency upgrades for low-income, older residents. Efficiency Maine Trust plans to invest all of these funds in weatherization projects to meet its goal of weatherizing 35,000 homes and businesses (including 10,000 in low-income households) by 2030. The Detroit City Council, similarly, approved a spending plan for its \$826 million allocation of ARPA funds, which includes \$30 million for home repairs for seniors and low-income residents. Administrators will focus on roof repairs to enable additional investments through weatherization and healthy homes programs. The city anticipates being able to complete repairs on about 500 additional homes per year through 2024.

The State of New Jersey received \$6.2 billion in ARPA funding with municipalities receiving an additional \$1.7 billion.



► HOSPITAL COMMUNITY BENEFITS

The Hospital Community Benefits Program, established under the 2010 Affordable Care Act (ACA), requires nonprofit hospitals to invest in their local communities through population health initiatives, as a requirement for retaining the hospital or health system's tax-exempt status with the federal government. Section 501(r) of the Internal Revenue Code lays out the requirement in more detail, including the following provisions that nonprofit hospitals must meet:

- Conduct a Community Health Needs Assessment (CHNA) on an every-three-year basis, and create an implementation strategy for the top priority needs;
- Establish a written financial assistance policy for medically necessary and emergency care;
- Comply with specified limitations on hospital charges for those eligible for financial assistance; and
- Comply with specified billing and collections requirements

In many cases, hospitals and health systems direct most of their Community Benefits dollars to medically necessary and emergency care for patients who cannot qualify for Medical Assistance. However, according to the guidelines of the ACA, Community Benefit funds can also be used to address the upstream causes of poor health outcomes, or social determinants of health. These include housing conditions, as well as capacity building and workforce development for programs that promotes healthy and affordable housing. In order to invest in healthy housing, the hospital's CHNA must identify residential lead exposure as a local health priority in the community that the hospital or health system serves. As mentioned above, New Jersey Housing Mortgage and Finance Agency is partnering with one or more healthcare systems in New Jersey to pilot the utilization of Community Benefit dollars in healthy homes repairs to occupied low-to-moderate income housing. Additional details will be available regarding this pilot in early 2022.

According to the 2020 Hospital Community Benefit Report, in 2018, New Jersey's hospitals and health systems provided over \$3.2 billion in community benefit services beyond traditional healthcare. In a survey of 56 acute care non-profit hospitals, over \$31 million was spent on community-building activities, which includes physical improvements/housing, economic development, community support, environmental improvements, and workforce development. Saint Joseph's Hospital and RWJ Barnabas are among six hospitals in New Jersey leveraging their hospital community benefit dollars with NJHMFA. Saint Joseph Hospital, the furthest along, has taken steps to redevelop the area around the Paterson campus, including acquiring property and gaining state and local approval. The first project, a 71-unit apartment building, is projected to cost about \$20 million with NJHMFA slated to provide \$6 million in support. Similarly, RWJ Barnabas Health, in partnership with Pennrose LLC, is investing \$4 million to develop 65-70 apartments near the Newark Beth Israel Medical Center.



► INFRASTRUCTURE INVESTMENT AND JOB ACT FUNDING

The Infrastructure Investment and Jobs Act that was recently signed into law by President Biden includes more than \$4.5 billion in weatherization and other flexible funding to support clean energy and energy efficiency. The Weatherization Assistance Program will receive \$3.5 billion, the Energy Efficiency and Conservation Block Grant (EECBG) program will receive \$550 million, and the State Energy Program will receive \$500 million. NJ DCA anticipates receiving \$60-80 million in WAP funding from the Infrastructure bill, which is expected to have a higher average cost per home, no term limit, and increased flexibility in the ability to address health and safety barriers to weatherization. The EECBG program was created to reduce fossil fuel emissions and total energy use while creating jobs by working with cities, counties, states, U.S. territories, and Indian tribes to implement and manage energy efficiency and conservation projects and programs. EECBG was last funded through the 2009 American Recovery and Reinvestment Act. Nationally, 38.8% of EECBG funding was spent on energy efficiency retrofits.³⁰

► NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP)

The New Jersey Department of Environmental Protection's (DEP) mission is to protect environmental quality and public health, and promote vibrant, sustainable communities.

Within DEP, the Office of Environmental Justice (OEJ) aims to improve the quality of life in New Jersey's most vulnerable communities by educating and empowering residents who are often outside of government decision-making processes and guiding DEP's programs and other state departments and agencies in implementing environmental justice. Through OEJ, the Pilot can be elevated as an official environmental justice priority and can leverage resources to better engage residents of the Pilot site in the design and implementation of the Pilot.

There are two tools that could be helpful in determining where the Pilot should be implemented: the Environmental Justice Mapping, Assessment and Protection (EJMAP) tool, set for release in beta form in June 2022 and the Potential Lead Exposure Mapping (PLEM) tool.

EJMAP will expand on the original Environmental Justice Mapping tool, which grew out of New Jersey's recent Environmental Justice (EJ) law and its requirement that NJDEP provide data on overburdened communities in the state based on select demographic criteria. EJMAP will include that OBC layer, but will also add layers to visualize existing facilities that are covered by the EJ law and the specific environmental and public health stressors that currently burden those communities as compared to the level of burden to state or county baselines.

The PLEM tool, the first phase of which was published in October 2021, allows for a residence-by-residence map view of lead exposure risk for lead paint in housing. Additional potential lead exposures, such as lead-based fuel and pesticide residuals, will be added to PLEM over time. These tools can be helpful in determining Pilot site selection.

⁴Available: <https://www.nj.gov/dep/ej/communities.html>

⁵Available: <https://www.arcgis.com/home/item.html?id=6472457d42ab474b87f735de8d8ee205>

► STATEWIDE POLICY

Statewide housing, health and energy policies will impact the design and implementation of the Whole House Pilot. New Jersey is a national leader in health-protective housing laws, and regulations and initiatives supporting a transition to clean energy. This policy environment can drive demand for holistic housing services, and create systematic alignment of housing, health and energy programs and resources. Below are statewide policies that impact the availability of healthy, energy efficiency housing and that emphasize the need for a coordinated approach, like a Whole House Program model, to improving the quality and efficiency of the existing housing stock.

- **New Jersey's Energy Master Plan:** In 2019, New Jersey's released a comprehensive plan to achieve Governor Murphy's goal of 100% clean energy by 2050 and the Global Warming Response Act (GWRA) goal to reduce state greenhouse gas emissions 80% below 2006 levels by 2050. In the EMP, 100% clean energy means 100% carbon neutral electricity generation and maximum electrification of the transportation and building sectors – both of which represent sectors that produce the greatest carbon emissions in the state. The EMP includes seven strategies to achieve the climate and energy goals and five of those strategies will directly influence the design and implementation of the Whole House Pilot.^{lv}
 - **Strategy 2:** Accelerate Deployment of Renewable Energy and Distributed Energy Resources. This strategy includes maximizing solar rooftop and community solar development in urban and low- and moderate-income communities using the local workforce.
 - **Strategy 3:** Maximize Energy Efficiency and Conservation and Reduce Peak Demand. This strategy calls for the ramping up investments in residential energy efficiency measures for electric and gas customers, increasing awareness of and access to the Clean Energy Program and its suite of statewide programs, incorporating transparent benchmarking and energy labeling, and establishing a clearinghouse for home energy and health and safety programs targeted to low-income households.
 - **Strategy 4:** Reduce Energy Consumption and Emissions from the Buildings Sector. This strategy calls for the development of a transition plan to a fully electrified buildings sector and the incentivizing of the transition to electrified heat pumps, hot water heaters, and other appliances.
 - **Strategy 6:** Support Community Energy Planning and Action with an Emphasis on Encouraging and Supporting Participation by Low- and Moderate-Income and Environmental Justice Communities. This strategy emphasizes the importance of scaling up and prioritizing investments in underserved, under-resourced and historically excluded communities. This includes comprehensive community energy planning with local community groups, the identification of barriers that prevent members of environmental justice communities from participating in and benefiting from the clean energy economy, and the targeting of resources to overcome these barriers.
 - **Strategy 7:** Expand the Clean Energy Innovation Economy. This strategy includes the establishment of a Clean Buildings Hub and clean energy workforce programs.

The EMP was developed by a collection of New Jersey state agencies, lead by the New Jersey Board of Public Utilities (NJBPUB), the Department of Environmental Protection (NJDEP), the Department of Transportation (NJDOT), Department of Community Affairs (NJDCA), the Department of Labor and Workforce Development (NJDOL), the Economic Development Authority (NJEDA), and NJ Transit – all of which recognize the importance of an economy-wide transition to a clean energy economy. To achieve

the goals set out in the EMP, there will likely need to be significant investment in the improvement of New Jersey Housing stock through pilots or programs like the Whole House Pilot.

- **The Clean Energy Act of 2018:** In May of 2018, Governor Murphy signed a law reforming the state's energy system and establishing New Jersey as a clean energy leader. Among other commitments, the law required the state's electric and gas utilities to reduce energy consumption by at least 2% and 0.75%, respectively, a year by 2024. To achieve the goal established by the law, New Jersey will have to invest more into residential energy efficiency.

- **New Jersey's 2021 Climate Change Resilience Strategy:** In October 2021, the Interagency Council on Climate Resilience – which was established by Governor Murphy's Executive Order 89 – released the first-ever Climate Change Resilience Strategy to improve the state's response to climate change. This strategy report was developed based on New Jersey's Scientific Report on Climate Change, released in June 2020. Below are some select strategy and actions that are particularly related to advancing the goals of the Whole House Pilot.
 - **Strategy 1.1:** Integrate Resilience into Local and Regional Planning
 - Action 1.1.5: Expand grant funding to support the integration of climate resilience into local and regional planning efforts

 - **Strategy 1.2:** Increase Technical Assistance Programs to Address Community Resilience
 - Action 1.2.3: Prioritize building capacity in underserved communities

 - **Strategy 1.4:** Decrease Vulnerability of Existing Infrastructure and Development
 - Action 1.4.1: Prioritize reducing future impacts to critical buildings and critical infrastructure systems, including electric infrastructure, and prioritization of underserved communities
 - Action 1.4.2: Expand building retrofitting programs and support for both flood and non-flood hazards
 - Action 1.4.4: Provide guidance and design guidelines for building resilience into existing buildings and infrastructure

 - **Strategy 1.5:** Incentivize Sustainable Growth and Redevelopment that Incorporates Resilience and Investment in Safer Areas
 - Action 1.3.2: Update state incentive and community revitalization programs to consider climate change
 - Action 1.3.4: Promote and support affordable housing in safe areas across the state, e.g. by providing incentives and removing obstacles for building affordable housing in lower risk areas
 - Action 1.5.6: Encourage and support use of clean energy in new development and redevelopment initiatives

 - **Strategy 3.1:** Ensure Continuing Efforts by the Interagency Council on Climate Resilience to Lead a Coordinated, Whole-of-Government Approach to Resilience
 - Action 3.1.3: Create resilience action plans at each agency with standard goals and metrics
 - Action 3.1.4: Share data across agencies through an interagency web portal

 - **Strategy 3.3:** Incorporate Equity and Inclusion in Resilience Decision-Making
 - Action 3.3.3: Develop guidance for how to integrate social vulnerability and environmental justice considerations into resilience planning

- **Strategy 4.1:** Expand Public Communications Efforts on Climate Change and Impacts on New Jersey
 - Action 4.1.3: Partner with communities and non-governmental organization to promote climate resilience communication across all audiences
- **Strategy 4.2:** Expand Climate Change Education and Training Opportunities
 - Action 4.2.4: Promote workforce development and training opportunities through climate resilience initiatives
- **Strategy 4.3:** Integrate Climate Change Vulnerability and Impacts into State Assessments
 - Action 4.3.1: Collect and maintain elevation information for existing buildings and critical infrastructure
 - Action 4.3.2: Collaborate across agencies and expertise to identify vulnerabilities for buildings, infrastructure, as well as economic and social systems
- **Strategy 5.1:** Integrate Climate Change into Existing State Investments and Funding Decisions
 - Action 5.1.2: Expand low-cost public finance options dedicated for resilience projects through new and existing programs
 - Action 5.1.3: Prioritize investments that maximize co-benefits of greenhouse gas mitigation and resilience
- **Strategy 5.2:** Expand the Availability of Financing for Resilience Investments from Public and Private Sources
 - Action 5.2.3: Create pilot projects using innovative financing and contracting approaches, including Pay for Success or performance-based contracting
 - Action 5.2.4: Leverage multiple funding sources across agencies and programs for resilience projects
- **Strategy 5.3:** Ensure Equity and Transparency in Resilience Investments
 - Action 5.3.1: Update funding decision criteria to prioritize protection of underserved populations with perspectives and feedback from equity leaders
 - Action 5.2.2: Evaluate opportunities to provide financial support for resilience investments to low-income residents
- **Rental Housing Lead Inspection and Lead Safe Certification:** In July 2022 all New Jersey rental housing will be required to receive periodic lead inspection, including dust wipe testing, and landlords are required to make any necessary repairs to address lead hazards. This statewide universal lead law, a national best practice, will drive demand for lead remediation interventions, and increase private investment in addressing lead hazards to leverage a statewide New Jersey Whole House model (NJ PL 2021 c. 182).
- **Lowering of the Centers for Disease Control Blood Lead Reference Value (BLRV):** New Jersey's statewide regulations tie the level at which children must receive case management and environmental investigation (lead inspections) for elevate blood lead levels to the CDC reference level. In October 2021, CDC lowered the BLRV from 5µg/dL to 3.5µg/dL. This will likely roughly double the number of households receiving lead inspections through local departments of health, and the number of families requiring lead abatement services through programs like the Single Family Home Remediation Program. Again, this will drive demand for additional housing interventions, and create opportunities for increasing community awareness of the connection between housing and health, and recruiting residents into the NJ WholeHouse program Israel Medical Center.

Summary of Assets

OVERALL SUMMARY OF RELEVANT STATEWIDE ENERGY, HOUSING AND HEALTH RESOURCES AND CHALLENGES

New Jersey is home to robust energy efficiency and healthy homes programs, however the capacity to serve LMI households in the energy sectors and healthy homes sectors does not currently align. The Comfort Partners Program has capacity to serve over 5,000 households each year, and the WAP program an additional 1,200. The annual funding for the Lead Safe Home Remediation and Single Family Home Remediation programs is less than 400 housing units combined. HUD-funded Lead and Healthy Homes programs in the state can serve a combined 200-300 additional homes, and many locally- and federally-funded home repair programs fill and create waitlists or close enrollment at some point in the year. Thus, a challenge for both Whole House Pilot implementation and the model for a scaled-up statewide holistic housing program will be to match capacity across sectors to fully meet housing needs. Recent changes to the eligibility criteria for the WAP may create an opportunity for deeper alignment with Comfort Partners and HUD-funded housing programs in the state, and new state and federal dollars can support workforce development in the energy and healthy homes sectors, cross-training of current workers, and support for deeper housing repairs.

Opportunities exist to increase support for healthy homes interventions, specifically through a pilot still in the planning stages at the NJHMFA. This pilot may include investment of health system anchor institution community benefit dollars to address poor housing conditions as a social determinant of health. Aligning this pilot with the Whole House initiative could increase the reach and impact of both efforts and help to scale holistic housing interventions to a statewide model. Few resources exist for flexible home repair dollars to meet deeper, structural, and non-health-related housing needs in New Jersey. The state does not have a statewide Basic Systems repair program, and

most local efforts are not adequately funded to meet the demand for roof, structural, and basic systems repairs.

A statewide holistic housing service delivery platform will require deeper state agency cooperation in a number of important areas, including a shared backbone of data systems and staff to facilitate coordinated intake and eligibility determination, support to align, build and maintaining a cross-trained energy efficiency and housing repair workforce, and alignment of regulatory authority across several agencies to administer coordinated programs.

Lastly, the state agency-administered programs that touch housing (including Comfort Partners) can be more easily aligned in terms of eligibility criteria, required documentation, and automatic eligibility when clients are enrolled in or eligible for benefits programs or live in certain high-needs census tracts. Regulatory changes may be required to achieve alignment, but programs like the Lead-Safe Home Remediation program are not tied to federal regulations in the way that the HUD-funded lead and healthy homes programs or the WAP are.

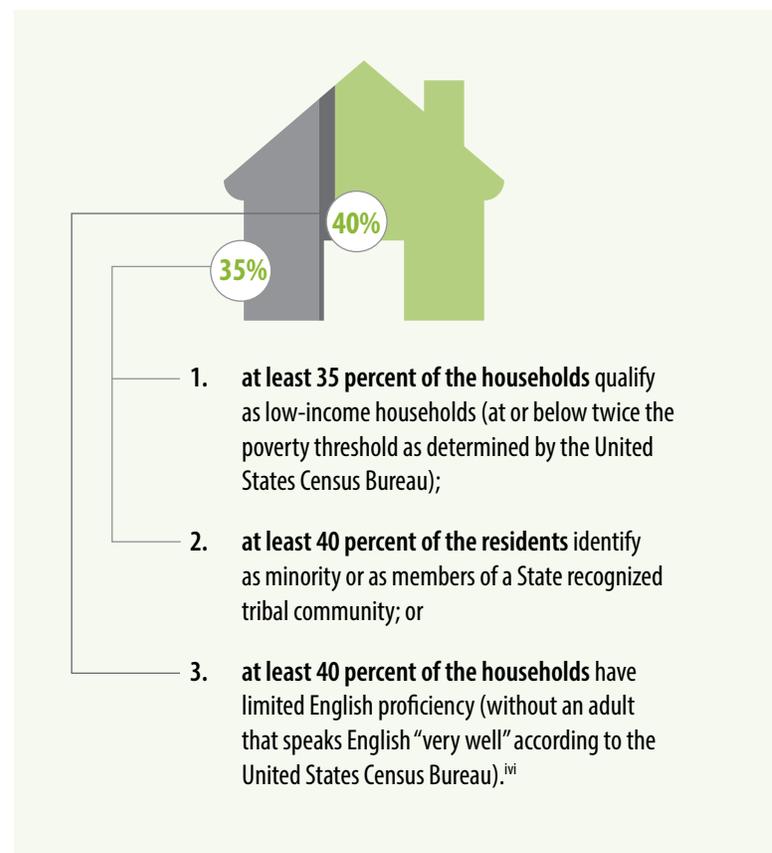
SECTION 4: DATA INDICATORS OF NEED HOUSING IN NEW JERSEY –

BROAD OVERVIEW OF HOUSING FACTORS IN REGIONS OF THE STATE

Summary of Need

The goal of the BPU Whole House Pilot will be to identify and provide services to households with housing-related health and energy needs. Target jurisdictions will be identified using publicly available data that indicates areas with highest levels of poverty and energy burden and areas most impacted by housing-related health outcomes such as asthma and lead poisoning. Jurisdictions will also be assessed for the number and percent of older housing, as housing built before 1950 is at highest risk of containing lead paint.

Data demonstrating poverty and age of housing stock was obtained from US Census ACS 2019 5-year estimates. Data showing municipality-level energy burden was collected from the Open Energy Data Initiative at <https://data.openeci.org/submissions/573>. Elevated blood lead level data was sourced from the [New Jersey Department of Health 2019 Childhood Lead Exposure Annual Report](#) and asthma data was sourced from the [New Jersey Department of Health Asthma Profiles](#). There are also additional data indicators available on New Jersey's State Health Assessment Data platform, funded by the U.S. Centers for Disease Control and Prevention. In addition, as mentioned above, NJ DEP has published a tool to map overburdened communities in the state. The Overburdened Communities (OBCs) are defined as any census block group, as determined in accordance with the most recent United States Census, in which:



Given the high likelihood of overlap between OBCs and communities with high need in housing and energy services, this data can help guide our choice of municipalities to serve through the Pilot. A static map is copied below, and an interactive version is available on the Office of Environmental Justice “Overburdened Communities” webpage.^{lvii}

Similarly, NJ DEP’s PLEM tool allows a residence-by-residence map view of the construction dates of homes state-wide. Parcels are color coded into categories of construction after 1978, between 1950 and 1978, before 1950, and unknown. At this point, it is best used in combination with other tools because it will

only display data at the parcel level. It can be a great resource to explore the highest-risk neighborhoods within potential municipalities, and to conduct direct outreach once a municipality is chosen. The project is worth monitoring closely for updates. The tool is available on the NJDEP website.^{lviii}

Data illustrating energy consumption and energy burden is available at the regional and county level. The National Centers for Environmental Information, Center for Weather and Climate classifies three regions in New Jersey, southern, northern, and coastal. Data on the number of cooling and heating days between 1985-2015 are below:

Region	Counties	Heating Days	Cooling Days	Total Heating Days and Cooling Days
Region 1 Northern	Bergen, Essex, Hunterdon, Sussex, Warren, Hudson, Morris, Somerset, Union, and Passaic	5,869	895	6,764
Region 2 Southern	Monmouth, Ocean, Atlantic, Cape May, Burlington, Camden, Mercer, Middlesex, Gloucester, Salem, and Cumberland	4,969	1,012	5,981
Region 3 Coastal	Atlantic, Cape May, Monmouth, Ocean	4,862	973	5,835

Energy burden data at the county level also illustrates where residents (low income and non-low income) experience the highest energy burden. Energy burden for New Jersey Counties is listed in the table below:^{lix}

County	Residents at or below 80% AMI	Residents Above 80% AMI
Sussex	0.17	0.20
Salem	0.17	0.09
Cumberland	0.15	0.10
Hunterdon	0.14	0.08
Warren	0.10	0.10
Morris	0.10	0.10
Gloucester	0.09	0.06
Atlantic	0.09	0.05
Camden	0.08	0.04
Cape May	0.07	0.05
Passaic	0.07	0.03
Essex	0.06	0.03
Union	0.06	0.04
Ocean	0.06	0.03

County	Residents at or below 80% AMI	Residents Above 80% AMI
Mercer	0.06	0.04
Burlington	0.06	0.06
Monmouth	0.05	0.04
Somerset	0.05	0.03
Bergen	0.05	0.03
Middlesex	0.04	0.02
Hudson	0.04	0.02

AMI = Area Median Income

Source: National Renewable Energy Laboratory, 2021

It should be noted that many of the counties represented above with the highest energy burden are less populated. Bringing weatherization and healthy housing services to rural areas will be an important area for future consideration, for programs like the Whole House Pilot to serve areas with highest energy burden.

Due to the challenges in piloting a whole house program in a rural area, nine municipalities were chosen for consideration for the pilot program based on size and burden of older housing and poor housing-related health outcomes. The following municipalities were examined as potential target sites for the pilot program, based on indicators of housing and health need:

- Atlantic City
- Camden
- East Orange
- Edison
- New Brunswick
- Newark
- Paterson
- Plainfield
- Trenton

These nine jurisdictions were examined based on publicly available data showing burden from older housing stock, asthma hospitalization rates, percentage of children under age 6 who have been poisoned by lead, and percent of families below the federal poverty level. Below is a table summarizing these findings.⁶

	Atlantic City	Camden	East Orange	Edison	New Brunswick	Newark	Paterson	Plainfield	Trenton
Percent of Children Under 6 With EBLL	6%	3%	7%	3%	2%	4%	4%	3%	6%
Asthma Hospitalization Rate	2,493	2,871	1,922	301	1,232	1,964	1,773	980	2,350
Percent Pre-1980 Housing	72%	86%	82%	61%	29%	69%	83%	88%	91%
Percent Pre-1950 Housing	39%	55%	41%	10%	57%	36%	44%	54%	70%
Percent of Families Below FPL	32%	33%	16%	5%	26%	24%	24%	17%	25%
Energy Utility Burden in Households 0-60% AMI	11%	9%	6%	5%	5%	7%	5%	6%	8%

Red = 1st - 3rd Highest Burden of 9 Municipalities Researched; Yellow = 4th - 6th Highest Burden of 9 Municipalities Researched

⁶ Poverty data and housing year built data based upon US Census ACS 2019 5-year estimates; energy burden data collected from: <https://data.openei.org/submissions/573>; elevated blood lead data from NJ Department of Health 2019 Childhood Lead Exposure Annual Report; Asthma data from New Jersey asthma profiles retrieved from: <https://www.nj.gov/health/fhs/chronic/asthma/in-nj/>

Below are data profiles for each of the nine jurisdictions.

ATLANTIC CITY

Atlantic City has a total population of 37,743. 72% of housing units in Atlantic City were built before 1980 and 39% were built before 1950. Of the nine jurisdictions, Atlantic City has the highest energy utility burden in low-income households. It is tied for second highest burden in the state of childhood lead poisoning in the state (5.9% of children under age 6) with Trenton and Irvington. Of the nine municipalities researched, Atlantic City has the second highest percentage of families under the Federal Poverty Level (FPL) and the second highest rate of asthma ED visits (just behind Camden for both indicators). The tables below detail housing unit numbers and burden from older housing stock, poverty, lead poisoning, and asthma. 66.7% of residents spend 30% or more of their income on housing costs compared to the statewide average of 34.4%.⁷

Atlantic City Burden of Lead Poisoning, Asthma, Older Housing Stock and Energy Utility Compared to Other Municipalities	
Energy Utility Burden in Households 0-60% AMI	11%
Percent of Children Under 6 With Elevated Blood Lead Levels	6%
Age-Adjusted Asthma ED Visit Rate per 100,000 Residents	2,493
Percent of Housing Units Built Before 1980	72%
Percent of Housing Units Built Before 1950	39%
Percent of Families Below the Federal Poverty Level	32%
<i>Red = 1st - 3rd Highest Burden of 9 Municipalities Researched; Yellow = 4th - 6th Highest Burden of 9 Municipalities Researched</i>	

Atlantic City Population and Number of Housing Units	
Total Population	37,743
Total Number of Housing Units	20,429
Total Number of Pre-1980 Housing Units	14,726
Total Number of Pre-1950 Housing Units	7,911

CAMDEN

Camden has the second highest energy utility burden in low-income households and the highest burden of rate of Emergency Department (ED) visits for asthma and families living below the FPL compared to the nine municipalities researched. It also ranks in the top three highest burden for older housing stock. However, Camden has a lower burden from childhood lead poisoning with only 2.6% of children under age 6 diagnosed with an elevated blood lead level (compared to East Orange with the highest burden at 6.6%).

Camden Burden of Lead Poisoning, Asthma, Older Housing Stock and Energy Utility Compared to Other Municipalities	
Energy Utility Burden in Households 0-60% AMI	9%
Percent of Children Under 6 With Elevated Blood Lead Levels	3%
Age-Adjusted Asthma ED Visit Rate per 100,000 Residents	2,871
Percent of Housing Units Built Before 1980	86%
Percent of Housing Units Built Before 1950	55%
Percent of Families Below the Federal Poverty Level	33%
<i>Red = 1st - 3rd Highest Burden of 9 Municipalities Researched; Yellow = 4th - 6th Highest Burden of 9 Municipalities Researched</i>	

City of Camden Population and Number of Housing Units	
Total Population	73,562
Total Number of Housing Units	29,413
Total Number of Pre-1980 Housing Units	25,398
Total Number of Pre-1950 Housing Units	16,300

⁷AtlantiCare Community Needs Assessment. (2019). <https://user-8muyts.cld.bz/AtlantiCare-Community-Needs-Assessment-2019/16/>.

EAST ORANGE

East Orange, population 64,367, has the highest burden of childhood lead poisoning and of the nine jurisdictions researched ranks fifth in asthma ED visit rates and percent of housing stock built before 1980.

East Orange Burden of Lead Poisoning, Asthma, Older Housing Stock and Energy Utility Compared to Other Municipalities	
Energy Utility Burden in Households 0-60% AMI	6%
Percent of Children Under 6 With Elevated Blood Lead Levels	7%
Age-Adjusted Asthma ED Visit Rate per 100,000 Residents	1,922
Percent of Housing Units Built Before 1980	82%
Percent of Housing Units Built Before 1950	41%
Percent of Families Below the Federal Poverty Level	16%
<i>Red = 1st - 3rd Highest Burden of 9 Municipalities Researched; Yellow = 4th - 6th Highest Burden of 9 Municipalities Researched</i>	

East Orange Population and Number of Housing Units	
Total Population	64,367
Total Number of Housing Units	27,675
Total Number of Pre-1980 Housing Units	22,673
Total Number of Pre-1950 Housing Units	11,370

EDISON

Edison, population 99,758, ranks 6th amongst the jurisdictions researched on burden of childhood lead poisoning and low-income energy utility burden. It is among the top ten jurisdictions in the state with the highest percent of children below age 6 who have been diagnosed with an elevated blood lead level. However, Edison does not rank high compared to other jurisdictions researched for burden of poverty, asthma ED visits, or older housing stock.

Edison Burden of Lead Poisoning, Asthma, Older Housing Stock and Energy Utility Compared to Other Municipalities	
Energy Utility Burden in Households 0-60% AMI	5%
Percent of Children Under 6 With Elevated Blood Lead Levels	3%
Age-Adjusted Asthma ED Visit Rate per 100,000 Residents	301
Percent of Housing Units Built Before 1980	61%
Percent of Housing Units Built Before 1950	10%
Percent of Families Below the Federal Poverty Level	5%
<i>Red = 1st - 3rd Highest Burden of 9 Municipalities Researched; Yellow = 4th - 6th Highest Burden of 9 Municipalities Researched</i>	

Edison Population and Number of Housing Units	
Total Population	99,758
Total Number of Housing Units	36,197
Total Number of Pre-1980 Housing Units	22,075
Total Number of Pre-1950 Housing Units	3,497

NEW BRUNSWICK

New Brunswick, population 55,676, has a lower energy utility burden and a lower burden of housing-related health outcomes than other jurisdictions. However, the city does have a high percentage of housing built before 1950 (ranked second after Trenton) and families living below FPL (ranked third after Camden and Atlantic City). As an anchor institution in the New Brunswick area, RWJ Barnabas hospital has identified pre-1950 housing and potential exposure to lead as a health hazard in the community, although their analysis considers Middlesex County as a whole meaning the percentage of older housing stock they identify is lower than the percentage found within New Brunswick.⁸

New Brunswick Burden of Lead Poisoning, Asthma, Older Housing Stock and Energy Utility Compared to Other Municipalities	
Energy Utility Burden in Households 0-60% AMI	5%
Percent of Children Under 6 With Elevated Blood Lead Levels	2%
Age-Adjusted Asthma ED Visit Rate per 100,000 Residents	1,232
Percent of Housing Units Built Before 1980	29%
Percent of Housing Units Built Before 1950	57%
Percent of Families Below the Federal Poverty Level	26%
<i>Red = 1st - 3rd Highest Burden of 9 Municipalities Researched; Yellow = 4th - 6th Highest Burden of 9 Municipalities Researched</i>	

New Brunswick Population and Number of Housing Units	
Total Population	55,676
Total Number of Housing Units	16,894
Total Number of Pre-1980 Housing Units	4,815
Total Number of Pre-1950 Housing Units	9,709

NEWARK

With a population of 282,000, Newark shows a somewhat high burden of housing-related health outcomes compared to the municipalities examined, but a relatively lower percentage of older housing. Newark ranks fourth in energy utility burden in low-income households. RWJ Barnabas has invested in affordable housing in Newark as an important determinant of health. Hospital community needs assessments identify low household incomes in Essex County compared to the rest of the state, with pockets of poverty in cities such as Newark.¹⁰

Newark Burden of Lead Poisoning, Asthma, Older Housing Stock and Energy Utility Compared to Other Municipalities	
Energy Utility Burden in Households 0-60% AMI	7%
Percent of Children Under 6 With Elevated Blood Lead Levels	3.9%
Age-Adjusted Asthma ED Visit Rate per 100,000 Residents	1,964
Percent of Housing Units Built Before 1980	69%
Percent of Housing Units Built Before 1950	36%
Percent of Families Below the Federal Poverty Level	24.3%
<i>Red = 1st - 3rd Highest Burden of 9 Municipalities Researched; Yellow = 4th - 6th Highest Burden of 9 Municipalities Researched</i>	

Newark Population and Number of Housing Units	
Total Population	282,011
Total Number of Housing Units	115,055
Total Number of Pre-1980 Housing Units	78,855
Total Number of Pre-1950 Housing Units	41,973

⁹Announce over \$700 Million in Investments to Address Health, Housing and Economic Inequalities through Community Wealth Building." (2019). <https://www.rwjbh.org/blog/2019/november/rwjbarabas-health-joins-13-health-systems-to-an/>

¹⁰"Community Health Needs Assessment: Saint Barnabas Medical Center." (2019). Saint Barnabas Medical Center CHNA Report 2019 (rwjhb.org)

PATERSON

Paterson, population 145,233, has relatively lower energy utility burden and ranks somewhat high in housing-related health outcomes (ranked 6th in rate of asthma ED visits and 5th highest burden from childhood lead poisoning), older housing stock, and poverty compared to the other jurisdictions researched. St. Joseph's Health, a local anchor institution, has identified housing as a need that significantly impacts health outcomes for their patients, and is investing dollars that will be braided with state funds to build affordable housing units for frequent emergency room patients and patients with special needs.¹¹

Paterson Burden of Lead Poisoning, Asthma, Older Housing Stock and Energy Utility Compared to Other Municipalities	
Energy Utility Burden in Households 0-60% AMI	5%
Percent of Children Under 6 With Elevated Blood Lead Levels	3.8%
Age-Adjusted Asthma ED Visit Rate per 100,000 Residents	1,773
Percent of Housing Units Built Before 1980	83%
Percent of Housing Units Built Before 1950	44%
Percent of Families Below the Federal Poverty Level	24%
<i>Red = 1st - 3rd Highest Burden of 9 Municipalities Researched; Yellow = 4th - 6th Highest Burden of 9 Municipalities Researched</i>	

Paterson Population and Number of Housing Units	
Total Population	145,233
Total Number of Housing Units	49,724
Total Number of Pre-1980 Housing Units	41,038
Total Number of Pre-1950 Housing Units	21,775

PLAINFIELD

Plainfield, population 50,317, does not rank highly in housing-related health outcomes or poverty compared to the other jurisdictions examined, however the city does contain a very high percentage of older housing stock. The city has the second highest percentage of housing built before 1980 (second to Trenton) and fourth in housing built before 1950. Plainfield also has the fifth highest energy utility burden in low-income households compared to the other jurisdictions examined.

Plainfield Burden of Lead Poisoning, Asthma, Older Housing Stock and Energy Utility Compared to Other Municipalities	
Energy Utility Burden in Households 0-60% AMI	6%
Percent of Children Under 6 With Elevated Blood Lead Levels	3%
Age-Adjusted Asthma ED Visit Rate per 100,000 Residents	980
Percent of Housing Units Built Before 1980	88%
Percent of Housing Units Built Before 1950	54%
Percent of Families Below the Federal Poverty Level	16.5%
<i>Red = 1st - 3rd Highest Burden of 9 Municipalities Researched; Yellow = 4th - 6th Highest Burden of 9 Municipalities Researched</i>	

Plainfield Population and Number of Housing Units	
Total Population	50,317
Total Number of Housing Units	17,066
Total Number of Pre-1980 Housing Units	14,979
Total Number of Pre-1950 Housing Units	9,139

¹¹Washburn, Lindy. "St. Joseph's Health to build unique, affordable housing in Paterson." *North Jersey*. July 10, 2019. <https://www.northjersey.com/story/news/2019/07/10/st-josephs-health-develop-affordable-housing-paterson/1687588001/>

TRENTON

Of the nine jurisdictions examined, Trenton ranks amongst the top three highest burden for low-income household energy burden, older housing stock, childhood lead poisoning, and asthma ED visit rates. Trenton also has the fourth highest percentage of families living below FPL.

Trenton Burden of Lead Poisoning, Asthma, Older Housing Stock and Energy Utility Compared to Other Municipalities	
Energy Utility Burden in Households 0-60% AMI	8%
Percent of Children Under 6 With Elevated Blood Lead Levels	5.9%
Age-Adjusted Asthma ED Visit Rate per 100,000 Residents	2,350
Percent of Housing Units Built Before 1980	91%
Percent of Housing Units Built Before 1950	70%
Percent of Families Below the Federal Poverty Level	24.7%
<i>Red = 1st - 3rd Highest Burden of 9 Municipalities Researched; Yellow = 4th - 6th Highest Burden of 9 Municipalities Researched</i>	

Trenton Population and Number of Housing Units	
Total Population	83,203
Total Number of Housing Units	34,637
Total Number of Pre-1980 Housing Units	31,409
Total Number of Pre-1950 Housing Units	24,160

Local Housing Service Providers and Programs

The following is an account of the available housing programs and resources currently operating in the communities identified above as areas of high housing and health need.

► ATLANTIC CITY

Community Affairs Resources Center (CARC) and Native American Advancement Corporation (NAAC) Lead-Safe Home Remediation Programs: These programs, described in detail in the statewide resources section above, provide interventions to address lead-based paint and conditions that contribute to the deterioration of lead-based paint. CARC's program covers Atlantic, Monmouth and Middlesex Counties, with \$897,674 in funding across the three counties. NAAC's program serves Atlantic and Cape May Counties, with \$300,000 in funding. In total, the two programs can provide lead remediation to about 92 units across the 4 counties.

► BERGEN COUNTY

Greater Bergen Community Action, INC operates in both Bergen county and Paterson. Paterson programs are described below in the Paterson subsection. For Bergen county residents, the organization operates a weatherization program, a program for heating improvement, lead assessment and abatement programs, and a Covid-related home repair program. Funding typically comes from state contracts with federal funding through the New Jersey Department of Community Affairs. In most cases, eligible households must be below 135% of the Federal Poverty Level (FPL), though this expanded to 200% FPL in the pandemic. In some cases, eligibility is based on Average Median Income with typical cut-offs being below 80% or 100%. In cases where homeowners rent to tenants who qualify, they can work with the homeowners if they agree to keep the rent affordable for a period of time.

► CAMDEN

St. Joseph's Carpenter's Society My Home Program: This home repair program, focused on owner-occupied housing and often utilized by older adults, utilizes a mix of NJDCA Neighborhood Revitalization Tax Credit program funds, local philanthropic investment, and two rounds of Federal Home Loan Bank (FHLB) Home Preservation grant funding to serve about 40 homeowners in two to three Camden neighborhoods per year with structural repairs, roof repairs, basic systems repairs, installation of appliances and health and safety repairs (not related to lead), and homeowner education that includes an on-going maintenance schedule specific to the home. St. Joseph's is now making these funds available strictly as grants of \$5,000 to \$15,000. Program clients are also provided warm referrals, which are referrals conducted by calling the resource directly with the client, and connections to financial counseling, utility assistance and weatherization services to increase housing and financial stability. St. Joseph's past attempts to offer a portion of this financial assistance as a forgivable loan have been unsuccessful. St. Joseph's cites a lack of available income among older adults to make loan payments and low equity in Camden housing as the reason for the low uptake on home equity loans for repair services. Currently, the waiting list for this service is 80 to 100 households.

St. Joseph's Carpenter's Society NJDCA Lead-Safe Home Remediation Program and Single Family Lead program: These programs, described in detail in the statewide resources section above, are funded to serve 86 households per year in Camden County and surrounding areas. Program interventions include lead remediation and lead abatement in homes of families with children under 6 or pregnant women, including families of children diagnosed with elevated blood lead levels. The maximum funding available through these programs to address lead-based paint hazards and conditions that would contribute to the deterioration of lead-based paint (i.e. moisture infiltration) is \$20,000 per home.

► EAST ORANGE¹²

City of East Orange Critical Repair Program: The Critical Repair and Healthy Homes Initiative serves senior homeowners living in substandard living conditions in the City of East Orange. The goal of the initiative is to improve low-to moderate-income homeowners' quality of life by identifying and fixing barriers to safe and healthy living conditions. Through repairs such as mold and asbestos remediation, energy-conserving improvements, and the addition of aging-in-place functionality, Habitat of Greater Newark works to keep low-to moderate-income income seniors and their families in their homes. The program is a partnership with Habitat for Humanity, and is available to households earning 80% AMI or less.

City of East Orange Neighborhood Housing & Revitalization Home Buyers Purchase Program: This program offers housing and financial counseling, financial assistance for home acquisition and rehabilitation, funded by the HUD HOME program.

La Casa de Don Pedro's Lead-Safe Home Remediation Program receives \$463,372 in funding from NJDCA, to address lead-based paint and housing conditions that contribute to the deterioration of lead-based paint in about 35 units across Essex County.

► PATERSON

Greater Bergen Community Action Single Family Home Remediation Program: This program receives \$725,582 in NJDCA funding for the lead remediation program, described in detail in the statewide resources section above. The funding allows for the remediation of about 56 homes in Paterson, and is only available to families of children with elevated blood lead levels to abate lead hazards to the New Jersey state law standard, at a maximum per-unit cost of \$20,000.

Paterson Habitat for Humanity primarily focuses on building new affordable homes, but they also operate a home recycling program and are currently piloting

¹²Likely among top choices for a pilot site.

a critical repair program in the Northside of Paterson. Of the three areas of work, the critical repair program is most relevant to the Whole House Pilot. The critical repair program pilot is focused on preserving affordable housing and improving the safety and efficiency of homes in the neighborhood. The upgrades are limited to building envelope and mechanical upgrades. Contingent on securing funding partners, the organization would like to expand the program to the rest of Paterson and ultimately throughout Passaic County.

► NEWARK

United Community Corporation (UCC) and La Casa de Don Pedro are funded by NJDCA to provide lead remediation and lead abatement through the Single Family Home Remediation Program. UCC receives \$491,279 in funding, and La Casa receives \$300,000, which supports addressing lead-based paint hazards in about 61 units in the city of Newark.

► UNITED COMMUNITY CORPORATION (UCC)

Newark operates both a lead abatement program and an energy assistance program. For the lead abatement program, their staff conduct intake and inspections of homes in Newark. When they identify lead hazards, they work within the state network of contractors to do abatement. The program is supported by the Single Family Home Remediation Program. UCC also has a well-developed infrastructure to connect residents to energy assistance programs. At each site that they operate, they have a staff member who can assist households access the LIHEAP, USF or PAGE (Payment Assistance for Gas and Electric) funding sources. UCC is currently a partner of the Comfort Partners program. In addition to these two programs, the organization's programs for workforce development and affordable housing give them experience with wrap-around support of households and an extensive network of partners and contractors. They operate two homeless shelters and are currently constructing 11 two family units for affordable housing in

Newark. They have homeless prevention and rapid rehousing programs as well. Case managers work on staff to support residents through the rehousing process. Their workforce development program, Youth Build, supports young adults ages 16-24 with obtaining GED and national workforce certifications including partnering with Isles to gain lead inspection certifications. Once certified, members of the Youth Build program provide the labor for housing construction projects that UCC undertakes.

► TRENTON¹³

East Trenton Collaboration runs a Small Home Repair program providing small grants to East Trenton residents. Funds come from a grant the organization has received from the New Jersey Neighborhood Revitalization Tax Credit Program (NRTC). The East Trenton Collaboration provides grants; residents identify contractors who complete work. The organization also works on tenant organizing to address health and safety issues that are neglected by landlords. Isles, Inc. Lead-Safe Home Remediation and Single Family Home Remediation Programs are funded at \$284,550 and \$365,000, respectively, allowing for about 50 units to receive interventions to address lead-based paint and housing conditions that contribute to the deterioration of paint.

¹³Likely among top choices for a pilot site.

Areas of need identified through stakeholder interview



Several key areas of housing-related needs emerged in discussion with community-based service providers, including funding and services for deeper housing repair, including non-health critical repairs and basic systems repairs, and sustainable funding which supports smaller contractors in building workforce capacity. In this section, we outline the insights of stakeholders around these areas of need.

► CRITICAL AND BASIC SYSTEMS HOUSING REPAIR NEEDS

St. Joseph's Carpenter's Society, serving the Camden and surrounding municipalities, has identified structural housing repair, roof repair and basic systems repair as critical needs in the homes of the families they serve. In the last five years, St. Joseph's has accessed Federal Home Loan Bank funding to support their home repair program, but these funds are geographically limited and not sustainable over time (most grants last three years). St. Joseph's indicated a waitlist for this program of dozens of households. The Habitat for Humanity Critical Home Repair Programs (including East Orange) also report waitlists for these services, indicating that the demand for these services currently outstrips the need in multiple communities in different regions of the state. Flexible, grant funding that can be braided with other housing resources would help to address these gaps.

► GAP FUNDING TO SUPPORT WORKFORCE CAPACITY

Several local service providers and housing programs pointed to the variability of grant funding, which often provides short term investment over a period of one to three years but drops to zero between grant cycles or when federal or state programs end. To effectively support and grow small, locally owned, minority- and women-led housing service providers, and match the scale and capacity of the Comfort Partners Program, investment in healthy homes and home repair services must be sustained and reliable over time. In the NJDCA-administered Lead Remediation Programs, Isles is the statewide coordinator of lead interventions

across all participating community-based organizations. Isles staff provide lead risk assessment and complete quality assurance and clearance testing on all lead jobs, working with community agency staff and sub-contractors to complete the lead remediation repair work NJDCA indicates that this model has improved service delivery and efficiency, however staff are not cross-trained to provide energy audits or energy efficiency upgrades and weatherization, which points to a clear opportunity for improving coordination through cross-training.

Gap funding - flexible funds available to braid with or temporarily replace other investment – helps to support growth and sustainability on the housing services sector. Small contractors will hire from the community and train, certify, and support additional crew members if they can identify a long-term source of demand and funding for healthy homes and home repair services.

Long term, sustainable funding also helps to create pipelines for workforce development. If sustainable funding is available for holistic housing interventions, New Jersey can begin to build a cross-trained energy efficiency and healthy homes workforce over time, fueled by a sustainable demand for services that drives students and workers into these skilled careers.



Opportunities for further investment and coordination

In order to achieve coordinated healthy homes and energy efficiency services and address causes for deferral from Comfort Partners, the immediate opportunity is to coordinate:

- Housing repair programs administered by the City or Town,
- Critical repair, housing repair and aging in place programs administered by Habitat for Humanity affiliates
- Healthy homes programs administered by community organizations receiving NJDCA funding for the Lead Safe Home Program and Weatherization Assistance Program,
- Comfort Partners vendors
- Soft referrals to programs using funds such as ARPA to replace lead service line pipes when hazards are identified

Ideally this coordination should involve a single point of intake, shared eligibility criteria, shared impact metrics, and braiding of current resources to provide better access to holistic housing services.

In addition, community providers have identified the need for investment in deeper housing repair to stabilize housing, and sustainable investment in holistic housing interventions as a means to develop a cross-trained workforce that employs residents of communities impacted by environmental health hazards. Workforce development at the intersection of energy efficiency, healthy homes and housing repair creates pathways to well-paid careers and drives down costs for holistic housing services, further incentivizing investment in holistic housing services in a beneficial feedback loop.



SECTION 5: CONSIDERATIONS FOR PILOT SITE DECISION MAKING

In order to ensure equity and establish a successful basis for implementation of the Whole House Pilot, potential pilot sites should be compared across criteria, including:

Indicators of need: These include publicly-available community or county-level data on the prevalence of housing-related environmental health conditions, particularly among vulnerable or overburdened populations, housing age and indicators of poor housing quality, and energy burden presented above, as well as community organization and resident insights around the specific neighborhoods and pockets of housing needs in the community.

Gaps in existing services: The pilot should be implemented in a community with existing housing resource and programmatic gaps, both so that the pilot has a measurable impact on key indicators, and so that the model can be tested for operational feasibility and sustainability in a community with needs that reflect those around the state. At the same time, the pilot community should have an infrastructure for service delivery, including some energy, housing and health programs that can be aligned and coordinated.

Economy of scale: While rural communities in New Jersey have some of the deepest needs related to energy burdens, the pilot site should include a large enough concentration of housing units, so that the pilot will have sufficient statistical power to measure impacts. GHHI recommends at least 85-100 housing units receive coordinated services through the Whole House Pilot.



REVIEW OF BEST PRACTICES

The following programs include a holistic approach to housing intervention that addresses energy, health and safety needs, while maximizing the reach of existing programs through improved alignment and coordination.

Washington State Weatherization Plus Health: Washington State's Weatherization Plus Health initiative combines energy and cost-saving weatherization improvements with measures that help to improve the home environments for children and adults who have asthma. The model uses community health education partnerships for client recruitment, assessment, and intensive home education, which has been shown to reduce health risks and healthcare costs for at-risk families. In the initial pilot phase in 2016 and 2017, the program provided \$2.3 million to eight grant projects around the state. In 2018, the program expanded to the state's full network of weatherization agencies across the state and in 2019, fourteen agencies invested \$1.3 million for targeted work in over 300 homes.

NYSERDA Healthy Homes Pilot: This pilot, initiated in New York State in 2019, is intended to leverage the requirement for Medicaid Managed Care Organizations (MCO)'s to contract with community-based providers of services addressing Social Determinants of Health (SDOH), including housing conditions. The New York State Public Utilities Commission (PUC) designated \$10 million in rate-payer funding to support a multi-site pilot built around the EmPower residential energy efficiency program, which provides home repairs to improve indoor air quality and reduce asthma triggers, paired with in-home education and medical case management.

CT Green and Healthy Homes Project: This project is a collaboration of seven state agencies, seeking to design and implement a statewide, coordinated holistic healthy homes and energy efficiency program, built around the Home Energy Solutions Income Eligible Program (HES-IE). HES serves over 20,000 Connecticut households each year, and provides weatherization and deeper energy efficiency retrofits, sometimes paired with solar installation in partnership with Connecticut Green Bank's PosiGen Program.

Maryland CIF Program: In 2013, the Maryland Public Service Commission created the \$113 million Customer Investment Fund (CIF) out of the Exelon/Constellation merger. The fund was created to provide energy efficiency and low-income rate assistance to customers of the BG&E territory. The funds from CIF were awarded directly to 5 entities: Baltimore City, Baltimore County, The Fuel Fund of Maryland, Comprehensive Housing and the Maryland Energy Administration. With this new investment, the previously deferred homes were targeted for energy efficiency improvements first. Initially, the total budget for energy efficiency projects funded by CIF was \$21,700, with \$15,000 allotted for health and safety and \$6,700 for energy efficiency measures. However, this amount for health and safety was doubled after realizing that the original amount was insufficient in addressing health and safety hazards needed to perform energy efficiency upgrades in more at-risk housing.

DTE Troubled Payment Pilot: DTE Energy, a utility based out of Detroit, administered a program that would target energy bill assistance and weatherization services at households who are behind on their bill and at-risk for utility shut-offs. The pilot builds on DTE's existing Low-Income Self Sufficiency Program (LSP), which enables customers with less than \$3,000 in arrears to make utility payments as a percentage of their income with the remaining portion of the bill paid monthly to the utility via energy assistance funds, and the Shutoff Protection Plan (SPP), which allows customers to pay their overdue balance by dividing it into equal portions and adding to future DTE energy bills. Both LSP and SPP are managed by the DTE Revenue Management and Protection (RM&P) group, who will distribute a weekly list of LSP and SPP participants to DTE's Energy Waste Reduction Group, who manages the energy efficiency and weatherization programs, as well as specific community partner organizations. Then the EWR group and community partner organizations contact payment-troubled customers to qualify them for the pilot and schedule an initial energy audit. Through this pilot, payment-troubled customers of both single- and multi-family housing can receive weatherization services that include insulation, air sealing, window repair and/or replacement, among other measures. This design of this pilot could serve as a model for targeting the Whole House Pilot program to residents with the greatest need.

HUD Weatherization and Healthy Homes Coordination Demonstration Grant: Ten grantees have received \$10 million in HUD funding; designated for administrative support; workforce development; and flexible home repair dollars to support the coordination of DOE-funded Weatherization Assistance Programs; HUD-funded Lead Hazard Control; and Lead Hazard Reduction Programs.



CONCLUSION

Comfort Partners provides a strong framework upon which to build a holistic energy, health and safety efficiency intervention program for LMI housing. To operationalize this model, systematic alignment around recruitment and eligibility must be created. Comfort Partners' vendors must coordinate effectively with community-based healthy homes and home repair service providers, including WAP agencies, (with support from the Pilot Coordinator). The longer term strategy should include cross-training to provide holistic healthy homes and energy-efficiency assessments and interventions. Flexible funding is needed to fill the capacity gap in the healthy homes and home repair programs so that it matches the current capacity of the energy efficiency sector, and a shared backbone of data support will facilitate pilot case management, program coordination, and impact measurement.

Longer term, flexible investment could support cross-training for New Jersey's workforce and a robust, shared data system that would provide a single point of entry for holistic energy, housing and health efficiency resources, and ensure HIPAA compliance. Opportunities exist to support a broad, statewide model for holistic housing services, including systemic alignment of state-funded programs through regulatory or administrative changes within state agencies, alignment with NJHMFA's healthcare investment in housing repair pilot, and investment of American Rescue Plan funding in housing interventions to address lead-based paint (a use expressly allowed in guidance from the US Treasury Department).

Resources exist to support the Whole House Pilot in successfully proving the operational feasibility and sustainability of holistic housing interventions, making an impact on energy burden, climate goals, health, achievement, and stability of New Jersey families.



APPENDIX

Statewide Community Development Block Grant Statistics: Funding for Housing Improvement

In addition to all the funding listed in the charts below, \$172,002.76 was given to Cherry Hill for the acquisition of properties to be rehabilitated, \$9,650.00 was given to Millville for the operation and repair of foreclosed properties, and \$7,747.00 was given to Gloucester County for the removal of lead-based paint/lead hazard testing/lead abatement (all by HUD-funded Community Development Block Grants).

Grantee	Rehabilitation; Single-Unit Residential	Rehabilitation; Multi-Unit Residential	Public Housing Modernization
Asbury Park	\$19,500.00		
Atlantic City	\$81,780.00		
Atlantic County	\$74,079.00		
Bayonne	\$53,160.00	\$19,404.00	
Bergen County	\$1,024,118.11	\$251,083.19	\$351,110.00
Brick Township	\$172,932.19		
Bridgeton	\$113,217.50		
Burlington County	\$402,343.46		
Camden	\$402,437.31		
Camden County	\$125,857.90		
Cherry Hill	\$107,641.83	\$35,000.00	
Clifton	\$65,175.18		
East Orange	\$231,364.00		\$124,057.60
Edison (Township)	\$26,845.00		
Elizabeth		\$16,668.00	
Essex County		\$40,292.53	
Franklin Township	\$17,453.00		
Gloucester County	\$264,373.50		
Gloucester Township	\$150,732.50		\$60,234.60
Hamilton Township	\$122,466.22		
Hoboken			\$856,277.99
Irvington (Township)	\$40,000.00		
Jersey City	\$11,273.00	\$56,485.00	\$873,043.90
Lakewood Township	\$368,473.96		
Middlesex County	\$79,773.99		

Middletown (Township)	\$241,018.83		
Millville	\$85,859.74		
Monmouth County	\$396,939.23		
Morris County	\$284,839.71	\$42,000.00	
New Jersey	\$796,145.12		
Newark		\$255,083.93	
Ocean County	\$411,223.71		
Parsippany-Troyhills (Township)	\$84,335.84		
Paterson	\$32,700.00		
Toms River	\$161,509.15		
Trenton	\$20,211.00		
Union County	\$712,838.50		
Union Township	\$131,075.66		
Vineland	\$148,141.00		
Woodbridge (Township)	\$18,695.00		
New Jersey (Statewide)	\$7,480,530.14	\$716,016.65	\$2,264,724.09

Grantee	Rehabilitation Administration	Rehab; Publicly or Privately-Owned Commercial/Industrial	Code Enforcement
Atlantic City	\$65,250.00		
Bayonne	\$69,010.93		
Bloomfield		\$8,388.00	
Brick Township	\$16,464.48		
Burlington County	\$2,964.31		
Clifton			\$210,348.46
East Orange	\$74,249.31		
Edison (Township)	\$68,863.29		
Franklin Township	\$3,237.50		
Gloucester County	\$114,581.45		
Gloucester Township	\$35,489.25		
Hamilton Township	\$57,683.62		
Irvington (Township)	\$72,538.08	\$50,000.00	\$50,000.00
Jersey City	\$150,313.52	\$198,006.46	
Lakewood Township	\$76,906.40		
Middlesex County		\$5,668.19	\$7,500.00
Millville	\$11,180.00	\$6,976.75	
Monmouth County	\$294,682.36	\$14,217.81	
Morris County	\$77,597.49		
New Brunswick			\$120,000.00

Ocean County	\$61,497.75		
Paterson	\$59,751.41		
Toms River	\$22,757.63		
Trenton	\$76,319.13		
Union County	\$59,000.00		\$35,231.17
Union Township	\$86,058.38		
Vineland	\$39,382.43		\$60,000.00
New Jersey (Statewide)	\$1,595,778.72	\$283,257.21	\$483,079.63

References

- i New Jersey Department of Environmental Protection. The State of New Jersey Climate Change Resilience Strategy. October 2021. <https://www.nj.gov/dep/climatechange/docs/nj-climate-resilience-strategy-2021.pdf>
- ii State of New Jersey, Office of the Governor, 2022. Available: <https://nj.gov/infobank/eo/056murphy/>
- iii New Jersey Department of Environmental Protection. New Jersey Scientific Report on Climate Change, Version 1.0. New Jersey Department of Environmental Protection. June 2020. <https://www.nj.gov/dep/climatechange/docs/nj-scientific-report-2020.pdf>
- iv New Jersey Board of Public Utilities. 2019 Energy Master Plan: Pathway to 2050. January 2020. http://d31zh1hk6di2h5.cloudfront.net/20200127/84/84/03/b2/2293766d081ff4a3cd8e60aa/NJBPU_EMP.pdf
- v Barr, H. et. al. New Jersey's Global Warming Response Act 80 x 50 Report. New Jersey Department of Environmental Protection. October 2020. <https://www.nj.gov/dep/climatechange/docs/nj-gwra-80x50-report-2020.pdf>
- vi New Jersey Board of Public Utilities. 2019 Energy Master Plan: Pathway to 2050. January 2020. http://d31zh1hk6di2h5.cloudfront.net/20200127/84/84/03/b2/2293766d081ff4a3cd8e60aa/NJBPU_EMP.pdf
- vii Electric Discount and Energy Competition Act (EDECA) https://www.njcleanenergy.com/files/file/23_.pdf
- viii New Jersey Department of Community Affairs. Comfort Partners/Weatherization Assistance Program Partnership. Published online March 2, 2020. https://nj.gov/dca/divisions/dhcr/offices/docs/wap/Wap_Chapter_9.pdf
- ix U.S. Department of Energy. Weatherization Assistance Program. Published online August 2017. https://www.energy.gov/sites/prod/files/2017/05/f34/wap_factsheet_08.2017.pdf
- x Agency for Toxic Substances and Disease Registry. "What Are Routes of Exposure to Lead?" Published online June 2019. https://www.atsdr.cdc.gov/csem/leadtoxicity/exposure_routes.html
- xi Commission to Build a Healthier America. Where We Live Matters for Our Health: The Links between Housing and Health. Robert Wood Johnson Foundation; 2008. <http://www.commissiononhealth.org/PDF/e6244e9e-f630-4285-9ad7-16016dd7e493/Issue%20Brief%20%20Sept%2008%20-%20Housing%20and%20Health.pdf>
- xii Berg R. Berg. The Second 50 Years: Promoting Health & Preventing Disability (Paper). John Wiley & Sons, Inc.; 1992. Accessed November 11, 2021. <http://www.vlebooks.com/vleweb/product/openreader?id=none&isbn=9780309595285>
- xiii U.S. Department of Housing and Urban Development Office of Lead Hazard Control and Healthy Homes. American Healthy Homes Survey II Lead Findings Final Report. October 29, 2021
- xiv U.S. Department of Energy. State Energy Program Operations Manual. June 2016. <https://naseo.org/Data/Sites/1/sep-operations-manual.pdf>
- xv New Jersey Department of Community Affairs. United States Department of Energy Weatherization Assistance Program: New Jersey State Plan and Application. Published online 2021. <https://nj.gov/dca/divisions/dhcr/offices/docs/wap/2021%20NJ%20WAP%20State%20Plan%20Draft.pdf>
- xvi U.S. Department of Energy. Weatherization Program Notice 17-7. Published online August 9, 2017. <https://nascsp.org/wp-content/uploads/2018/02/wpn2017-720hs208.9.17-1.pdf>
- xvii U.S. Department of Energy. Weatherization Program Notice 17-7. Published online August 9, 2017. <https://nascsp.org/wp-content/uploads/2018/02/wpn2017-720hs208.9.17-1.pdf>
- xviii US Department of Energy. Weatherization Assistance Program Notice 22-5. Issued December 8, 2021.
- xix Angie Armand, NJDCA, 2021.
- xx New Jersey Department of Community Affairs. Detailed Model Plan (LIHEAP) Revision #1. Published online 2021. <https://www.nj.gov/dca/divisions/dhcr/offices/docs/LIHEAP/LIHEAP%20DETAILED%20MODEL%20PLAN%202020.pdf>
- xxi National Energy and Utility Affordability Coalition. LIHEAP New Jersey By the Numbers. Published online 2021. <https://neuac.org/wp-content/uploads/2021/02/New-Jersey-State-Sheet-2022.pdf>

- xxii U.S. Department of Housing and Urban Development. Programs Division – Lead-Based Paint & Lead Hazard Reduction Demonstration Grant Programs. Accessed online November 2021. https://www.hud.gov/program_offices/healthy_homes/lbp/lhc
- xxiii U.S. Department of Housing and Urban Development Public Affairs. “HUD Awards Nearly \$95 Million to Protect Families from Lead and Other Home Health and Safety Hazards.” Published on August 26, 2021. https://www.hud.gov/press/press_releases_media_advisories/HUD_No_21_126
- xxiv U.S. Department of Housing and Urban Development. 2020 Lead and Healthy Homes Technical Studies Grant Awards. Published on October 26, 2020. https://www.hud.gov/sites/dfiles/PA/documents/2020_Lead-HH-Technical-Studies-Grant-Awards.pdf
- xxv U.S. Department of Housing and Rural Development. Office of Lead Hazard Control Funds to New Jersey Recipients, Fiscal Year 2021. Retrieved from <https://www.usaspending.gov/search/?hash=55d1b706fa236697382be0a8aec7387>
- xxvi State of New Jersey Department of Community Affairs. “Department of Community Affairs Announces the Award of More Than \$6.8 Million in Lead-Safe Home Remediation Grants.” Published March 12, 2021. <https://nj.gov/dca/news/news/2021/approved/20210312a.html>
- xxvii Angie Armand, NJDCA. 2021.
- xxviii U.S. Department of Housing and Urban Development. Older Adult Homes Modification Program. https://www.hud.gov/program_offices/spm/gmomgmt/grantsinfo/fundingopps/oahmp#:~:text=This%20will%20enable%20older%20adults%20to%20remain%20in,grant%20funds%20and%20training%20resources%20to%20non-federal%20entities.
- xxix U.S. Department of Housing and Urban Development. “HUD Awards \$30 Million to Help Low-Income Elderly Homeowners Age in Place.” Published online August 6, 2021. https://www.hud.gov/press/press_releases_media_advisories/HUD_No_21_119
- xxx U.S. Department of Housing and Urban Development. Section 811 Supportive Housing for Persons with Disabilities. Accessed online November 2021. https://www.hud.gov/program_offices/housing/mfh/progdesc/disab811
- xxxi U.S. Department of Housing and Urban Development. “HUD Awards Over \$74 Million in Grants to Support Affordable Rental Housing For Extremely Low-Income Persons with Disabilities.” Published August 3, 2020. https://www.hud.gov/press/press_releases_media_advisories/HUD_No_20_118
- xxxii U.S. Department of Housing and Urban Development. Housing Opportunities for Persons with Aids (HOPWA). Accessed online November 2021. <https://www.hud.gov/hudprograms/hopwa>
- xxxiii U.S. Department of Housing and Urban Development. “HUD Awards More Than \$27 Million to Local HIV/AIDS Housing Programs.” Published online July 22, 2021. https://www.hud.gov/press/press_releases_media_advisories/HUD_No_21_114
- xxxiv U.S. Department of Housing and Urban Development. FY 2021 Healthy Homes Production Program (HHP). Accessed online November 2021. https://www.hud.gov/program_offices/spm/gmomgmt/grantsinfo/fundingopps/fy21_hhp
- xxxv U.S. Department of Housing and Urban Development. Office of Capital Improvements. Accessed online November 2021. https://www.hud.gov/program_offices/public_indian_housing/programs/ph/capfund
- xxxvi U.S. Department of Housing and Urban Development. 203(k) Rehab Mortgage Insurance. Accessed online November 2021 https://www.hud.gov/program_offices/housing/sfh/203k/203k--df
- xxxvii U.S. Department of Housing and Urban Development. 203(k) Endorsement Summary Reports. Published September 2021. Retrieved from <https://apps.hud.gov/pub/chums/f17fvc/203k.cfm>
- xxxviii U.S. Department of Housing and Urban Development. Multifamily Rental Housing For Moderate-Income Families (Section 221(d)(3) and (4)). Accessed online November 2021. <https://www.hud.gov/hudprograms/mrhmf>
- xxxix U.S. Department of Housing and Urban Development. Mortgage Insurance For Rental and Cooperative Housing: Section 221(d)(4). Accessed online November 2021. https://www.hud.gov/program_offices/housing/mfh/progdesc/rentcoopsg221d3n4
- xl U.S. Department of Housing and Urban Development. Interim Policy on Maximum Per-Unit Subsidy Limits for the HOME Program. Published online March 17, 2015. <https://www.hud.gov/sites/documents/15-03CPDN.PDF>
- xli U.S. Department of Housing and Urban Development. CFDA Program 14.135 Awards to New Jersey Recipients in FY 2021. Retrieved from <https://www.usaspending.gov/search/?hash=bd4b16b7cbb6c164befb9eb778b21059>

- xlii U.S. Department of Housing and Urban Development. Housing Trust Fund. Accessed online November 2021. https://www.hud.gov/program_offices/comm_planning/htf
- xliv U.S. Department of Housing and Urban Development. HUD Awards and Allocations. Accessed online November 2021. https://www.hudexchange.info/grantees/allocations-awards/?csrf_token=F1CC52D0-031F-4613-8F0391BF18D1E9AC%C2%B6ms=%7B%22limit%22%3A20%2C%22COC%22%3Afalse%2C%22sort%22%3A%22%2C%22min%22%3A%22%2C%22years%2
- xlvi U.S. Department of Housing and Urban Development. Office of Capital Improvements. Accessed online November 2021. https://www.hud.gov/program_offices/public_indian_housing/programs/ph/capfund
- lxviii U.S. Department of Housing and Urban Development. FY 2021 Capital Fund Allocations by Amount State & Public Housing Authority. Published February 23, 2021. <https://www.hud.gov/sites/dfiles/Main/documents/2021CAPFUND.pdf>
- lxv U.S. Department of Agriculture Rural Development. Buy, Build, or Repair a Home. Accessed online November 2021. <https://www.rd.usda.gov/topics/buy-build-or-repair-home>
- lxvii U.S. Department of Agriculture. CFDA Programs 10.410, 10.417, and 10.433 Awards to New Jersey Recipients in FY 2021. Retrieved from <https://www.usaspending.gov/search/?hash=3fedb702cd26f24b90245b10a7bcdfac>
- lxviii US Department of Agriculture Rural Development. Single Family Housing Direct Home Loans. Accessed online November 2021. <https://www.rd.usda.gov/programs-services/single-family-housing-programs/single-family-housing-direct-home-loans>
- lxix U.S. Department of Agriculture. CFDA Program 10.410 Awards to New Jersey Recipients in FY 2021. Retrieved from <https://www.usaspending.gov/search/?hash=3fedb702cd26f24b90245b10a7bcdfac>
- l U.S. Department of Agriculture Rural Development. Single Family Housing Repair Loans & Grants. Accessed online November 2021. <https://www.rd.usda.gov/programs-services/single-family-housing-programs/single-family-housing-repair-loans-grants>
- li U.S. Department of Agriculture. CFDA Program 10.417 Awards to New Jersey Recipients in FY 2021. Retrieved from <https://www.usaspending.gov/search/?hash=3fedb702cd26f24b90245b10a7bcdfac>
- lii U.S. Department of Agriculture. CFDA Program 10.433 Awards to New Jersey Recipients in FY 2021. Retrieved from <https://www.usaspending.gov/search/?hash=3fedb702cd26f24b90245b10a7bcdfac>
- liii New Jersey Department of Environmental Protection Bureau of Sustainability. NJDEP Sustainability Funding & Incentive Guide. July 2020. <https://www.nj.gov/dep/aqes/docs/IncentiveGuide.pdf>
- liv N.J. 219th Legislative Assembly. A5343, Regular Session. 2020-2021. (2021). <https://www.njleg.state.nj.us/bills/BillView.asp?BillNumber=A5343>
- lv New Jersey Board of Public Utilities. 2019 Energy Master Plan: Pathway to 2050. January 2020. http://d31hzhk6di2h5.cloudfront.net/20200127/84/84/03/b2/2293766d081ff4a3cd8e60aa/NJBPU_EMP.pdf
- lvi New Jersey Environmental Justice Law. N.J.S.A. 13:1D-157. 2020. Retrieved from <https://www.nj.gov/dep/ej/docs/ej-law.pdf>
- lvii New Jersey Department of Environmental Protection: Office of Environmental Justice. Environmental Justice Mapping Tool. <https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=34e507ead25b4aa5a5051dbb85e55055>
- lviii New Jersey Department of Environmental Protection. Potential Lead Exposure Mapping. <https://njdep.maps.arcgis.com/apps/MapSeries/index.html?appid=6472457d42ab474b87f735de8d8ee205>
- lix National Renewable Energy Laboratory. Solar for All Mapping Tool. <https://maps.nrel.gov/solar-for-all/?aL=Ue-fLq%255Bv%255D%3Dt%26Xvu5iN%255Bv%255D%3Dt%26Xvu5iN%255Bd%255D%3D1&bl=clight&cE=0&IR=0&mC=41.07728074262537%2C-75.179443359375&zL=8>

