

Age-Friendly Housing and Environments: Best Practices and Recommendations



Image Credit: World Health Organization

**A report for the City of Portland and others interested
in age-friendly housing and environments.**

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Introduction

Policies from Portland's 2035 Comprehensive Plan¹ and implementation efforts such as the Residential Infill Project² support age-friendly housing and aging in place. As the City further implements its policies and plans a better understanding of age-friendly elements can improve the design and development of housing and environments friendly to those of all races, ages, and abilities. This report summarizes literature focused on age-friendly housing and environments and offers best practices and recommendations to consider.

Age-Friendly Housing Elements and Best Practices

Age-friendly housing elements include accessibility within one's home (e.g., bathroom and kitchen design), ingress and egress to one's home (e.g., zero-step entrances, ramps), proximity to services (e.g., availability of transit options, public and private shops and offices), characteristics of the surrounding neighborhood (e.g., presence of sidewalks, traffic), and connections to social and economic opportunities.^{3,4} This section will detail elements of age-friendly housing and environments, best practices and recommendations.

Housing Design

Age-friendly housing design should be accessible and inclusive for people of all ages and abilities and can be applied to all types of housing, small and large. In addition to physical accessibility, housing should enable social connections and supports and be responsive to user changes and preferences over time. A preference of multigenerational households is to live in close proximity to other generations, yet separately, which can be supported by offering various floor plans and unit types⁵ while units capable of accommodating aging residents should be dispersed amongst unit types.⁶

Open floor plans are considered an important feature by housing consumers and compatible with visitability standards.⁷ Open floor plans facilitate a clear line of sight between caregivers and individuals needing assistance,⁸ capable of balancing connectedness and privacy through flexibility.⁹ Flexible spaces and arrangements can readily accommodate residents' evolving needs¹⁰ as well as future user needs.¹¹

The top three accessibility features rated by homebuyers in 2019 National Association of Home Builders (NAHB) report were a full bath on the main level, doorways at least 3 ft. wide, and non-slip flooring respectively.¹² No single accessibility feature, other than height of counters and cabinets, were ranked undesirable by more than a third of respondents.¹³ Less than 10% of home buyers would reject a home due to the presence of a full bath on the main level, an entrance without steps, non-slip flooring, at least 4 ft. wide hallways, and at least 3 ft. wide doorways.¹⁴ (see Appendix A for additional home buyer ratings of accessibility features). As the NAHB report concludes, builders should not hesitate to include certain age-friendly elements for fear of consumer rejection.¹⁵

Other building features should encourage interaction between older adults and the community, such as front entries that promote visibility, to contribute to older adults'

perceived social support.¹⁶ Housing designed for social networks will lower burdens on formal services¹⁷ and support community ties that predict older adults' ability to remain in place.¹⁸ Particular housing types such as cottage clusters, cohousing, intergenerational, and age-restricted communities should be encouraged by land use policies.¹⁹

Housing Proximity to Services

It is expected that multigenerational housing developments will increasingly concentrate in urban areas with existing infrastructure.²⁰ In mixed-use areas, individuals with varying abilities are more capable of independently performing daily tasks.²¹ Housing with access to amenities and services increases social interaction and the likelihood of remaining in place for older adults.²²

A appropriate distance to services and amenities is considered 0.25 miles,^{23,24,25} which allows walkability scores to be analyzed with local demographic data related to age and disability.²⁶ Suggestions for increasing the proximity of age-friendly housing to services include subsidies for locating age-friendly housing near frequent transit²⁷ and incentives (e.g., bonuses) for accessible single-family housing with low slope routes to transit.²⁸

Age- and disability-friendly transit stops should be expanded²⁹ and paratransit services should be taken into consideration when locating age-friendly housing opportunities. In Portland, TriMet LIFT provides reservation-based public transportation services for people with disabilities during TriMet hours throughout TriMet service areas. Ride Connection provides deviated bus route services in Washington County with the option of scheduling pick-up or drop-off within 0.5 miles of the route.³⁰

Age-Friendly Cottages and Cluster Housing

Cottage cluster housing featuring community-oriented design can provide appropriate housing for multigenerational households and can facilitate seniors to remain near friends and family, particularly when single-story options are available.³¹

Statewide Policy Efforts and Implementation Best Practices

Based on statewide efforts, several suggestions for cottage cluster development should be considered. An explicit cottage cluster code may be helpful,³² but has not always incentivized development.³³ Building orientation and design of features facing open space and public streets should be prioritized³⁴ while encouraging development with flexible design regulations.^{35,36,37} Footprints and floor areas should be restricted, rather than lot and site size, since large sites have been found to be limited by unit maximums and small sites by density maximums.³⁸ Common space can be maximized by minimizing excessive setbacks and separations^{39,40,41} to underlying zoning and fire code standards.⁴² An incentive based approach for cluster housing is appropriate such as density bonuses coupled with home size caps,⁴³ fee waivers,^{44,45} and expedited permit processes.⁴⁶ (See Appendix B for the City of Milwaukie, Oregon cottage cluster code analysis and code.)

Race, Socioeconomic Status, Ethnic Dimensions of Aging in Place

The intersections of race, disability, and age require that planners understand and address user preferences within diverse racial and ethnic groups. This section will discuss racial, socioeconomic, and ethnic considerations for designing appropriate age-friendly housing and enabling aging in place in Portland.

Housing Design

Cultural differences and family composition should be considered when planning for appropriate housing types.⁴⁷ Black, Hispanic, and Asian households are more likely to live in a multi-generational living arrangement than White households, with generational makeup varying significantly by race and ethnicity.⁴⁸ Older adult caretakers who rent are more likely to be non-White⁴⁹ and over 25% of personal care aides are Black.⁵⁰ 1 in 4 Blacks, 1 in 5 Whites, and 1 in 6 Hispanics live with a disability,⁵¹ with varying preferences in regards to accessible housing features across race and ethnicity. A full bath on the main level is considered more essential by African American home buyers than Hispanic, Asian or White home buyers.⁵² Hispanic home buyers are more likely to rate doorways 3 ft. or wider and hallways 4 ft. or wider as essential accessibility features.⁵³

Design considerations for age-friendly housing should focus on racial and ethnic communities with higher rates of disability and multigenerational living arrangements. Black, Indigenous, and People of Color specific consultant directories⁵⁴ and a housing development internship⁵⁵ should be created while creating a shared power planning process with these communities.⁵⁶

Aging in Place and Displacement

Factors determining aging in place include unit age, unit condition, and tenure status. Black older adults living independently are more likely to live in older dwellings that are not owned free and clear.⁵⁷ Home equity and financial resources predict the likelihood of aging in place, while high property taxes and utility costs predict the likelihood of moving.⁵⁸ Financial models should account for the hidden costs and future value of modified housing that allows individuals to age in place.⁵⁹

Accessible, adaptable home modifications include; walk-in tubs or showers, grab bars in bathrooms and along passageways, kitchen cabinets reduced in height, knee space below cabinetry, ramps, and slip-resistant flooring.⁶⁰ Existing programs that provide home repair services should be leveraged including Portland Housing Bureau's home repair loans and home ownership retention services,^{61,62} Multnomah County's weatherization program,⁶³ Multnomah County tax deferral programs for seniors and homeowners with disabilities,^{64,65} and programs specific to Black-owned homes such as Taking Ownership PDX.⁶⁶

In concert with formal modification and renovation services, appropriately designing housing for aging in place can mitigate displacement resulting from renovation and/or modification costs.⁶⁷

Discussion

This report offers best practices for age-friendly housing and environments and highlights the efforts that are needed to understand and address racial, ethnic, and socioeconomic considerations for aging in place in Portland. Appropriately located and designed housing, including cottage clusters, can enhance options for aging Portlanders, support multigenerational households, and meet the needs of diverse and vulnerable communities; however, it is important to understand these recommendations should continue to integrate differing preferences and needs of people across abilities, ages, and races or ethnicities.

Major takeaways

- Multigenerational households prefer to live separately, but in close proximity.
- Most home buyers will not reject a home for possessing accessibility features such as visitability standards.
- Front entrances and housing typologies can be designed to enhance social support.
- Incentivizing age-friendly and accessible housing within 0.25 miles of amenities and services is appropriate.
- Recommendations from statewide research on cottage clusters and cluster housing should be considered to encourage development.
- Appropriate age-friendly housing design considers cultural differences, living arrangements, and disability across race, ethnicity, and socioeconomic status.
- Designing housing for aging in place can mitigate displacement by alleviating residents of high cost modifications in the future.

Recommendations

- Incentivize physical and locational aspects of age-friendly housing into social housing models such as cottage cluster development.
- Further engage diverse communities to determine appropriate features of housing and community that facilitates aging in place.
- For recommendations to advance racially equitable planning with Black, Indigenous, and People of Color communities, refer to the report *A racially equitable & resilient recovery* by the Seattle Planning Commission.⁶⁸
- For an in-depth case study of the City of Milwaukie's cottage cluster housing analysis, refer to Appendix B.
- For further research on the social dimensions of age-friendly built environments, refer to *Sustainable, affordable housing for older adults: A case study of factors that affect development in Portland, Oregon*⁶⁹; *Understanding the social impacts of neighborhoods and home design for older adults in Portland, Oregon*; and *Aging, neighborhoods and the built environment*.⁷⁰

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- ¹ City of Portland. (2020). *2035 Comprehensive Plan* (as amended through March 2020). Bureau of Planning and Sustainability. <https://www.portland.gov/bps/comp-plan/2035-comprehensive-plan-and-supporting-documents>
- ² City of Portland. (2020). *Residential Infill Project*. Bureau of Planning and Sustainability. <https://www.portland.gov/bps/rip/>.
- ³ World Health Organization. (2007). *Global age-friendly cities: A guide*. https://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf
- ⁴ DeLaTorre, A. (2013). *Sustainable, affordable housing for older adults: A case study of factors that affect development in Portland, Oregon*. Portland State University, School of Urban Studies and Planning. https://pdxscholar.library.pdx.edu/open_access_etds/714/.
- ⁵ Urban Land Institute. (2014). *Residential futures II: thought-provoking ideas on what's next for multigenerational housing and intergenerational communities*. <https://2os2f877tnl1dvtmc3wy0aq1-wpengine.netdna-ssl.com/wp-content/uploads/ULI-Documents/ResidentialFuturesII.pdf>
- ⁶ Enterprise Green Communities. (2016). *Aging in place design guidelines for independent living in multifamily buildings*. <https://www.enterprisecommunity.org/download?fid=6623&nid=3496>
- ⁷ DeLaTorre, Freeman, & Wadleigh. (2017). *Residential infill project appendix D: Visitability best practices*. https://www.portland.gov/sites/default/files/2019-12/vol_3_appendix_d_visitability.pdf
- ⁸ Enterprise Green Communities. (2016). *Aging in place design guidelines for independent living in multifamily buildings*. <https://www.enterprisecommunity.org/download?fid=6623&nid=3496>
- ⁹ AARP Public Policy Institute. (2019). *Multigenerational housing on the rise, fueled by economic and social changes*. <https://doi.org/10.26419/ppi.00071.001>
- ¹⁰ Ibid.
- ¹¹ Enterprise Green Communities. (2016). *Aging in place design guidelines for independent living in multifamily buildings*. <https://www.enterprisecommunity.org/download?fid=6623&nid=3496>
- ¹² National Association of Home Builders. (2019). *What home buyers really want*. NAHB Builder Books.
- ¹³ Ibid.
- ¹⁴ Ibid.
- ¹⁵ Ibid.
- ¹⁶ Aneshensel, Harig, Wight, (2016). Aging, neighborhoods and the built environment. In L. K. George & K. F. Ferraro (Eds.), *Handbook of aging and the social sciences* (8th ed., pp. 315-335). New York: Elsevier.
- ¹⁷ Brandis, L., & DeLaTorre, A. (2018). *Understanding the social impacts of neighborhoods and home design for older adults in Portland, Oregon*. <https://tinyurl.com/PSU-Portland>
- ¹⁸ Aneshensel, Harig, Wight, (2016). Aging, neighborhoods and the built environment. In L. K. George & K. F. Ferraro (Eds.), *Handbook of aging and the social sciences* (8th ed., pp. 315-335). New York: Elsevier.
- ¹⁹ Brandis, L., & DeLaTorre, A. (2018). *Understanding the social impacts of neighborhoods and home design for older adults in Portland, Oregon*. <https://tinyurl.com/PSU-Portland>
- ²⁰ Urban Land Institute. (2014). *Residential futures II: thought-provoking ideas on what's next for multigenerational housing and intergenerational communities*. <https://2os2f877tnl1dvtmc3wy0aq1-wpengine.netdna-ssl.com/wp-content/uploads/ULI-Documents/ResidentialFuturesII.pdf>
- ²¹ Aneshensel, Harig, Wight, (2016). Aging, neighborhoods and the built environment. In L. K. George & K. F. Ferraro (Eds.), *Handbook of aging and the social sciences* (8th ed., pp. 315-335). New York: Elsevier.
- ²² Brandis, L., & DeLaTorre, A. (2018). *Understanding the social impacts of neighborhoods and home design for older adults in Portland, Oregon*. <https://tinyurl.com/PSU-Portland>
- ²³ Walk Score. (2021). *Walk Score methodology*. Walk Score. <https://www.walkscore.com/methodology.shtml>
- ²⁴ Ulmer, J. (2003). *Evaluating the accessibility of residential areas for bicycling and walking using GIS* (Research Report No. UVACTS-5-14-64) [Master's thesis, University of Virginia]. <https://www.mautc.psu.edu/docs/UVA-2002-05.pdf>
- ²⁵ Maroko et al. (2009). The Complexities of measuring access to parks and physical activity sites in New York City: A quantitative and qualitative approach. *International Journal of Health Geographics*, 8. <http://dx.doi.org.proxy.lib.pdx.edu/10.1186/1476-072X-8-34>

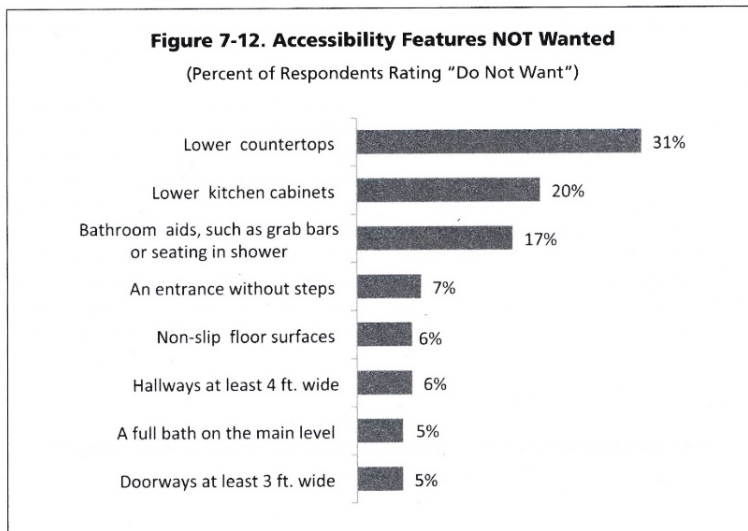
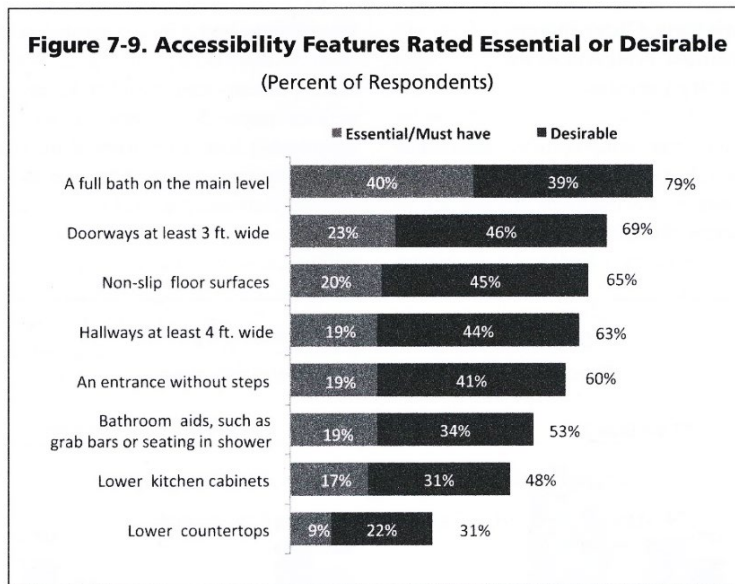
-
- ²⁶ California Department of Aging. *Goal 1: Housing for all stages and ages*. Master plan for aging. <https://mpa.aging.ca.gov/Goals/1>
- ²⁷ Arup. (2019). *Cities alive: Designing for ageing communities*. <https://www.arup.com/perspectives/publications/research/section/cities-alive-designing-for-ageing-communities>
- ²⁸ Wright, S. (2020). Five ways to plan for more accessible housing. *American Planning Association planning magazine*. <https://www.planning.org/planning/2020/nov/five-ways-to-plan-for-more-accessible-housing/>
- ²⁹ California Department of Aging. *Goal 1: Housing for all stages and ages*. Master plan for aging. <https://mpa.aging.ca.gov/Goals/1>
- ³⁰ Ride Connection. (2021). *Community connectors*. Ride Connection. <https://rideconnection.org/services/community-connectors>
- ³¹ The Housing Partnership. (2001). *Cottage housing in your community: A guide to drafting a cottage housing ordinance*. <http://mrsc.org/getmedia/d33307b0-2510-4130-a1ac-aa85c70ea78b/chord.pdf.aspx>
- ³² Oregon State University Policy Analysis Laboratory. (2018). *Cottage cluster housing in Corvallis, OR*. https://liberalarts.oregonstate.edu/sites/liberalarts.oregonstate.edu/files/opal/opal_2018_-_cottage_cluster_housing_cityclub_final.pdf
- ³³ City of Milwaukie Community Development. (2019). *Milwaukie cottage cluster analysis final report*. www.milwaukieoregon.gov/communitydevelopment/cottage-cluster-feasibility-study
- ³⁴ Ibid.
- ³⁵ Oregon Department of Land Conservation and Development. (2016). *Character-compatible, space-efficient housing options for single-dwelling neighborhoods*. <https://www.oregon.gov/lcd/UP/Documents/space-efficient-housing-full-report.pdf>
- ³⁶ The Housing Partnership. (2001). *Cottage housing in your community: A guide to drafting a cottage housing ordinance*. <http://mrsc.org/getmedia/d33307b0-2510-4130-a1ac-aa85c70ea78b/chord.pdf.aspx>
- ³⁷ City of Milwaukie Community Development. (2019). *Milwaukie cottage cluster analysis final report*. www.milwaukieoregon.gov/communitydevelopment/cottage-cluster-feasibility-study
- ³⁸ Ibid.
- ³⁹ Ibid.
- ⁴⁰ The Housing Partnership. (2001). *Cottage housing in your community: A guide to drafting a cottage housing ordinance*. <http://mrsc.org/getmedia/d33307b0-2510-4130-a1ac-aa85c70ea78b/chord.pdf.aspx>
- ⁴¹ Oregon Department of Land Conservation and Development. (2016). *Character-compatible, space-efficient housing options for single-dwelling neighborhoods*. <https://www.oregon.gov/lcd/UP/Documents/space-efficient-housing-full-report.pdf>
- ⁴² The Housing Partnership. (2001). *Cottage housing in your community: A guide to drafting a cottage housing ordinance*. <http://mrsc.org/getmedia/d33307b0-2510-4130-a1ac-aa85c70ea78b/chord.pdf.aspx>
- ⁴³ Oregon Department of Land Conservation and Development. (2016). *Character-compatible, space-efficient housing options for single-dwelling neighborhoods*. <https://www.oregon.gov/lcd/UP/Documents/space-efficient-housing-full-report.pdf>
- ⁴⁴ City of Milwaukie Community Development. (2019). *Milwaukie cottage cluster analysis final report*. www.milwaukieoregon.gov/communitydevelopment/cottage-cluster-feasibility-study
- ⁴⁵ Oregon State University Policy Analysis Laboratory. (2018). *Cottage cluster housing in Corvallis, OR*. https://liberalarts.oregonstate.edu/sites/liberalarts.oregonstate.edu/files/opal/opal_2018_-_cottage_cluster_housing_cityclub_final.pdf
- ⁴⁶ Ibid.
- ⁴⁷ Enterprise Green Communities. (2016). *Aging in place design guidelines for independent living in multifamily buildings*. <https://www.enterprisecommunity.org/download?fid=6623&nid=3496>
- ⁴⁸ Pew Research Center. (2010). *The return of the multi-generational family household*. <https://www.pewresearch.org/social-trends/2010/03/18/the-return-of-the-multi-generational-family-household/>

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- ⁴⁹ Kenan Institute of Private Enterprise. (2017). *U.S. older adults: Demographics, living arrangements, and barriers to aging in place*. https://www.kenaninstitute.unc.edu/wp-content/uploads/2017/06/AgingInPlace_06092017.pdf
- ⁵⁰ Chicago Urban League. (2020). *An epidemic of inequities: Structural racism and COVID-19 in the Black community*. https://chiul.org/wp-content/uploads/2020/05/ChicagoUrbanLeague_An-Epidemic-of-Inequities_5-12-20.pdf
- ⁵¹ Ibid.
- ⁵² National Association of Home Builders. (2019). *What home buyers really want*. NAHB Builder Books.
- ⁵³ Ibid.
- ⁵⁴ Nexus Community Partners. (2021). *Twin Cities BIPOC consultants directory*. Nexus Community Partners. <https://www.nexuscp.org/directory/>
- ⁵⁵ University of Washington Career & Internship Center. (2020, June 29). *Housing development internship program for BIPOC students*. University of Washington Career & Internship Center. <https://careers.uw.edu/blog/2020/06/29/housing-development-internship-program-for-bipoc-students/>
- ⁵⁶ Seattle Planning Commission. (2020). *A racially equitable & resilient recovery*. <https://www.seattle.gov/Documents/Departments/SeattlePlanningCommission/RERRfinalSPC08032020.pdf>
- ⁵⁷ Kenan Institute of Private Enterprise. (2017). *U.S. older adults: Demographics, living arrangements, and barriers to aging in place*. https://www.kenaninstitute.unc.edu/wp-content/uploads/2017/06/AgingInPlace_06092017.pdf
- ⁵⁸ Aneshensel, Harig, Wight, (2016). Aging, neighborhoods and the built environment. In L. K. George & K. F. Ferraro (Eds.), *Handbook of aging and the social sciences* (8th ed., pp. 315-335). New York: Elsevier.
- ⁵⁹ AARP. (2019). *Creating enabling & equitable housing and multigenerational communities*. <https://www.aarpinternational.org/File%20Library/Build%20Equity/Built-Environment-Principles-FINAL.pdf>
- ⁶⁰ Portland State University (n.d.). *Age-friendly Housing: A Guide for Housing Consumers in the Greater Portland Region*. Report under development, contact Alan DeLaTorre for information (aland@pdx.edu).
- ⁶¹ Portland Housing Bureau. (2021). *Home repair loan*. Portland Housing Bureau. <https://www.portland.gov/phb/home-repair-loan>
- ⁶² Portland Housing Bureau. (2021). *Home repair and home ownership retention services*. Portland Housing Bureau. <https://www.portland.gov/phb/home-repair-retention>
- ⁶³ Multnomah County Department of County Human Services. (2021). *Weatherization*. Multnomah County Department of County Human Services. <https://multco.us/dchs/weatherization>
- ⁶⁴ Multnomah County Department of County Management. (2021). *Disabled homeowner deferral*. Multnomah County Department of County Management Assessment & Taxation. <https://multco.us/assessment-taxation/disabled-homeowner-deferral>
- ⁶⁵ Multnomah County Department of County Management. (2021). *Senior citizen deferral*. Multnomah County Department of County Management Assessment & Taxation. <https://multco.us/assessment-taxation/senior-citizen-deferral>
- ⁶⁶ Taking Ownership PDX, LLC. (2021). *About Taking Ownership PDX, LLC*. Taking Ownership PDX. <https://takingownershippdx.com/>
- ⁶⁷ Kenan Institute of Private Enterprise. (2017). *U.S. older adults: Demographics, living arrangements, and barriers to aging in place*. https://www.kenaninstitute.unc.edu/wp-content/uploads/2017/06/AgingInPlace_06092017.pdf
- ⁶⁸ Seattle Planning Commission. (2020). *A racially equitable & resilient recovery*. <https://www.seattle.gov/Documents/Departments/SeattlePlanningCommission/RERRfinalSPC08032020.pdf>
- ⁶⁹ DeLaTorre, A. (2013). *Sustainable, affordable housing for older adults: A case study of factors that affect development in Portland, Oregon*. Portland State University, School of Urban Studies and Planning. https://pdxscholar.library.pdx.edu/open_access_etds/714/.
- ⁷⁰ Brandis, L., & DeLaTorre, A. (2018). *Understanding the social impacts of neighborhoods and home design for older adults in Portland, Oregon*. <https://tinyurl.com/PSU-Portland>

Appendix A: Home Buyer Ratings of Accessibility Features

The 2019 edition of *What home buyers really want* by the National Association of Home Builders (NAHB) seeks to provide home builders with current buyer preferences of housing features, layout, technology, and amenities. A second objective of the study is to reveal how preferences vary by age, race and ethnicity, geographic location, income, and price point.

NAHB conducted a nationwide survey in 2018 by screening consumer panels for recent and prospective home buyers and subsequently sending respondents a detailed questionnaire. The sample was selected and weighted to ensure proportionality to the U.S. population across four census regions, six age brackets, and race and ethnicity crossed with five income brackets.



**Q32. How would the following various designs and features influence your purchase decision?
(Percent of respondents)**

	Race/Ethnicity				Home Buyers Income Bracket					Price Expect to Pay						
	Caucasian	African-American	Hispanic	Asian	Under \$50,000	\$50,000 to \$74,999		\$75,000 to \$99,999		\$100,000 to \$149,999		\$150,000 to \$249,999		\$250,000 to \$499,999		\$500,000 or more
						10	7	6	7	4	10	7	10	7		
OUTDOOR FEATURES																
Lot with trees	6	14	9	10	10	7	6	7	7	4	4	10	7	7	4	
Do not want	18	25	20	28	18	19	17	16	17	16	24	20	15	17	17	
Indifferent	49	41	41	43	42	49	49	50	48	41	48	50	48	48	48	
Desirable	28	20	30	19	26	25	26	28	24	30	25	24	29	30	30	
Essential/Must Have	17	8	9	8	22	17	11	9	11	11	25	16	11	9	9	
Lawn sprinklers	27	25	21	25	29	27	25	23	22	32	31	23	16	16	16	
Do not want	35	42	34	39	32	35	40	40	36	31	35	38	38	39	39	
Indifferent	21	25	36	28	17	21	24	27	31	12	18	28	28	37	37	
Desirable																
Essential/Must Have																
ACCESSIBILITY FEATURES																
A full bath on the main level	4	4	8	6	5	4	5	5	4	4	4	4	5	4	4	
Do not want	15	13	19	27	14	15	16	17	18	15	15	18	12	20	20	
Indifferent	40	40	36	39	41	39	40	39	40	39	40	33	42	40	40	
Desirable	41	43	37	28	43	40	39	38	40	40	41	44	41	36	36	
Essential/Must Have	5	5	7	4	5	4	4	7	5	5	6	3	5	6	6	
Doorways at least 3 ft. wide	26	21	23	28	24	30	27	21	27	27	26	26	25	24	24	
Do not want	46	52	40	42	47	44	46	48	44	44	43	48	48	44	44	
Indifferent	23	22	31	26	25	21	23	23	23	23	24	23	22	25	25	
Desirable																
Essential/Must Have	6	6	7	5	7	4	6	6	6	6	8	5	6	5	5	
Hallways at least 4 ft. wide	32	20	26	32	27	39	29	27	31	30	30	32	29	29	29	
Do not want	44	51	40	41	46	40	46	47	41	44	44	46	45	43	43	
Indifferent	18	23	27	22	20	17	19	19	22	18	18	18	20	23	23	
Desirable																
Essential/Must Have	18	14	14	10	15	19	17	17	18	17	18	15	19	15	15	
Bathroom aids, such as grab bars or seating in shower	31	23	25	37	27	31	31	31	31	28	34	29	30	29	30	
Do not want	34	40	36	36	34	35	34	33	34	33	34	33	35	37	37	
Indifferent	18	23	24	17	23	15	18	18	15	22	18	17	17	18	18	
Desirable																
Essential/Must Have	22	15	11	10	18	20	20	20	22	18	21	21	21	19	19	
Lower kitchen cabinets	33	27	26	44	30	33	33	33	35	30	35	31	31	35	35	
Do not want	29	31	36	31	33	33	31	28	24	34	30	30	31	25	25	
Indifferent	16	19	27	16	19	13	16	18	19	19	14	14	16	16	16	
Desirable																
Essential/Must Have																

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ACCESSIBILITY FEATURES															
Lower countertops	34	23	18	19	30	31	27	32	31	31	30	33	29		
Do not want	39	32	30	51	38	37	40	39	35	38	39	35	39		
Indifferent	20	31	33	21	22	24	23	19	23	22	23	23	20		
Desirable	8	14	20	10	9	7	10	9	11	9	8	9	12		
Essential/Must Have															
Non-slip floor surfaces															
Do not want	6	4	7	5	6	7	5	6	8	7	6	6	7		
Indifferent	31	17	23	28	22	28	35	32	35	25	27	32	31		
Desirable	45	48	40	51	51	45	40	45	36	49	48	42	41		
Essential/Must Have	18	32	30	15	21	20	20	17	21	20	19	20	21		
An entrance without steps															
Do not want	6	12	9	7	7	7	8	6	6	8	7	7	5		
Indifferent	33	27	28	30	28	35	31	34	37	32	33	33	32		
Desirable	42	41	39	37	43	41	41	42	37	40	42	41	43		
Essential/Must Have	18	20	24	25	22	17	20	18	20	20	18	20	20		
GREEN FEATURES															
Insulation higher than required by code															
Do not want	4	7	6	6	7	5	4	4	2	8	4	3	3		
Indifferent	21	28	23	36	23	26	21	21	21	23	26	20	24		
Desirable	54	48	45	42	50	52	53	53	53	50	48	56	51		
Essential/Must Have	21	17	26	17	20	17	22	22	24	18	21	22	22		
ENERGY STAR® rating for whole home															
Do not want	2	3	6	4	4	2	4	1	2	4	2	2	2		
Indifferent	16	18	15	22	16	20	14	15	18	17	15	15	19		
Desirable	55	46	45	44	52	52	54	54	54	53	55	53	49		
Essential/Must Have	27	33	33	30	28	27	29	30	26	25	28	30	29		
ENERGY STAR® rated appliances															
Do not want	2	4	5	2	3	2	3	2	2	4	2	2	3		
Indifferent	11	17	15	14	13	14	12	11	10	14	12	10	12		
Desirable	47	39	43	45	44	46	45	45	50	48	44	46	44		
Essential/Must Have	40	41	37	38	40	38	41	42	37	33	42	42	42		
Efficient lighting that uses less energy than traditional bulbs															
Do not want	5	4	7	4	6	5	3	5	4	7	4	4	5		
Indifferent	19	18	19	22	19	19	18	19	20	21	20	16	21		
Desirable	50	41	43	43	45	51	50	48	51	47	48	51	45		
Essential/Must Have	26	37	31	31	29	24	30	29	26	25	28	29	30		

Reference: National Association of Home Builders. (2019). *What home buyers really want*. NAHB Builder Books. Fig 7.9, p. 63; Fig 7.12, p. 65; Q32, p. A111-A114, p. 229-232

Appendix B: Milwaukie Cottage Cluster Analysis

The *Milwaukie cottage cluster analysis final report* proposed changes to the City of Milwaukie cottage cluster housing ordinance based on a zoning code analysis, market and pro-forma analysis, and site design concepts. Guided by a Stakeholder Advisory Group, the objective was to draft a cluster housing code by which market-rate and affordable development is both feasible and incentivizing for developers.

Cumulative policy changes impacting affordability, from least to most affordable

- Removing density limits
- Reducing setbacks and separations
- Reducing yard standards
- Counting on-street parking
- Increasing height to two stories
- Allowing attached units

Application of the proposed cluster housing code

- Low-density zones R5/7/10
- Transit-connected locations within R5/7/10
 - Defined as directly connected by a complete sidewalk network to frequent transit service stop within a 0.25 mile walk
- Commercial and multifamily zones

Development standards of the proposed cluster housing code

Affordable at less than 80% AMI, 1,000sf was the maximum average floor area per home of a financially feasible cottage cluster development. For other development standards, refer to Table 6 of the final report.

Next steps

- Developing design standard guidelines
- Establishing a street map to identify potential head-in or angled on-street parking
- Developing SDC and fee reductions or waivers

Reference: City of Milwaukie Community Development. (2019). *Milwaukie cottage cluster analysis final report*. www.milwaukieoregon.gov/communitydevelopment/cottage-cluster-feasibility-study