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Understanding Home Repair Needs and Costs

Eileen Divringi, Community Development Research Specialist

Disclaimer

The views expressed here are those of the presenter and do not necessarily reflect the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.

Why Do We Care About Housing Quality?

Affordability vs. quality tradeoff

- Low-cost market-rate rental units may be older and undermaintained (1)
- Low-income homebuyers may only be able to afford homes in relatively poor condition (2)
- Low-income homeowners often struggle to afford major home repairs (3)

Effects on health and well-being

- Potential harm to both physical and mental health of occupants (4)
- Negative effects may be more acute for parents and children, older adults, and people with disabilities (5)

Impact on wealth building

- Deferred maintenance and unaddressed repairs can worsen over time, lowering home values (6)



Image by author.

(1) Desmond and Wilmers 2019; JCHS 2019, (2) Boehm and Schlottmann 2008, (3) Van Zandt and Rohe 2011; Acquaye 2011, (4) Krieger and Higgins 2002, (5) Krieger and Higgins 2002; Coley et al. 2013; Newman 2003, (6) Herbert and Belsky 2006

Calculating a Cost-Based Measure of Repair Needs

Housing Problem (American Housing Survey)

National Average Repair Cost (RSMeans)

Broken
Window(s)



Fixed Cost

- Assumes 1.5 windows to be repaired

Cracked
Foundation
(Concrete Slab)



Per SF Cost

- Assumes 25% of footprint to be repaired
- Footprint calculated as size/stories

Leak From
Basement



Redundant repair, no cost
assigned



Unit Total
Repair Cost

For detailed methodology, see Wallace et al. (2019) *Technical Appendix: A Repair Cost-Based Index of Housing Quality*, available at <https://www.philadelphiafed.org/community-development/housing-and-neighborhoods/measuring-and-understanding-home-repair-costs>.

Limitations

- The AHS lacks contextual information about building materials and the magnitude of reported issues.
- Certain questions are not asked of multifamily units.
 - E.g., structural issues related to roofs, exterior walls, or foundations; issues in common areas; etc.
- Some health and safety issues are not covered in the standard housing problems questionnaire.
- Issues that are not readily observed by AHS respondents are not captured in the survey.
 - E.g., indoor air quality issues, lead exposure, water contaminants, etc.
- Estimates are not available for vacant units.



[“No Copper Sign on Vacant Home”](#) by [edkohler](#) is licensed under [CC BY 2.0](#)

National Findings

Total estimated cost of repair needs in occupied units, 2022:

\$149.3 billion

Estimated cost of repair needs in units occupied by low-income households, 2022:

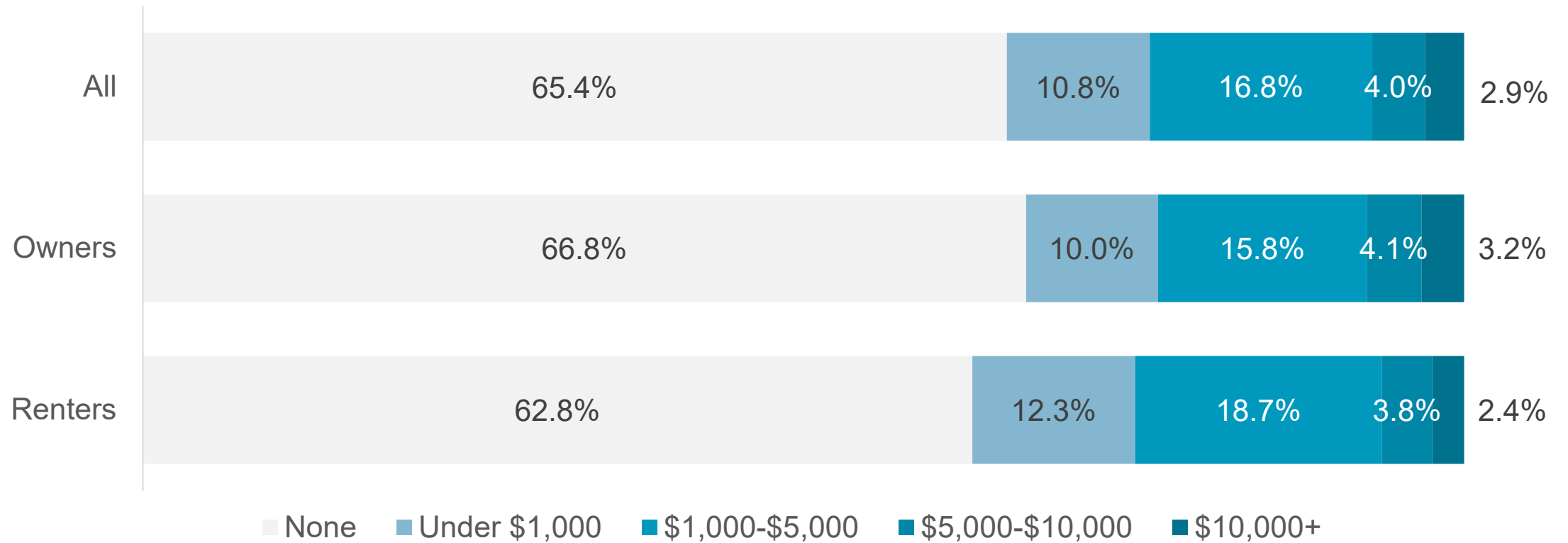
\$57.1 billion

Average repair cost for households with repair needs, 2022:

\$3,359

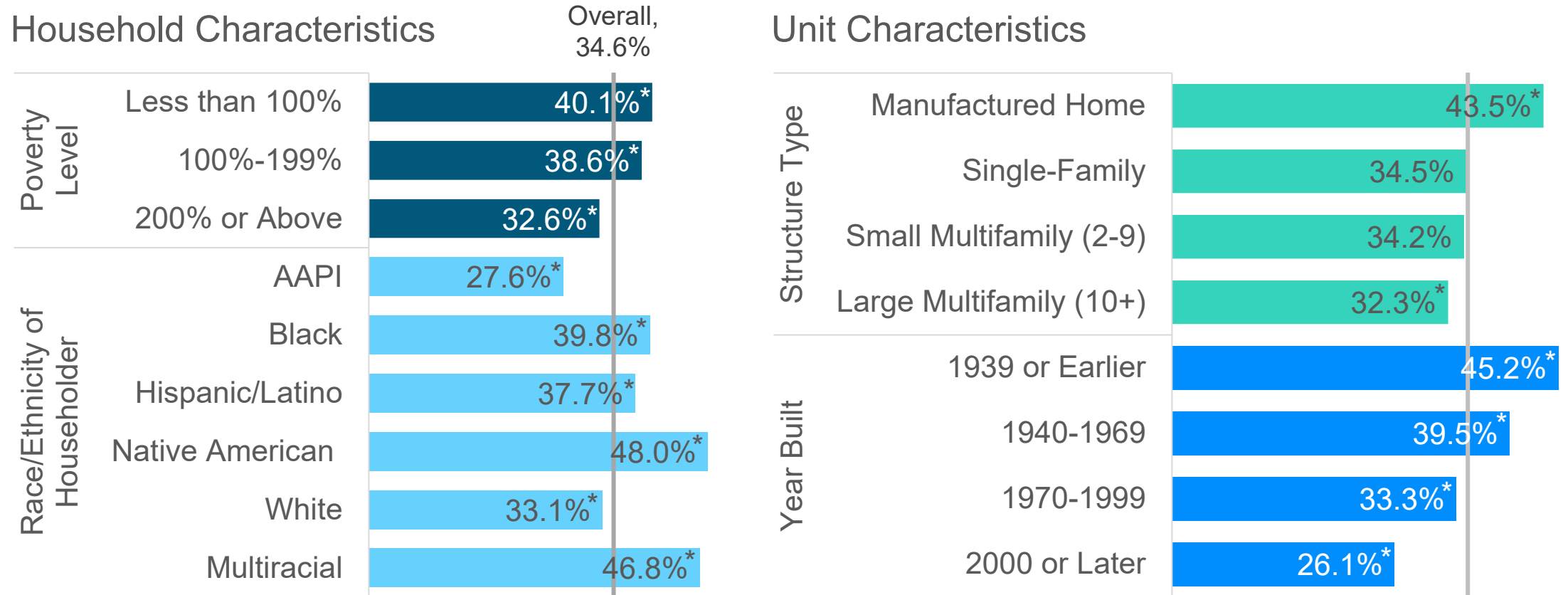
Sources: Author's analysis of 2021 AHS data and 2022 RSMean data from Gordian.

Occupied Units by Estimated Repair Cost, 2022



Sources: Author's analysis of 2021 AHS data and 2022 RSMMeans data from Gordian.
Nominal dollar values.

Percent with Repair Needs, 2022



Sources: Author's analysis of 2021 AHS data and 2022 RSMMeans data from Gordian.

* Denotes statistically significant difference from overall value at the $p < 0.10$ level.

Home Repair Needs by Category, 2022

	Share of Units Reporting Issue*	Share of Aggregate Costs
Structural	45.8%	58.0%
Leaks and Mold	45.1%	23.8%
Electrical	16.2%	6.5%
Heating	14.3%	4.4%
Plumbing	12.8%	5.3%
Pests	11.9%	1.9%

* For units with repair costs >\$0. Column does not sum to 100% because units may report housing problems in more than one category.

Most common housing problems:

- Inside walls or ceiling have open holes or cracks (16.1%)
- Outside water leak from roof (12.9%)
- Foundation has holes, cracks, or crumbling (11.4%)
- Inside water leak from pipes (10.0%)
- Windows boarded up or broken (9.8%)

Source: Presenter's calculations based on 2021 American Housing Survey Microdata PUF and 2022 RSMMeans data from Gordian.

Typology of Households with Repair Needs



Low-Income, New Homeowners in Moderate-Age Units

Example Household:

Multigenerational family in a manufactured home in a rural area of the South.



Low-Income, Long-Term Homeowners in Moderate-age Units

Example Household:

Single older woman living alone in a row house in large metropolitan area of the Middle Atlantic.



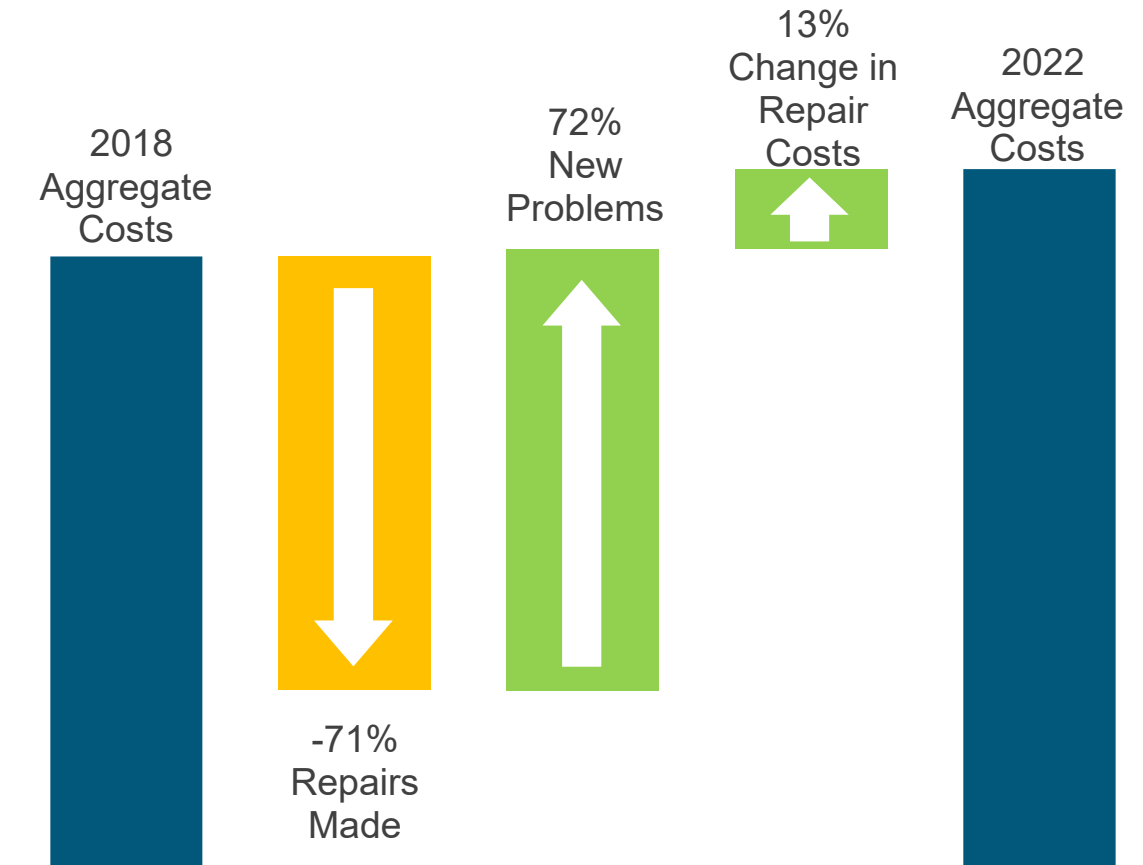
Low-Income Renters in Moderate-age Multifamily Units

Example Household:

Grandparent caring for grandchild living in a medium-sized apartment building in a large metropolitan area in the Northeast.

Source: Divringi et al., 2019, *Measuring and Understanding Home Repair Costs: A National Typology of Households*

Change in Aggregate Repair Costs From 2018 to 2022



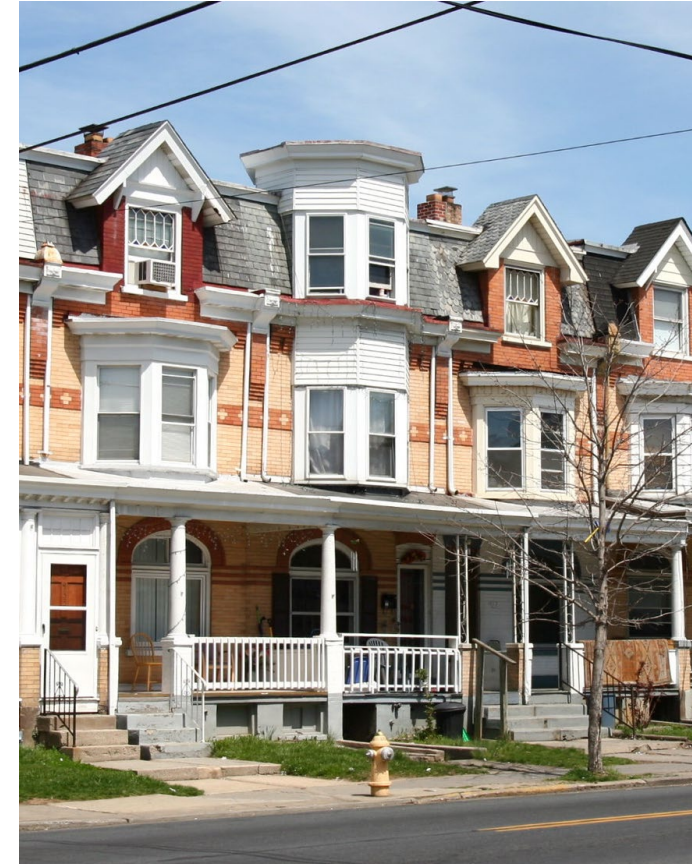
Households with incomes <100% of federal poverty guidelines (FPG) were **nearly twice as likely as** households with incomes $\geq 200\%$ of FPG to experience persistent repair needs across survey years (14.9% versus 7.7%).

Sources: Authors' analysis of 2017 and 2021 AHS PUF and 2018 and 2022 RSMMeans data from Gordian.

Note: The percent decrease in repair needs ("Repairs Made") is calculated as the aggregate decrease in repair costs for units that had lower repair costs in 2022 compared with 2018 divided by aggregate repair costs in 2018. The percent increase in repair needs ("New Problems") is calculated as the aggregate increase in repair costs for units that had higher repair costs in 2022 compared with 2018 divided by aggregate repair costs in 2018. Survey weights for the 2017 AHS are used for both years. Only units that were occupied in both 2017 and 2021 are included in this analysis.

Takeaways for Practitioners: Homeowners

- Grants are likely to be a better/preferable option for the lowest income homeowners who may not be able to support additional debt and may be reluctant to re-encumber homes that are fully paid off. (1)
- Local programs may be able to blend different state and federal funding sources (weatherization, lead remediation, emergency repairs, etc.) if they can align eligibility requirements. (1)
- Health care institutions are increasingly interested in addressing housing quality as a social determinant of health. (2)
- Low-income homebuyers may be interested in training on home maintenance and minor repairs. (3)

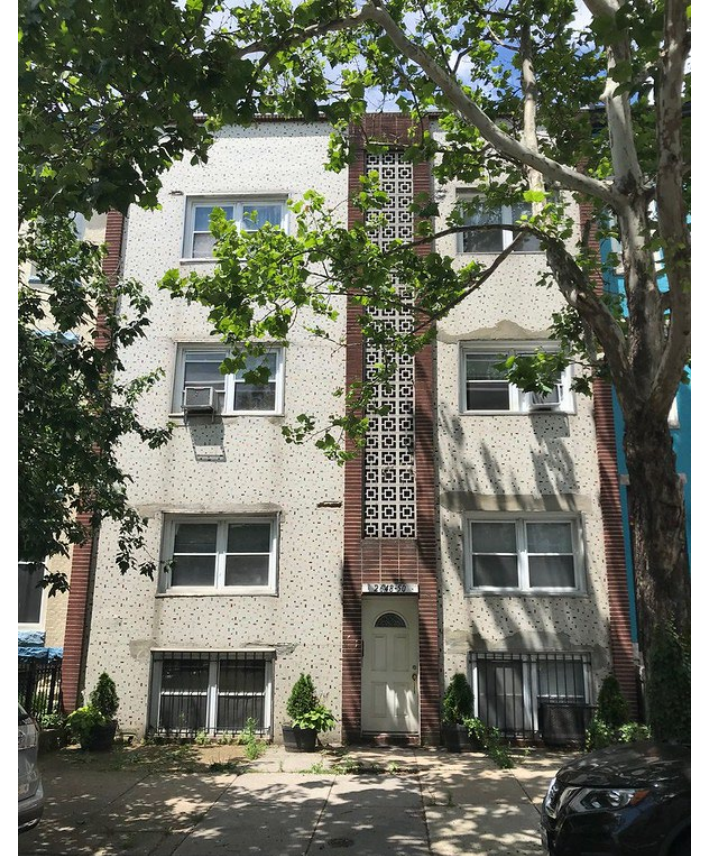


"Allentown Row Houses" by [anaxila](#) is licensed under [CC BY 2.0](#)

(1) Van Zandt and Rohe 2011; (2) Bryant-Stephens 2018, Skinner, Franz and Kelleher 2019; (3) Acquaye 2011

Takeaways for Practitioners: Renters

- Rental units with repair needs are disproportionately likely to be occupied by people of color, households with children, and individuals with incomes below the federal poverty level.
- Low-income renters living in units with repair needs are likely to experience multiple forms of housing insecurity simultaneously, including severe housing cost burdens. (1)
- Policies to improve the rental housing stock may need to be attentive to tenant circumstances to avoid or mitigate the risk of destabilizing vulnerable households.
- Small-scale landlords may lack the operating margins, access to capital, and/or property management expertise needed to adequately maintain or repair units. (2)



["Small apartment building, 2648-2650 Maryland Avenue, Baltimore, MD 21218" by Baltimore Heritage.](#)

(1) Routhier 2019; (2) Newman and Garboden 2012

Thank you

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The logo for Project: HOMES, featuring the word "project:" in a lowercase sans-serif font, followed by "HOMES" in a bold, uppercase sans-serif font. A green outline of a house with a chimney is positioned above the letter "O" in "HOMES".

project: **HOMES**

Preserving Privately Owned Affordable Housing Through

The text "Home REPAIR" is centered on the page. "Home" is written in a green, cursive script font. "REPAIR" is written in a large, bold, black, uppercase sans-serif font. The background of the text is a faded image of a woman and a young girl on a porch. The woman is wearing a white t-shirt with a colorful floral design and the text "BAYVIEW SPRINGS".

Home
REPAIR

www.projecthomes.org





JUSTIN RANDOLPH

project:**HOMES**

Director of Home Repair

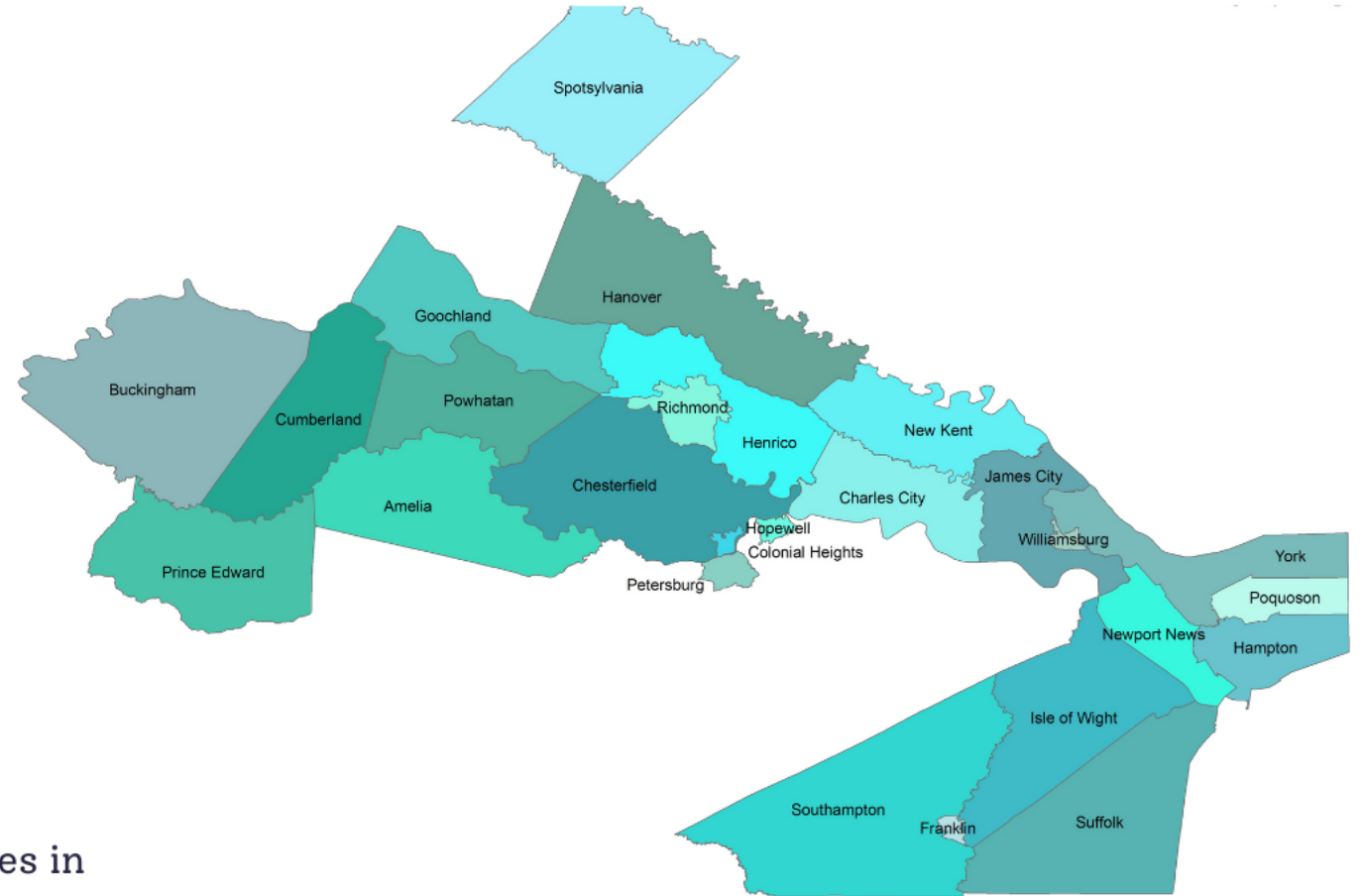
justin.randolph@projecthomes.org

OUR MISSION

Improving Lives by Improving Homes.

OUR VISION

To be the leader in housing solutions that enable individuals and families to live full independent lives in safe and healthy homes, neighborhoods and communities.





AFFORDABLE HOUSING

project:HOMES addresses the housing needs of the Richmond region through the preservation and production of affordable housing.



ENERGY CONSERVATION

project:HOMES also addresses affordable housing through energy conservation. A home that conserves more energy is also more affordable.

Presentation Outline

COMMUNITY
NEED

HOME REPAIR
PROGRAM

CHALLENGES
WE FACE

LOOKING
FORWARD



Client/Community Challenges



Clients/community members face a number of individual challenges that lead them to our services.

A Person-Centered Approach helps us understand that many of the home repair needs we address are a result of, or interconnected with a lack of social services support and/or marginalization of the community served.

The following challenges are commonly faced by the communities we serve:

- **Lack of preserved affordability**
- **Home preservation**
- **Social isolation**
- **Home & neighborhood safety**
- **Growing older in community**
- **Accessibility to home & accessibility to resources**
- **Physical & mental disabilities**
- **Ability to pass down generational wealth**
- **Abuse by caretaker or contractor**
- **Displacement**

Program Outcomes



PROVIDES HEALTH & SAFETY IMPROVEMENTS



STABILIZES STRUCTURE TO PREVENT FURTHER DETERIORATION



ELIMINATES CODE VIOLATIONS & BLIGHT



INDEPENDENCE & HOUSING STABILITY



INCREASES NEIGHBORHOOD VIBRANCY



PRESERVES UNITS OF AFFORDABLE HOUSING



INCREASES GENERATIONAL WEALTH



project: **HOMES**

home repair program
MEASURES

- Electrical repairs
- Heating repairs
- Plumbing repairs
- Window repairs
- Roof repairs
- Bathroom repairs
- Kitchen repairs
- Porch & step repairs
- Flooring repairs
- Safety related repairs

www.projecthomes.org





Before



After



Before



After



Before



After



Before



After

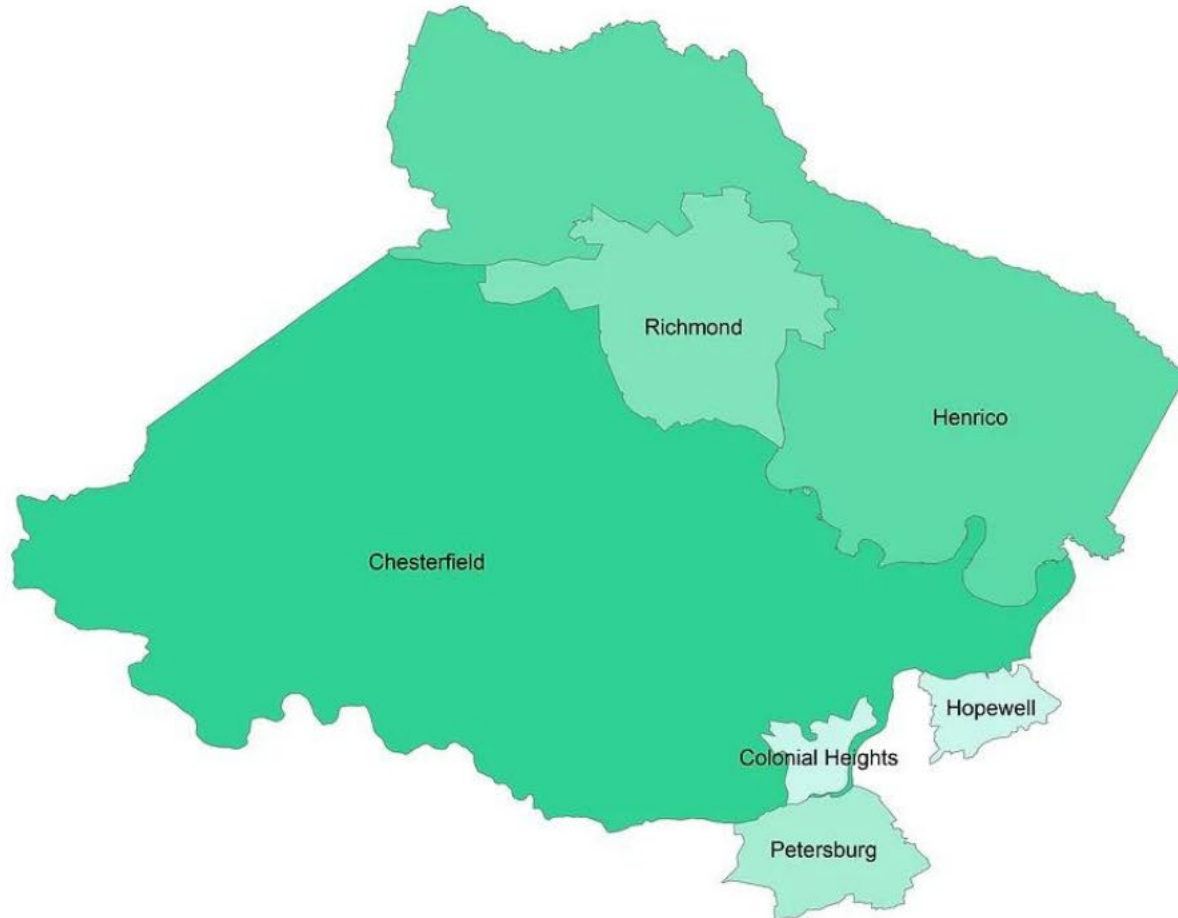


Before



After

program PARAMETERS



Number of Persons	Max Income
1	\$59,750
2	\$68,250
3	\$76,800
4	\$85,300
5	\$92,150
6	\$98,950
7	\$105,800
8	\$112,600



Who We Serve

73 %

OF HOME REPAIR CLIENTS
IDENTIFY AS **BIPOC**
(BLACK, INDIGENOUS, & PEOPLE OF COLOR)



69 %

OF HOME REPAIR CLIENTS
ARE **60+**



100%

OF HOME REPAIR CLIENTS
ARE **LOW-INCOME**



only PROCESS



program LEVERAGE



VOLUNTEER
SERVICES



WEATHERIZATION



VOLUNTEER SERVICES

AREAS OF WORK

- Wheelchair Ramp construction and installation
- Accessibility-related home repairs
- Yard clean ups
- Emergency heating and cooling
- Immediate Response



Addresses code violations and deferred maintenance

Funded by private donations

Work completed with volunteer labor

Provides independence & mobility for disabled & elderly residents

WEATHERIZATION ASSISTANCE PROGRAM

BENEFITS

- Reduces energy burden on the most vulnerable
- Improves health & safety of residents' homes
- Increases home value and efficiency



TYPICAL MEASURES

- LED light bulbs
- Water efficiency
- Air sealing
- Insulation
- HVAC (replacements, tune-ups, etc.)
- Smoke & CO detectors
- Lead
- Ventilation
- Egress

Home Repair Impacts Individuals & the Greater Housing Landscape

HOUSEHOLD BENEFITS

- Increases healthy & safety of home
- Stabilizes structure to prevent further deterioration
- Eliminates code violations & blight
- Improves financial & housing stability
- Prevents risk of losing insurance

COMMUNITY BENEFITS

- Reduces need for additional units of affordable housing
- Improves housing stock quality
- Improves neighborhood appearance & vibrancy
- Prevents displacement of communities
- Addresses housing equity

project:HOMES CHALLENGES

project:HOMES faces a series of obstacles and challenges when working to address our clients' unique needs. We strive to blend funding sources, skill sets and services to best serve the members of our community. Our organizational challenges include:

- **Limited funding**
- **Energy & Home Repair funding not overlapping**
- **Getting homes Weatherization-ready**
- **Compliance requirements**
- **Government restrictions**
- **Funding timing & overlapping contracts**
- **Financial risk**
- **Working capital**
- **Relationship building with funding partners**
- **Labor force (growth, retention, etc.)**
- **Coordinating other social services**
- **Rental needs that can't be addressed through our programs**
- **Client qualifications (over-qualification, deferral, etc.)**
- **Accessibility to application process**
- **Contractor demand**
- **Bringing trust & solutions**



VISION FOR HOME REPAIR

PROGRAM SUSTAINABILITY & GROWTH

- Internal Capacity
- Funding
- Locality Support

FUNDING DIVERSIFICATION

- More private/flexible funding

ATTENTION TO RACIAL EQUITY

- Intentional focus on racial equity

RESOURCE COORDINATION

- Increased capacity to connect clients to additional resources once work is complete

project:HOMES believes that the best possible solution for addressing the owner-occupied home repair needs that exist in our region is to sustain and develop our existing home repair programs with a greater emphasize on racial equity, the addition of coordinated resources and the braiding of private and public funding.



JUSTIN RANDOLPH

project:**HOMES**


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Rebuilding Together National Programs and Impact

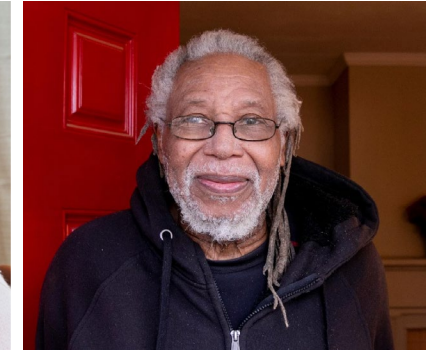
Melissa Stutzbach, Vice President of National Programs and Impact Measurement

 999 North Capitol Street NE Suite 330
Washington, DC 20002

Call : (202) 518-3100



Rebuilding Together, Inc. is a national nonprofit organization with over 30 years of experience in home and community rehabilitation, preservation, and revitalization. Since 1988, Rebuilding Together has leveraged 4.2 million volunteers and \$2.32 billion in cash and in-kind resources to repair and rehabilitate over 234,000 homes, nonprofit facilities, and community spaces, improving the lives of an estimated 6.86 million low- and moderate-income neighbors in need. Rebuilding Together is changing lives: one home, one community at a time.



Our Reach is National

120 in **38**

Rebuilding Together
affiliates

states plus the
District of Columbia



Our Communities



52%

homes with persons with disabilities



20%

homes with veterans



47%

extremely low income households



58%

female-headed households

\$25,012

annual median income



15%

homes for families with children



67%

homes with older adults



57%

people of color



Our Homes Are Our Lives

Safe and Healthy Housing

Our safe and healthy housing approach is strongly informed by the Eight Principles of Healthy Homes developed by the National Center for Healthy Housing and endorsed by HUD.

Our homes and our health are closely connected. Everyone deserves a safe and healthy home. A healthy home is:



CLEAN

Clean homes reduce pest infestation and exposure to contaminants.



DRY

Damp homes provide an environment for molds, dust mites, roaches and rodents. All of these can cause or worsen asthma.



PEST-FREE

Exposure to pests such as rodents or roaches can trigger asthma attacks.



SAFE

Injuries such as falls, burns and poisonings occur most often in the home, especially for children and older adults.



Safe and Healthy Housing



THERMALLY CONTROLLED

Prolonged exposure to excessive heat, cold or humidity may place your family at risk for various health problems.

MAINTAINED

Poorly maintained homes are at risk for moisture, pest problems and injury hazards. Deteriorated lead-based paint in older housing is the primary cause of lead poisoning, which affects over a half-million children.



VENTILATED

Access to a good, fresh air supply in your home is important for improving respiratory health and reducing exposure to indoor air pollutants.

CONTAMINANT-FREE

Exposure to harmful chemicals such as lead, radon gas, asbestos particles, carbon monoxide and secondhand smoke are far higher indoors than outside.





Safe and Healthy Housing

Rebuilding Together 25 Safe and Healthy Priorities	BEFORE	AFTER	CHANGE
	Y / N	Y / N	★
1. Residents can safely enter and leave the home			
2. The roof is watertight			
3. Rainwater is effectively shed and directed away from the structure			
4. Exterior walls have no gaps/cracks/holes that allow intrusion of bulk moisture/pests			
5. Windows and exterior doors open and close, lock securely and seal well			
6. Home is free of live infestation of pests, and sources of attraction are removed			
7. The numerals in the property's street address are clearly visible from the street			
8. A working smoke detector is on each floor and in or near bedrooms			
9. A working CO detector protects home with gas appliances or attached garage			
10. A currently dated Class ABC fire extinguisher is available in or near the kitchen			

Our Approach

PERSON-CENTERED

Our safe and healthy housing repairs are individualized to the persons' interests and needs and target significant safety, health and environmental hazards

CONCIOUS INCLUSION

We participate in active listening and prioritize a coordinated approach with organizations and service providers to support the community's aspirations and be a trusted community partner in equity building



Our Approach

The Seven Community Revitalization Partnership Principles

Purpose: Rebuilding Together is rooted in the community. We work closely with community members to revitalize our communities using the following principles.



Rebuilding Together is a **Community Revitalization Partner** When...

1

We demonstrate a **commitment to safe and healthy housing** in our work. Our process integrates the *25 Safe and Healthy Home Priorities* in homes served for a holistic approach. Our high-quality repairs remedy critical issues related to home systems. Our services lead to measurable outcomes that positively impact homes, communities and the overall well-being of every person served.

2

We prioritize a **coordinated approach** with other organizations and service providers. We acknowledge that we are one piece of the broader housing and community development ecosystem. We connect our clients to other programs and services that can assist them.

Our Approach

3

We seek opportunities to further serve our community through **innovation and expansion**. We offer services that complement our core home repair program either through our affiliate or collaborative partnerships. Examples include affordable housing programs, workforce development, energy efficiency or health care-funded modifications.

4

We regularly engage with local, political, community and business leaders. We use our services as a **platform to advocate for those that we serve**. We participate in roundtables, housing alliances, community-based cohorts and other opportunities for organized advocacy for healthy housing and historically disinvested communities in general. As a result, various stakeholders seek our expertise to address issues related to housing and community engagement.

5

We demonstrate a strong **understanding of the current and historical policies, practices and behaviors that create housing inequality** in our community. We regularly educate ourselves, our volunteers and our funders on these issues.

Our Approach

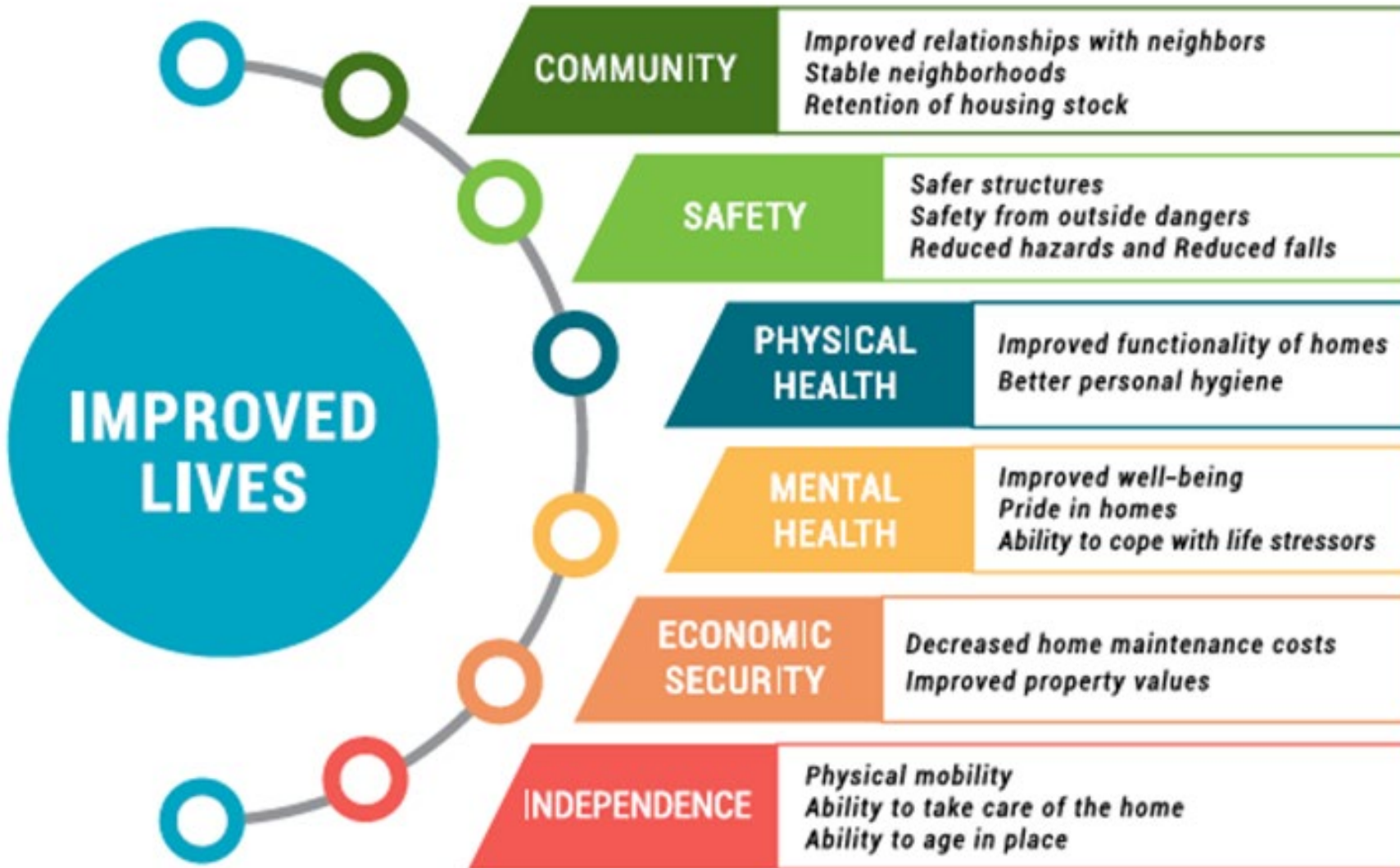
6

We build **cultural competency** with our stakeholders by respecting and affirming the values of the community served. We utilize a person-first approach to programming to prioritize community members' interests, strengths, needs and active participation throughout the process with minimal disruption to the community.

7

We practice **active listening** in the community. We participate in neighborhood meetings, planning processes and events. Our services adapt to the needs and interests identified by the community we serve. Community members and others with lived experiences actively participate at all levels of our organization. We seek to remove barriers to their involvement and include them in decision-making.

Impact Domains



The Human Impact



INDEPENDENCE

Almost 90% of neighbors who weren't planning on **aging in place** now consider it very likely.



MENTAL HEALTH

Among neighbors who felt highly nervous or stressed about their home, 67% said the repairs **reduced stress**.

Human Impact



ECONOMIC SECURITY

Nearly 70% of neighbors plan to **pass on their property** to a family member or friend.



PHYSICAL HEALTH

Among those who reported “fair” or “poor” physical health before the repairs, 33% said their **health improved** after the repairs.

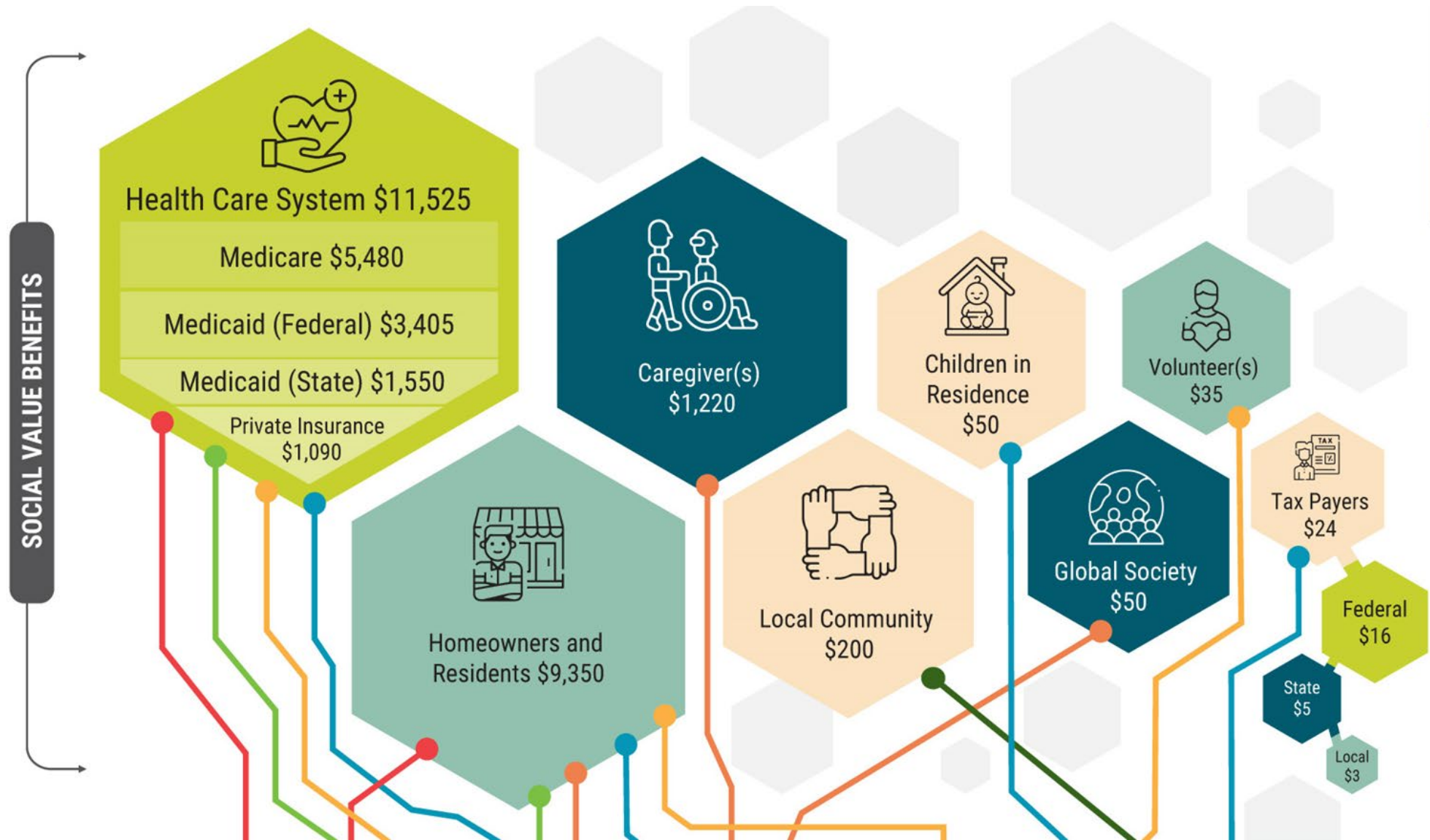
THE SOCIAL VALUE GENERATED BY REBUILDING TOGETHER

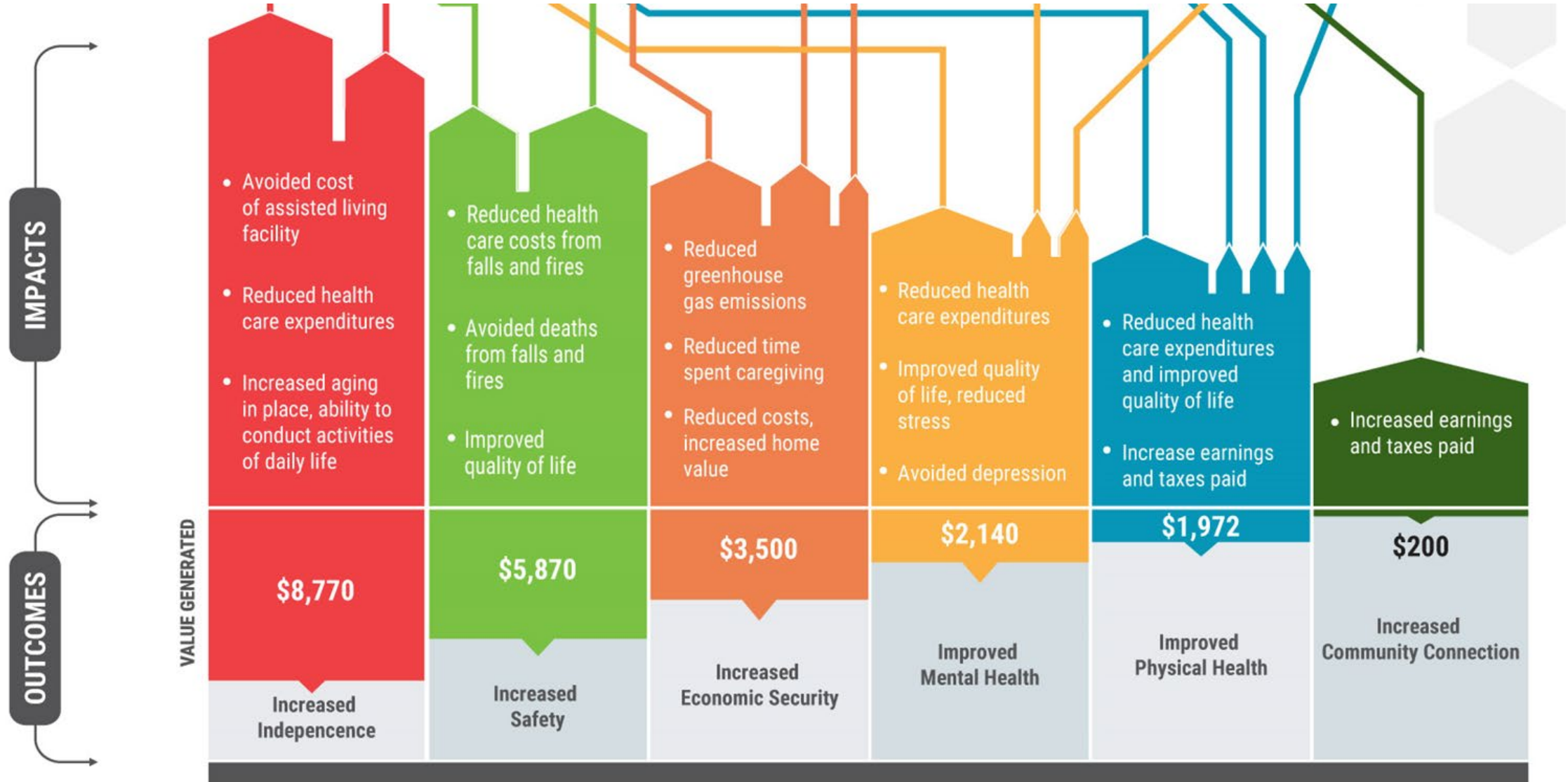
Projected Social Return On Investment

\$1 → \$2.84

For every \$1 invested by Rebuilding Together and its affiliates in each home, there is a projected \$2.84 in social value generated through improved health, safety, independence and cost savings.







I have access to getting around the house better... that's what it is all about... that is the key to the whole thing. Rebuilding Together fixes your house so that you can stay in your house.


James, St. Louis Neighbor

Thank you!



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Impact Measurement**

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