UJIMA Developers LLC

Age Friendly Rowhouse Design

A Guide for Seniors and Caregivers

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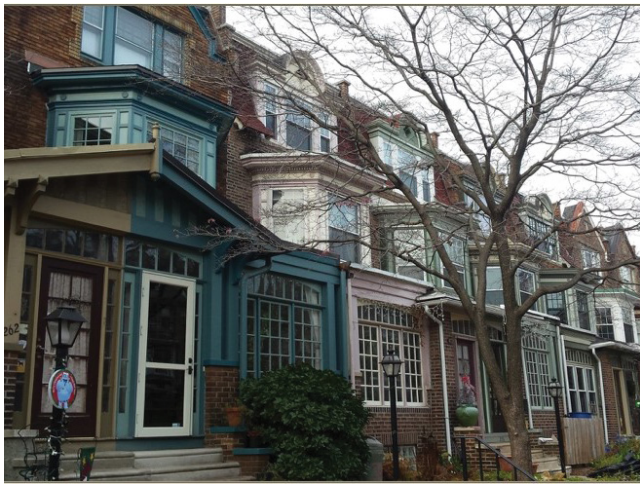
Introduction

Philadelphia's housing stock has its origins in the city's Industrial Revolution. A need to accommodate population growth with close proximity to each other created an environment for rowhouses to proliferate as the city's main form of residential unit. This design is concentrated in the Mid-Atlantic, and as the housing and population ages, more focus on retrofitting rowhouses for older adults is needed.

The rowhouses that make up so much of Philadelphia's housing stock share several design characteristics:

- One to four stories
- Stoop
- Flat roofs
- Average size: 2,000 square feet
- Size range: 400-7,000 square feet
- Steep Stairs
- Small yard
- Brick frontage
- Width less than 16 feet
- Vestibule (two-door entry)
- Post-Industrial style has porches



Ujima Developers, LLC in collaboration with AARP and community transformation partners are expanding the Future of Housing Initiative to include rowhouses as a housing option.

A rowhouse is perceived as narrow and inefficiently designed for a senior's mobility needs. This is wrong, though. The historical legacy of rowhouses adds an intangibility to a senior's ability to age in place that cannot be replicated.

The rowhouse is synonymous with Philadelphia, a familiar icon as one travels through various neighborhoods. This housing style is ubiquitous in a way that's not found in other American cities and make up 60-70% of the city's housing supply. The rowhouse tells Philadelphia's built environment story. The first collection of rowhouses started construction around 1700, and steadily grew for the next century. Many of these rowhouses were for landowners, and now commonly referred to as Federal style in architecture.

As Philadelphia grew, and the Industrial Revolution enticed workers to the city, rowhouses filled a critical gap. Through slight architectural changes (smaller, addition of porches, etc.), rowhouses became the city's main form of affordable housing. No population group benefited from the increase in rowhouses as Blacks in Philadelphia. Importantly, the city encouraged and incentivized home ownership. This created wealth opportunities for Blacks unavailable in nearly every other city. As the Black community grew in Philadelphia, the rowhouse became a symbol – signifying prosperity and community.

For the last hundred years or so, rowhouse construction has slowed. Now, the city finds that much of its housing stock lacks the upgrades necessary for our needs in the 21st century. This initiative and resulting guide offer a way to reverse the trend of abandoning rowhouses. Instead, resources can assist with preparing rowhouses for changes in one's health circumstances. These rowhouses can be designed for aging in place through the following processes:

- Planning for the future
- Experiencing a progressive condition that requires home modification or equipment
- Addressing temporary needs resulting from an injury or accident
- Dealing with an abrupt or traumatic health-related change
- Seeking solutions for multigenerational living and caregiving

Who is this Guide For?

This informational resource guide aims to assist seniors and their families with converting existing rowhomes into age-friendly residences. Anyone involved in the environmental design process will find useful information within this guide. This includes interior designers, architects, contractors, and urban designers to name a few. Long-term care professions, policy makers, and advocates can also use this guide for the decision-making process.

Image Credit: bflosab via Creative Commons

The Age-Friendly Rowhouse Design Collaborative

The Age Friendly Row House Design Collaborative is an inclusive community driven initiative to facilitate interdisciplinary solutions for creating livable neighborhoods with row homes. Community engagement is a core aspect of this initiative.

In a 3-month time period, Ujima Developers, in collaboration with the AARP with the support of local organizations, convened three Age Friendly Row House Design Summits and participated in three community meetings. Each summit included local stakeholders, community members, and representatives from every built environment profession. The team visited three already existing community meetings, spread throughout the city.

SUMMIT PARTICIPANTS	COMMUNITY INFORMED PROCESSES
Architects	3 design summits
Local stakeholders	3 community meetings
Community members	100+ participants
Rowhouse owners	All built environment professions represented
Planners	
Real estate developers	
Interior designers	
Students	
Housing advocates	
Retirement and financial advisors	
Healthcare professionals	

Through this initiative, we identified several key themes for modifying Philadelphia's rowhouse stock to be more age friendly. This process benefited tremendously through the inclusion of residents currently in the process of modifying their rowhouse for aging in place. This guide is much as a response to their concerns as it is a resource for professionals and advocates.

Key Themes

- In general, seniors want to stay in their current homes because they love the neighborhood. Crime and taxes are a concern, but the desire to stay in their home superseded everything.
- Hiring contractors heightens a senior's anxiety. Many attendees feared being "taken advantage of," and stated a desire for built environment professionals to build trust through partnerships with community organizations. One potential solution is to create a list of vetted and approved contractors.
- With a significant percentage of current housing stock requiring age-friendly upgrades, this is an opportunity for engaging Union apprenticeship programs, and reduce the cost of labor.
- Explore ways to train residents to make their modifications with the assistance of trained construction professionals.
- Non-senior citizen participants admitted they had overlooked the lack of age friendly design characteristics of their rowhouse and needed to think about potential modifications before it was too late.

Philadelphia and its Aging Population

Senior citizens, or those over the age of 65, are the fastest growing population group in the United States according to the US Census Bureau. This cohort increased 15.1% over a decade as opposed to 9.7% for the overall population. By 2050, the US population over 65 is expected to double. According to the Research Department at the Philadelphia Corporation of Aging (PCA), the city's trends parallel the national trends.

In 2011, PCA published a progress report titled, Laying the Foundation for an Age Friendly Philadelphia. PCA describes Age Friendly Philadelphia as a planning and research initiative designed for helping older adults remain healthy, active, and engaged for as long as possible. PCA defines an age friendly city as one "that is committed to improving both physical and social environments that surround the city's elders, to facilitate independence and neighborhood cohesion.

Affordability is a major challenge to creating an Age Friendly Philadelphia. "Every aspect of life is affected by poverty, from health to living environment to access to goods and services," according Allen Glicksman, PCA's Director of Research and Evaluation. Nearly 50% of Philadelphia's 291,000 seniors have incomes below 200% of the Federal Poverty Line (FPL). Racial or ethnic minorities are more likely to live below the FPL. **The senior poverty rate for whites is 17%; for African Americans, 25%; for Asians, 37%; and for Hispanics 42%.**

Affordable and accessible housing are essential for creating a livable community. AARP defines a livable community as:

"A livable community is one that is safe and secure, has affordable and appropriate housing and transportation options, and supportive community features and services."

AARP Policy Book 2017-2018, Chapter 9: Livable Communities, Introduction

According to a 2017 survey, more than 100,000 of Philadelphia's seniors reported that it is difficult to afford housing. Additionally:

- 77,000 live in homes that need major repairs that they cannot afford.
- 32,000 have skipped a meal due to lack of money.
- 29,000 cannot afford to fill a prescription.

For many seniors, they purchased or inherited their rowhouse a long time ago. This longevity in the neighborhood built social capital, created a sense of belonging, and importantly, represents a significant percentage of their wealth.

Image Credit from Top Left: Author? "JAK_9771-2"; Author? "rowhouse 2"; butwait via Creative Commons

The Aging Process: Housing

Housing and its impact on health as one age is rarely considered. Yet, the condition of our home has a direct effect on our safety, susceptibility to disease, and quality of life. Aging in place or staying in one's long term residence is the goal for most older adults and their family members. However, with age, individuals often experience increasing difficulty moving safely throughout their home, going up and down stairs, and/or reaching and bending. An individual's ability can change, but their home environment remains intransient at best or conditions may deteriorate if home repairs are not maintained.

Older Housing Stock: Problems vs. Solutions

PROBLEMS	SOLUTIONS
Poor lighting	Widening doors
Steep or uneven stairs	Installing grab bars
Broken tiles or frayed rugs	Shower/bath seats
Unstable rails, or lack thereof	Raised toilet seats
Lack of grab bars	Dressing aids
Slippery tiles	Having mobility aids (canes, walkers, etc.)
Hard to open doors	Adjusting lighting
High door thresholds	Powder room or small bathroom
Narrow doors	

FOR EXAMPLE...

This accessible kitchen allows for an individual in a wheelchair or other assistive device to cook, clean, and maneuver.

Survey after survey reveals that older adults want to live independently as they age. Some surveys report up to 90% of respondents want to turn their family homes onto a forever home. This demand adds a sense of urgency to solutions that support someone's ability to age in place and in a familiar neighborhood.

Accessible Rowhouses are a Good Investment

Aging in place requires in-home upgrades, but the investment is cheaper than the cost of an assisted living or skilled nursing facility. The architectural features in old rowhomes did not consider mobility impairments of future residents. Design improvements to address potential safety hazards are a one-time investment, as opposed to a recurring expense.

Annual Cost of Care, by type of facility

Level of Care	Home-Based Care (i.e. Rowhouse)	Assisted-Living Facility	Skilled Nursing Facility
Intermittent Care (16 hours/week)	$18,500, plus household expenses	$60,500	$114,000
Daily Care (40 hours/week)	$46,000, plus household expenses	$88,000	$114,000
Continuous Care (16 hours/week)	$192,000, plus household expenses	$234,500	$114,000

Data courtesy of Houseworks

Universal Design and Visitability

Universal design reflects a structure that is visitable by each person, no matter their age or potential mobility limitations. According to a 2008 Journal of the American Planning Association study, 25% to 60% of all new houses, over the lifetime of the house, will have a resident with a long term, severe mobility impairment. This is in addition to short-term issues that limits mobility, such as a broken bone. Despite this documented need, an estimated 95% of new houses do not meet universal design standards, or support visitability.

According to the Community Design Collaborative, visitability ensures that everyone has basic access to visit homes with ease. Visitability is an international movement promoting safety and flexibility through smart residential construction design. For a home to be "visitable" it must offer the following features:

- One zero-step entrance at the front, side, or rear of the home approachable by an accessible route
- At least one-half bath/powder room on the first floor with the required floor clearance
- 32" clearances at doorways and 36" wide hallways to provide a clear path of travel on the first floor

Fifty-seven local and state visitability laws have been passed throughout the United States. Many more have been attempted and, even when they have failed, advanced the cause by developing awareness and support for visitability. Philadelphia's Visitability Committee, the Philadelphia Corporation for Aging (PCA), Habitat for Humanity, the Healthy Rowhouse Project and several for-profit senior living providers are continuing to advocate for policies and practices that promote the implementation of age-friendly strategies for Philadelphia.

Universal Design Principles	
Principle 1: Equitable Use	The design is useful and marketable to people with diverse abilities
Principle 2: Flexibility in Use	The design accommodates a wide range of individual preferences and abilities.
Principle 3: Simple and Intuitive	The design is easy to understand, regardless of the user's experience, knowledge, language skills, or concentration level.
Principle 4: Perceptible Information	The design communicates necessary information effectively, regardless of ambient conditions or the user's sensory abilities.
Principle 5: Tolerance for Error	The design minimizes hazards and the adverse consequences of accidental or unintended actions.
Principle 6: Low Physical Effort	Design can be used efficiently and comfortably, with minimum fatigue.
Principle 7: Size & Space for Approach and Use	Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Promising Practices

In Philadelphia, several organizations/initiatives are advancing the concept of improving home-based care for elderly and low-income individuals. Each offers resources, such as information, funding, or technical assistance to turn an existing rowhouse into one that supports aging in place.

Rebuilding Together Philadelphia works with local neighborhoods to repair houses, creating safer, healthier and more energy-efficient places to live. Volunteer crews lead their rebuilding projects, with an aim for assisting 100 homeowners annually.

Healthy Rowhouse Project is a philanthropic initiative dedicated to improving the substandard conditions to promote health in rowhouses occupied by low-and-moderate income Philadelphians

NewCourtland Senior Services is a Philadelphia-based social services programs buys rowhouses and refurbishes them for seniors. This program is designed to support seniors through affordable housing, healthcare, meals, and all types of social support.

The **Philadelphia Housing Authority** has resources for create visitable house that qualify for public housing subsidies.

The **Communities Aging in Place – Advancing Better Living for Elders (CAPABLE)** is a program of **Habitat for Humanity Philadelphia.** It is designed to assist existing homeowners with repairs and home-based services, such as occupational therapy and nursing care. The CAPABLE program is the byproduct of the ABLE project. Habitat for Humanity in Philadelphia works throughout the city to repair or build homes affordable for all families.

AARP Philadelphia is the local chapter of the national AARP organization. It provides information, advocacy assistancy, member services, and much more to enhance a senior's quality of life.

Aging in Place Concepts

A rowhouse can be designed to support each person, no matter their physical ability. This increases in importance as one grows older. Through the applicable of specific design concepts, a rowhouse can truly be a forever home.

ACCESSIBLE DWELLING	VISITABLE DWELLING
Common and public use areas Barrier-free pathway into and through the residence Doorways for wheelchairs Universal designed light switches, electrical outlets, thermostats and residential controls Accessible kitchen and bathroom Reinforced walls in bathrooms for wlater installation of grab bars	At least one “zero step” entrance into the dwelling Minimum 32” doorways on the first level to facilitate wheelchair & walker access One accessible bathroom on the first level
ACCESSIBLE BATHROOM	**ACCESSIBLE KITCHEN**
Medication cabinet or mirror at 40 inches from the floor Handheld shower head Removable base cabinet Bathroom swinging out for more floor space Standard American Disability Act (ADA) height for most grab bars is between 33 to 36 inches off the floor Reinforced grab bars Skip-resistant flooring Lever faucets Raised toilets	Shelves installed under high wall cabinets provide reachable storage Pull-down shelves make high walls cabinet more usable The minimum knee clearance at a roll under a sink is 27 inches Hanging racks provide reachable storage Switches and receptacles should be at accessible locations Lever faucet and loop handles allows motion relief on wrists and fingers Rolling carts provide storage space and can be stored in knee spaces Side by side refrigerators are more accessible than standard models

Understanding a Job Scope, Work Schedule, and Cost Estimate

During any renovation project, the scope of work, schedule, and cost estimate together set expectations between the client and the contractor. Here are key things to consider when developing each of these items.

What is a scope of work?

This is a narrative of the clients' needs, requests and selections, normally expressed in basic terms and often arranged in the order in which a project is to be completed. Two templates are provided as part of this guide (See Sample A).

What is a work schedule?

This forecasts a project's completion date, showing the flow of decisions, commitments, personnel, and required products. Below is a work schedule for your review (See Sample B).

What is a cost estimate?

A cost estimate helps identify costs and schedule requirements with relative exactness. An accurate estimate reduces the risk associated with timelines, resources, and budget. Sample C is included as an example for a cost estimate.

Scope of Work (Sample A)

Project Definition			Scope of Work Template (page 1 of 1)	
1.1 Client and Project Information				
Name of Client/Organization:			*Name of Project:*	
Name of Contact Person:			*Project Location:*	*Project No:*
Contact's Mailing Address:			*City:*	*Province:*
City:	*Province:*	*Postal code:*	*Contact's Email Address:*	
Telephone Number: *Ext:*			*Fax Number:*	
1.2 Project Description:				
1.3 Architect Selection Process:				
1.4 Pre-design work completed to date (or) required:				
1.5 Project Timeline: Start Design Work: **/2010**		Start Construction: **2010**		Planned Occupancy Date: **/2010**
1.6 Approval Requirements:				
1.7 Additional Requirements and/or Conditions:				

Work Schedule (Sample B)

Project Name:	**Project #:**
Project Manager:	**Sponsor:**
Project Artifacts:	**Updated:**

I.D.	Milestone	Description	Planned Completion Date	Actual Completion Date	Objectives	Assumptions	Constraints
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Cost Estimate (Sample C)

Project ID:	*Project Name:*	*Date:*
Customer Name:		
Customer Address:		
Location:		
Contact Person:	*Contact Phone Number:*	
Email Address:		

Scope of Work

This estimate covers the remodeling of the master bathroom.

Terms of Payment

<Terms of Payment>

Description	Qty.	Unit	Unit Cost	Amount	Status
Vanity	1	Sum	750.00	750.00	Quote
Mirror	1	Sum	100.00	100.00	Quote
Vanity Storage Tower	1	Sum	200.00	200.00	Quote
Bottle Trap 32mm & Waste	1	Sum	72.00	72.00	Quote
Basin Mixer	1	Sum	200.00	200.00	Quote
Bath Tub	1	Sum	260.00	260.00	Quote
Plumbing Parts and Labor	1	Sum	1,500.00	1,500.00	Estimate
			Estimated Renovation Cost:		

Remarks: <This space is reserved for any additional comments regarding this estimate>

Budget Planning

Home renovations often cost thousands of dollars, and it is important to understand the costs of individual items and labor. There are few subsidies available for completing an aging-in-place renovation. It is incumbent on the homeowner to understand the true order of magnitude costs. Here are a few examples of renovation costs:

Bathroom Grab Bars
The grab bars' pricing starts at under $20 online or at local hardware stores. Professionally installation can cost about $100 each.
Lever-style Doorknobs
Lever-style doorknobs can be helpful for people coping with arthritis or other conditions. The lever-style doorknobs pricing starts at under $20 online or at local hardware stores. Professionally installation can cost about $50 each.
Kitchen Countertops & Cabinets
Kitchen countertops and cabinets are more accessible at 30 inches from the floor for individuals using a wheelchair. The cost varies depending on kitchen size. Professional remodeling space about 30 square feet can cost $5,000 or less.
Slip-Resistant Flooring
Slip-resistant flooring that is vinyl linoleum and bamboo provide more grip than slick and hard surfaces. It helps prevent falls and absorb the impact if there is a collision with the floor. The cost varies with the square footage--$3 to $7 per square foot without labor cost.
Wheelchair Ramp
A Wheelchair Ramp Even can eliminate the need to climb stairs to enter a residence for individuals experiencing mobility difficulties. The cost to build a ramp varies from approximately $1,500 to over $3,000 depending on materials and dimensions.
Doorways
Doorway expansion to 32 to 48 inches accommodates a wheelchair or scooter. The cost could vary between $400 to 600 for each doorway.

General Home Renovation Budget

[Renovation Project Description] e.g. New Ensuite Bathroom & Kitchen, install ducted air/con			
	BUDGET	ACTUAL	VARIANCE
Project Allowance			
Finance- Loan Amount	$	$	$
Cash	$	$	$
<Other Income>	$	$	$
<Other Income>	$	$	$
Total Available Funds:	$	$	$
Project Expenses			
Building Services Costs			
Designer/Architect	$	$	$
Building Reports	$	$	$
Building Insurance	$	$	$
Counci/Certifiers Fees	$	$	$
Builder/Carpenter (labor and materials)	$	$	$
Electrician (labor and materials)	$	$	$
Plumber (labor and materials)	$	$	$
Ducted Air Conditioning	$	$	$
<Other Building Services>	$	$	$
Total Fixed Costs:	$	$	$
Building Materials Costs			
Bathroom - tiles	$	$	$
Bathroom - bath	$	$	$
Bathroom - vanity	$	$	$
Bathroom - toilet	$	$	$
Bathroom - light/fan	$	$	$
Bathroom - tapwear & fittings	$	$	$
Misc. - adhesives, grout, etc.	$	$	$
Kitchen - cabinetry	$	$	$
Kitchen - benchtop	$	$	$
Kitchen - dishwasher	$	$	$
Kitchen - floor tiles	$	$	$
Kitchen - sink & tapwear	$	$	$
<Other Miscellaneous Expenses>	$	$	$
<Other Miscellaneous Expenses>	$	$	$
Total Materials Costs:	$	$	$
Loan Repayment(s)/Rent Monthly			
Loan repayment(s) - (month)	$	$	$
Loan repayment(s) - (month)	$	$	$
Rent - (month)	$	$	$
Rent - (month)	$	$	$
Total Loan Repayments/Rent:	$	$	$
Total Renovation Expenses:	$	$	$
Total Spend:	$	$	$

Dos and Don'ts: Things to Remember

- Consult with an industry expert on the written description of solutions, alternatives, and options proposed by a professional designer or contractor.
- Ensure documents are created using basic and precise descriptions to help avoid the risk of misunderstanding.
- Contact or Partner with health professional and equipment specialist to review descriptive language, perform onsite space evaluation, and research equipment requests associated with space design related to health issues.
- Ask (or bring) for photographs, drawings, and illustrations that assists with understanding the projected work.
- Confirm that each project room is documented and detailed separately with a focus on the specific design areas.
- Check all documentation for readability—easy to read font for all forms – and ask for written explanations for unfamiliar products and procedures.
- Confirm all proposed work is listed in the documentation.
- Document and review any/all alternative solutions proposed by a contractor with an industry expert.
- Ensure there is a work schedule that shows completion dates for major milestones included in the project (and start and finish date for the job.)
- Confirm the estimate includes price quotes for products and alternative products (make, model, style & color).
- Become familiar with the termination clause and its process outlined in the documentation.
- Gain an understanding of how the contractor assures the security of confidential information.