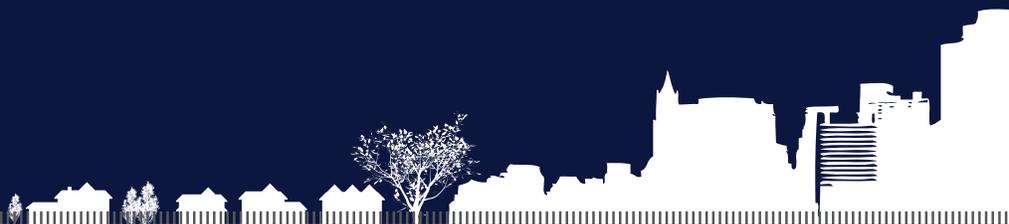


Accessibility of America's Housing Stock: Analysis of the 2011 American Housing Survey (AHS)

Multi-Disciplinary
Research Team



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**U.S. Department of Housing and Urban Development
Office of Policy Development and Research**

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Executive Summary

In 1990 the Americans with Disability Act set down the goal of “equality of opportunity, full participation, independent living, and economic self-sufficiency” for individuals with disabilities.

A quarter century later, our analysis of United States (U.S.) housing data suggests that although around a third of housing in the U.S. is potentially modifiable for a person with a mobility disability, currently less than five percent is accessible for individuals with moderate mobility difficulties and less than one percent of housing is accessible for wheelchair users.

The availability of accessible housing is critical to enable people with disabilities to live independent lives with a minimal amount of support. It is also essential to enable people with disabilities to participate in society by visiting the homes of friends and family. Housing that meets the needs of people with disabilities is increasingly important for the U.S. as the population ages.

We tested an index of accessibility using American Housing Survey data

The aim of this research is to identify the proportion of the U.S. housing stock that can be accessed by people with disabilities.

In order to assess the level of accessibility, we developed an index with three levels of accessibility. The three groupings reflect the linkage between accessibility features and how a person with a disability makes use of a dwelling. The first level defines a home that is not yet accessible, but has essential structural elements that make it potentially (but not necessarily) modifiable. The second level defines a home for individuals with moderate mobility difficulties. The third level defines a home that is accessible to a wheelchair user.

We identified features of accessibility for each level through an examination of U.S. and international standards and regulations regarding housing accessibility, review of the relevant literature, and interviews conducted with a set of disability and housing design experts.

Using data from the American Housing Survey (AHS) we estimate the percentage of housing stock in the U.S. that meets the requirements of each of these three levels. The 2011 AHS included a topical module on accessibility for the first time. We were able to use this unprecedented opportunity to examine the accessibility of the U.S. housing stock. The module asked about the presence of 22 accessibility features in housing units and whether the accessibility features were used or not. Our analysis uses these data alongside the AHS’s disability questions for each household member.

Potentially modifiable housing is common while wheelchair accessible housing is rare

The three levels of accessibility each bring together a number of accessibility features that all need to be present in order for housing to qualify as meeting the requirements of the level.

Our analysis finds that almost one third of housing is potentially modifiable, but we estimate that just 0.15% of housing is currently wheelchair accessible. These rates are consistently higher for housing that is occupied by a person with a disability.

Accessibility level	Prevalence
<p>Level 1: Potentially Modifiable.</p> <p>The home has some essential structure features for accessibility, but would not be accessible without further modifications. This includes stepless entry from the exterior, bathroom and bedroom on the entry level or presence of elevator in the unit.</p>	<p>33.3% of all housing units</p> <p>44.2% of housing units with a resident wheelchair user</p>
<p>Level 2: Livable for individuals with moderate mobility difficulties.</p> <p>A person with moderate mobility difficulties can live in the home. This includes all the elements in level 1 plus no steps between rooms or rails/grab bars along all steps and an accessible bathroom with grab bars.</p>	<p>3.8% of all housing units</p> <p>12.4% of housing units with a resident wheelchair user</p>
<p>Level 3: Wheelchair accessible.</p> <p>The home has a minimum level of accessibility so that a wheelchair user can live in the home and prepare his or her own meals. This includes all the elements in levels 1 and 2, but removes the possibility of any steps between rooms, even if grab bars are present, and adds door handles and sink handles/levers</p>	<p>0.15% of all housing units</p> <p>0.73% of housing units with a resident wheelchair user</p>

Refinements could improve the quality of American Housing Survey data

The AHS provides a range of useful information to estimate the proportion of the U.S. housing stock that a person with disability could reasonably visit or live in independently.

Our discussions with experts and international literature review identified some AHS measures that would benefit from refinement and additional AHS measures that would provide further insights about the U.S. housing stock.

- The AHS should refocus on the objective of accessibility, rather than questions on specific items. For example, by focusing on having an accessible route to a bathroom, a bedroom and the kitchen, rather than on having specific accessibility features such as ramps.
- The AHS should provide respondents with a short explanation of a wheelchair user’s needs, including turning radius, and width and height requirements for items such as doorways, counters and the location of switches. This will improve the quality of responses, as it appears likely that some measures are currently mis-reported due to subjectivity and limited respondent knowledge.

- The AHS could provide greater insights on accessibility by including other features required by U.S. regulations that are not addressed by the AHS questions, including laundry facilities, parking, and the accessibility of common areas in multifamily buildings.

1. Introduction

The American Housing Survey (AHS) is the most comprehensive national housing survey in the United States. Since 2009, AHS has included six core disability questions used in the American Community Survey. The questions address hearing, visual, cognitive, ambulatory, self-care, and independent living difficulties for each household member. For 2011, AHS added a topical module on accessibility. The module asked about the presence of accessibility features in housing units, including wheelchair accessibility features, and whether the accessibility features were used or not. Together, these data provide an unprecedented opportunity to examine the accessibility of the U.S. housing stock and to ask whether people with disabilities reside in accessible homes.

In this report, we present summary measures of housing accessibility based on the 2011 AHS. To develop these summary measures, we examined United States (U.S.) and international standards and regulations regarding housing accessibility, reviewed the relevant literature, and conducted interviews with a set of disability and housing design experts. These interviews are further described in appendix A. Based on these summary measures, we describe how accessibility varies by housing market characteristics as well as resident characteristics such as age, disability status, and income. We also present evidence on the relationship between the need for and availability of accessible housing units, taking affordability of accessible units into account.

2. Regulations and Literature Review

2.1 United States regulations

We reviewed the federal accessibility guidelines that apply to residential housing units. Basic coverage and requirements are summarized below. Notably, single-family detached, two-family, and three-family homes are not covered by any of the standards unless they receive federal subsidies.

These requirements aim to improve accessibility for people with a wide variety of different disabilities, including vision, hearing and mobility impairments. The guidelines do not identify what disability types the requirement is intended to assist and some may assist multiple disability types, for example an extra wide doorways will assist a person who uses a wheelchair and also a person who uses a service animal.

Appendix B provides a summary of the dwellings covered by U.S. regulations and how these regulations are enforced. The following is a summary of these regulations. More information on the specific regulatory requirements, including a comparison of key regulatory requirements and the AHS, is presented in appendix C of this report.

Americans with Disability Act (ADA)¹

- *Dwelling coverage:* ADA guidelines apply to public areas in private buildings, as well as to programs, services, and activities provided by public entities. ADA therefore covers public housing, student and faculty housing, employee housing, nursing homes, temporary housing provided in emergencies, and social service facilities, such as homeless shelters and halfway houses.

In the private sector, ADA’s coverage of housing is limited to places of public accommodation, such as social service establishments and housing provided in or on behalf of a place of education, and does not apply to individually owned or leased housing, including single-family homes, condominiums, or apartments.

- *Requirements:* The ADA Accessibility Guidelines (ADAAG) provide a detailed set of requirements for dwellings, including requirements governing routes, surfaces, ramps and stairs, windows, doors, bathrooms, alarms, signage, and household controls.² Guides such as the *ADA Checklist for Readily Achievable Barrier Removal* by the Institute for Human Centered Design interpret these guidelines into easy-to-use checklists for organizations.³

Fair Housing Act (FHA)⁴

- *Dwelling coverage:* FHA applies to “covered multifamily buildings,” which are defined as buildings with four or more dwelling units. Single-family, two-family, and three-family homes are not covered. The requirements only apply to dwellings that are newly constructed for first occupancy on or after March 13, 1991. Both privately owned and publicly assisted housing are covered by FHA requirements, including a variety of housing types such as condominiums, single-story townhouses, apartment buildings, cooperatives, assisted living and care facilities, and supported housing services (where these building types have four or more dwelling units). Buildings that meet this requirement and have an elevator must ensure that all units in the building meet the FHA requirement. If the building meets the requirements but does not have an elevator, all ground floor units must meet the FHA requirements, but not units on other levels.
- *Requirements:* FHA requires that public and common use areas must be readily accessible to and usable by persons with disabilities. Seven domains of accessibility requirements are outlined including: accessible entrance and an accessible route to both the building and the unit; usable public and common use areas; usable doors, light switches, electrical outlets, and thermostats; reinforced walls for grab bars; and usable kitchens and bathrooms. These requirements are outlined in detailed regulations⁵ and also in more publicly accessible language

¹ U.S. Access Board 2014c.

² U.S. Access Board 2014b.

³ Institute for Human Centered Design, 2014.

⁴ U.S. Department of Housing and Urban Development, 1996a and 1996b.

⁵ U.S. Department of Housing and Urban Development, 2014.

through guides such as the Equal Right Center's *Fair Housing Act Checklist: A Guide to Accessible Design and Construction Compliance*, which was developed with funding support from the U.S. Department of Housing and Urban Development (HUD).⁶

Architectural Barriers Act (ABA)⁷

- *Dwelling coverage:* ABA covers facilities built, altered, or leased with certain federal funds, including public housing and prisons.
- *Requirements:* The ABA standards for residential dwellings are very similar to the requirements in ADA for residential dwellings. As such, throughout the report we largely refer to the ADA standards.

These three Federal housing regulation systems have some features in common, however the maximum or minimum thresholds in order to meet the accessibility requirements differ across the systems. The first three columns of Table 1 summarize the accessibility features found in these regulation systems. Our analysis has identified 17 accessibility features shared by all 3 systems, with an additional 2 features (alarms and warning signs) that are shared only between the ADA and ABA and 1 feature (visual identification of visitors from entry door) only required by the ADA. The bottom rows of the table refer to features not found in the U.S. Federal regulations, but are present in other countries, as described further below.

⁶ Equal Right Center, 2014.

⁷ U.S. Access Board, 2014a and 2014d.

Table 1. The 2011 AHS Questions, U.S. and International Regulations and Guidelines

	US Regulations			2011 AHS Related questions	International Regulations and Guidelines										AHS indices		
	ADA	FHA	ABA		Canada	United Kingdom			Australia			Ireland	New Zealand		Level 1	Level 2	Level 3
						cat.1	cat. 2	cat. 3	silver	gold	plat-inum		3 star	4 or 5 star			
Extra-wide doors or hallways.	206.6 404.1	3.3*	4.13	HMXDR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y
No steps between rooms or rails/grab bars along all steps.	505	2.12*	4.9 4,10	HMNDRLS HMLEVEL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
Accessible bathroom with grab bars	213.1	100.2 05.c.3 .ii	4.34.5	HMBROOM	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
Bathroom can be accessed via an accessible route	206.2	100.2 05.a	4.3	HMELEVAT E HMENTBTH	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stepless entry into the dwelling from the exterior	206.2	100.2 05.a	4.3	NOSTEP	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bedroom can be accessed via an accessible route	206.2	100.2 05.a	4.3	HMELEVAT E HMENTBD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Switches and climate controls are able to be operated by a person in a wheelchair	205.1	100.2 05.c.3 .ii	4.27	HMOUTLET HMSWITCH HMCLCTRL	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N	Y
Kitchen countertops, kitchen cabinets, and other kitchen features are able to be utilized by a person in a wheelchair	804.1	100.2 05.c.3 .ii	4.34.6	HMKIT HMCAB HMCOUNT	Y	N	Y	Y	N	Y	Y	Y	Y	Y	N	N	Y
Door handles are installed instead of knobs	309.3	1.11*	4.9.13	HMHANDLE	Y	N	N	N	N	N	Y	N	Y	Y	N	N	Y
Sink handles / levels are installed instead of knobs	213.1	100.2 05.c.3 .ii	4.34.5	HMBROOM HMCKLVR	Y	N	N	N	N	N	Y	N	Y	Y	N	N	Y

Table 1. The 2011 AHS Questions, U.S. and International Regulations and Guidelines (continued)

	US Regulations			2011 AHS	International Regulations and Guidelines										AHS indices		
	ADA	FHA	ABA	Related questions	Canada	United Kingdom			Australia			Ireland	New Zealand		Level 1	Level 2	Level 3
						cat.1	cat. 2	cat. 3	silver	gold	plat-inum		3 star	4 or 5 star			
No steps between rooms (there is at least one accessible route to all features throughout the dwelling)	206.2	100.205.a	4.3	HMLEVEL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y
Elevators meet minimum width requirements	206.6	2.12*	4.94.10	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Minimum number of accessible parking spaces	208.1	2.23*	4.6	N	Y	N	N	N	N	N	N	Y	Y	Y	N	N	N
Rises, ramps and floor surfaces do not exceed maximum limits for carpet depth and ramp steepness	302.1405.1	1.7*	4.54.8	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Laundry and laundry equipment is accessible (if a laundry is provided)	214.1	2.13	4.34.7	N	N	N	N	N	Y	Y	N	Y	Y	N	N	N	N
Storage facilities in bedrooms and hallways do no exceed maximum heights and depth	225.1	5.6	4.35	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N
Emergency Alarms are both audible and visual	215.1	N	4.28	N	N	N	N	N	N	N	N	N	N	Y	N	N	N
Warnings are tactile and signs are provided where required	216.1	N	4.29	N	Y	N	N	N	N	N	N	Y	N	N	N	N	N
Peep hole or entrance camera is provided	809.5.5	N	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N
Accessible car parking and drop off is available	N	N	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Living area is provided within the entrance story	N	N	N	N	N	N	Y	Y	N	N	N	Y	N	N	N	N	N
Window positioning and tinting do not exceed maximum thresholds	N	N	N	N	N	N	Y	Y	N	N	Y	N	Y	Y	N	N	N

Table 1. The 2011 AHS Questions, U.S. and International Regulations and Guidelines (continued)

	US Regulations			2011 AHS Related questions	International Regulations and Guidelines										AHS indices		
	ADA	FHA	ABA		Canada	United Kingdom			Australia			Ireland	New Zealand		Level 1	Level 2	Level 3
						cat.1	cat. 2	cat. 3	silver	gold	plat- inum		3 star	4 or 5 star			
Lift installed or space is provided to install a lift	N	N	N	N	N	N	N	Y	N	N	N	Y	N	Y	N	N	N
Door entry phone and remote door release are installed	N	N	N	N	N	N	N	Y	N	N	N	Y	N	N	N	N	N
Accessible outdoor spaces	N	N	N	N	Y	N	Y	Y	N	N	N	N	N	N	N	N	N
Reinforced ceiling is provided to allow a hoist to be installed	N	N	N	N	N	N	N	Y	N	N	N	Y	N	N	N	N	N

Y implies the feature is present or required. N implies the feature is not required.

ADA references are to the 202 ADA Standards for Accessible Design

*FHA references are to the Title 24 Design and Construction Requirements (24 CFR 100.205), unless marked with a * which are references to the Fair Housing Act Design Ma*

ABA references are to the Uniform Federal Accessibility Standards (UFAS)

Canada - Legally enforceable for commercial and multi-family units (not to single family homes)

United Kingdom - Category 1 (visitable) is legally required in the UK building code, while Category 2 (accessible and adaptable) and Category 3 (wheelchair) are optional.

Australia - All three levels are optional accreditation levels and not required by law.

Ireland - Many elements of Ireland guideline's are incorporated into the national building code.

New Zealand - The stars are optional accreditation levels and not required by law.

The AHS questions elicit responses that target 11 of the 20 accessibility features. The AHS does not seek information about the remaining nine features.

2.2 International approaches to regulating and accrediting accessibility

A number of other countries have guidelines to determine the level of accessibility of an individual dwelling, either through accreditation or self-assessment. A brief description for the other English-speaking OECD countries is as follows, with further information available in Table 1.

- **Canada: Various initiatives.** Canada's legally enforced national building code requires accessibility in the domains of entry and accessible walkways, entries, parking and barrier-free entry to all rooms in a building. The building code also places requirements on the slope of ramps, accessibility of bathrooms, kitchens and patios. These requirements are legally enforceable and apply to commercial and multifamily residential dwellings, but not to single-family homes. Through provincial building codes, governments place requirements on builders to meet additional accessibility requirements and quotas, as does the Canada Mortgage and Housing Corporation in providing funding to provinces for affordable housing.
- **United Kingdom (UK): Lifetime Homes.** Lifetime Homes Standards are a set of 16 criteria used to make homes accessible for people with disabilities, which provides for three levels of accessibility: Category 1 (visitable dwellings), Category 2 (accessible and adaptable dwellings), and Category 3 (wheelchair-accessible dwellings). Category 1 standards have been used to create the relevant section (Part M) of the UK Building Regulations which is legally required and enforced, while Category 2 and Category 3 are optional based on the preferences of the builder.
- **Ireland: Building for Everyone.** Building for Everyone is a government-led initiative to promote accessibility of all forms of building. The housing section of Ireland's guidelines outlines a range of best-practice initiatives that make housing accessible for people with disabilities. Many of the requirements in the Building for Everyone guidelines are also reflected in Ireland's building code, which is a legally enforceable regulation.
- **Australia: Livable Housing Design.** Livable Housing Design (LHD) is an initiative sponsored and promoted by the government, but it is not embedded in legislation or regulations. LHD provides three categories (Silver, Gold and Platinum) each with different accessibility standards. Dwellings must meet all requirements at a level in order to be recognized as being accessible.
- **New Zealand: Lifemark Design Standards.** Lifemark is a set of building standards that provide 25 minimum standards that a dwelling must meet to be accessible (3 Star rating) and a further set of optional standards that provide

higher levels of certification (4 Star and 5 Star ratings). Similar to Australia, this system is an optional accreditation system rather than mandatory.

Although these guidelines offer useful lessons about different ways to classify the housing stock, it is not possible to quantify the proportion of housing stock in any of the countries examined, as governments do not collect aggregate data on the number of dwellings that meet these standards.

2.3 International approaches to surveying accessibility

The U.S. and the UK were the only two English-speaking OECD countries we identified as operating a housing survey that gained insights into accessibility. Statistical collection agencies in other countries tend to operate surveys that collect income and dwelling type characteristics, but do not ask questions that allow for the creation of an accessibility index or assessment of housing stock accessibility.

UK: Housing Survey. The UK operates four separate housing surveys for each of England,⁸ Northern Ireland,⁹ Scotland¹⁰ and Wales.¹¹ The Department of Communities and Local Government and Department for Energy and Climate Change jointly fund a housing survey to measure the housing condition and energy efficiency of housing in England. The survey for England has recently been contracted out to a private consortium and uses a representative sample of 13,300 household interviews, of which a subset of 6,200 also have physical inspections.

Questions in the survey relate to adaptations in the home for a resident with disability, including changes to the floor, redesigned bathroom or kitchen, specialized aids such as faucets or an adjustable bed. The questions cover the structure of the home and whether there are ramps and wide gateways and doors. The survey includes whether the resident has a disability and what types of modifications the person needs (regardless of whether the modifications are installed). The survey also asks why the modifications have not been made and whether the person is considering moving to a more accessible dwelling.

2.4 Academic literature review

The large majority of academic literature has focused on the need for accessible housing in light of demographic changes in the U.S. and in other countries. Smith et al (2008) is typical of this stream of academic work in highlighting the demographic changes in the U.S. and estimating the probability that a newly built single-family dwelling will have a disabled resident visitor throughout the dwelling's life.¹² This work highlights the

⁸ Department for Communities and Local Government, 2014.

⁹ Northern Ireland Housing Executive, *House Condition Survey*, 2014.

¹⁰ National Statistics, 2014.

¹¹ Statistics for Wales, 2014.

¹² Smith, Stanley K., Stefan Rayer, and Eleanor A. Smith, 2008.

importance of assessing the accessibility of the U.S. housing stock, but does not provide insight into the current level of accessibility or the key requirements for accessibility.

The existing literature has established three key frameworks for understanding the features required in an accessible dwelling, which do assist in developing an accessibility index.

1. **Visitability.** This basic model originated in the advocacy sector to enable residents to continue to access the most fundamental elements of their dwelling if they acquire a disability, and to enable people with disability to visit others in their home. The three requirements are at least one entrance without a step, doorways and hallways with 32 inches clearance and basic access to one half or full bath on the entry floor.¹³
2. **Universal Design.** This framework approaches the issue of accessibility from a different frame by developing dwellings that have features that can, to the greatest extent possible, be used by people with a variety of different needs. These features are easy to “approach, reach, enter or use.”¹⁴ This approach aimed to avoid the institutional or specialist label that was previously applied to accessibility features. The focus on universal design enables developers to market accessibility features to the general population.
3. **Adaptable design.** This approach emphasizes creating a structure that can easily be modified to meet an individual’s requirements without needing to make structural changes to the building design. Modifications do not need to be built into the dwelling, but can be added easily by unskilled labor when required.¹⁵

These frameworks are conceptual rather than specific. We were unable to find an academic consensus on the levels of accessibility required in any of these frameworks. Federal housing regulations (ADA, ABA and FHA) have provided much of this specificity. Beyond federal regulations, there have been some small-scale research efforts to identify the most critical accessibility features. For example, Hartje surveyed around 100 people comprising industry experts and people with lived experience of disability with questions on kitchen design for accessibility.¹⁶ Through this survey Hartje identified 16 kitchen features as essential for universal design and a further 6 advanced features. Beyond small-scale surveys, the majority of guidance is developed by governments building regulations and advocacy bodies. A large number of checklists and guidance documents have been created on accessibility, however these do not appear to be informed by a robust research or empirical foundation.

The existing academic literature provides limited insight into the accessibility of the U.S. housing stock. The only broad-based survey data analysis we identified is the report

¹³ Campbell, Nichole M., and Jean Memken, 2007.

¹⁴ Deardorff, Carolyn J., and Craig Birdsong, 2003.

¹⁵ Deardorff, Carolyn J., and Craig Birdsong, 2003.

¹⁶ Hartje, S. J, 2005.

commissioned by HUD in 2003.¹⁷ This report analyzed almost 400 developments that were required to meet FHA requirements for accessibility. The survey collected data on the extent to which developments met FHA's 7 domain areas for accessibility.

3. AHS Disability Measures

The AHS questions on disability, and on housing accessibility features, are shown in Tables 2 and 3, respectively. We asked our set of disability experts to comment on the disability measures in light of the information available on housing features. We summarize our conclusions here, but more details are provided in appendix C.

Table 2. Disability Items in 2011 AHS

AHS Variable	Question
HHEAR	Is anyone in your household deaf or do they have serious difficulty hearing even when wearing a hearing aid?
HSEE	Is anyone in your household blind or do they have serious difficulty seeing eveng when wearing gla
HMEMRY	Because of a physical, mental, or emotional condition,does anyone in your household have serious difficulty concentraing, remembering, or making decisions?
HWALK	Does anyone in your household have serious difficulty walking or climbing stairs?
HCARE	Does anyone in your household have serious difficulty dressing or bathing?
HERRND	Because of a physical, mental, or emotional condition, does anyone in this household have difficulty doing errands alone such as visiting a doctor's office or shopping?
	Does anyone in your household use any of the following equipment because of a condition other than a temporary injury?
WCHAIR	Manually Operated Wheelchair
ECHAIR	Motorized Wheelchair, Cart, or Scooter
CLIFT	Chairlift
CRUTCH	Crutches
CANE	Cane or Walker
SPOTHR	Something Else
	Without assistance, does anyone in this household have problems with any of the following:
HKCAB	Reaching kitchen cabinets?
HKAB	Opening kitchen cabinets?
HSTOV	Turning the stove on and off?
HCTRUSE	Using kitchen counters?
HGETBR	Getting to the bathroom?
HSINK	Using the sink?
HFAUCET	Turning the faucets on or off?
HBTUB	Getting into or out of the bathtub?
HWSHWR	Getting into or out of the walk-in shower?
	Without the use of any special equipment, does anyone in your household have problems with any of the following:
HSTOOP	Stooping, kneeling, or bending?
HREACH	Reaching over his or her head?
HGRASP	Using his or her fingers to grasp small objects?

¹⁷ U.S. Department of Housing and Urban Development, 2003.

Table 3. Accessibility Feature Items in 2011 AHS

AHS Variable	Question
NOSTEP*	Is it possible to enter your home WITHOUT climbing up or down any steps or stairs? Please consider all entrances and any ramps that could be used.
Does your home currently have any of the following features?	
HMXDR	Extra wide doors or hallways?
HMLEVEL	All areas on the same level, meaning no steps between rooms?
HMNDRLS	Both sides of any stairs or steps with handrails or grab bars inside your home?
HMRAMPS	Ramps inside your home?
HMBRL	Handrails or grab bars in any of the bathrooms in your home, such as in the shower or bathtub area?
HMORL	Handrails or grab bars in any other areas of your home?
HMHNDLE	Door handles instead of knobs on all doors?
HMSKLVLR	Handles or levers for any sink faucets instead of knobs on any faucets?
HMBST	Built-in seats in the shower area of the bathroom?
HMTTOILET	Raised toilets? Do not include portable devices.
HMKITRY	Kitchen cabinets with rollout trays or lazy susans?
HMELEVATE	An elevator inside your home? (If apartment building, probe: This is inside of your apartment, not just inside the apartment building?)
HMENTBD	Bedroom on entry level?
HMENTBTH	Full bathroom on the entry level?
Would a person in a wheelchair be able to access the following features in your home?	
HMOUTLET	Electrical outlets
HMSWITCH	Electrical switches
HMCLCTRL	Climate controls
HMACAB	All Kitchen cabinets
HMCOUNT	Counter tops
HMKIT	Other Kitchen Features
HMBROOM	Bathrooms

**The NOSTEP question is not in the disability and housing modifications sections of the survey, but we include it in our analysis of critical accessibility features.*

The U.S. Census categorizes disabilities into three types: communicative, mental and physical.¹⁸ The disability experts agreed that the AHS questions on accessibility features collect information largely relevant to physical disabilities. Federal accessibility regulations include other features that are more critical to the needs of people with communication or mental impairments such as flashing alarms and tactile cues. The current AHS questions do not allow for an index of accessibility to be created for the needs of people with communicative or mental disabilities. Thus, we will focus only on physical disabilities in this report.

The correlation among the AHS disability measures is shown in Table 4. All correlations are positive. It is clear that difficulties with walking or climbing stairs (HWALK) and the use of any mobility device (a constructed variable that we labeled ANY_MOBIL) are highly correlated with each other (correlation of 0.53), and with the other disabilities and difficulties that the survey questions address.

¹⁸ U.S. Census Bureau, 2010.

Table 4. Correlation of Disability Variables

AHS Variable	HHEAR	HSEE	HMEMRY	HWALK	HCARE	HERRND	HSTOOP	HREACH	HGRASP	WCHAIR	ECHAIR	CLIFT	CRUTCH	CANE	SPOTHR	ANY_MOBIL
Household member has difficulty...																
...hearing	HHEAR	0.19	0.17	0.21	0.14	0.18	0.20	0.15	0.14	0.09	0.02	0.05	0.03	0.18	0.04	0.16
...seeing	HSEE	0.19	0.18	0.22	0.17	0.24	0.20	0.16	0.16	0.11	0.03	0.04	0.04	0.19	0.04	0.17
...concentrating or remembering	HMEMRY	0.17	0.18	0.28	0.30	0.40	0.28	0.25	0.25	0.15	0.03	0.05	0.05	0.21	0.05	0.20
...walking or climbing stairs	HWALK	0.21	0.22	0.28	0.43	0.50	0.65	0.42	0.37	0.31	0.11	0.13	0.13	0.56	0.10	0.53
...dressing or bathing	HCARE	0.14	0.17	0.30	0.43	0.51	0.42	0.42	0.36	0.40	0.13	0.14	0.09	0.34	0.09	0.37
...doing errands alone	HERRND	0.18	0.24	0.40	0.50	0.51	0.47	0.40	0.35	0.34	0.11	0.13	0.09	0.43	0.09	0.42
...stooping or kneeling	HSTOOP	0.20	0.20	0.28	0.65	0.42	0.47	0.50	0.42	0.29	0.11	0.12	0.11	0.50	0.10	0.48
...reaching above head	HREACH	0.15	0.16	0.25	0.42	0.42	0.40	0.50	0.48	0.25	0.10	0.10	0.08	0.35	0.08	0.34
...grasping objects	HGRASP	0.14	0.16	0.25	0.37	0.36	0.35	0.42	0.48	0.22	0.08	0.09	0.06	0.29	0.07	0.29
Someone in household uses...																
...a manual wheelchair	WCHAIR	0.09	0.11	0.15	0.31	0.40	0.34	0.29	0.25	0.22	0.13	0.19	0.13	0.25	0.06	0.36
...electric wheelchair/cart/scooter	ECHAIR	0.02	0.03	0.03	0.11	0.13	0.11	0.10	0.08	0.13	0.10	0.10	0.06	0.08	0.02	0.52
...a chairlift	CLIFT	0.05	0.04	0.05	0.13	0.14	0.13	0.12	0.10	0.19	0.10	0.10	0.11	0.06	0.17	
...crutches	CRUTCH	0.03	0.04	0.05	0.13	0.09	0.09	0.11	0.08	0.13	0.06	0.10	0.12	0.03	0.18	
...a cane/walker	CANE	0.18	0.19	0.21	0.56	0.34	0.43	0.50	0.35	0.25	0.08	0.11	0.12	0.05	0.79	
...other mobility device	SPOTHR	0.04	0.04	0.05	0.10	0.09	0.09	0.10	0.08	0.06	0.02	0.06	0.03	0.05	0.22	
...any mobility device*	ANY_MOBIL	0.16	0.17	0.20	0.53	0.37	0.42	0.48	0.34	0.36	0.52	0.17	0.18	0.79	0.22	

* Not in original AHS data

We explored the possibility of defining subgroups within the class of mobility disabilities; for example, wheelchair users, users of other mobility devices such as canes and walkers, and people who had difficulty walking but did not use a device. The experts were in agreement, however, that there is little reason to differentiate among these subgroups for the purpose of index construction because there is a great deal of overlap in the need for accessibility features. For example, people who use a walker or who require assistance from a caregiver when walking often need as much space as a wheelchair user to maneuver around. In addition, people with mobility difficulties can get fatigued easily and may need to sit down to use the shower or kitchen equipment, even if they do not use a wheelchair. Thus we focus on people with mobility difficulties as a single group.

We explored the possibility of using HWALK in combination with ANY_MOBIL as the main definition of mobility disability, and then using the additional questions as proxies for the severity of the mobility disability. Experts shared a general consensus, however, that this was not a good idea given the existing AHS questions.

Henceforth in this report, our definition of *disabled* includes anyone with serious difficulty walking or climbing stairs (HWALK=1), or who uses a mobility device because of a condition other than a temporary injury (ANY_MOBIL=1). We also conducted all of the analysis described below using a definition of disabled that included people with difficulty stooping, kneeling, or bending, however, this made hardly any difference to the findings. Difficulties with stooping, kneeling or bending is highly correlated with walking or climbing difficulties (correlation of 0.65) and with using any mobility device (correlation of 0.48).

4. AHS Accessibility Features

Table 5 shows the prevalence of the AHS accessibility features in the housing stock. Column 1 shows prevalence for all AHS housing units including those that are vacant, while columns 2 and 3 show prevalence for occupied rental and owner-occupied units, respectively. The next column shows the prevalence of each feature among all surveyed multifamily units, which we define as units that are within buildings with four or more units. The final columns split the sample of multifamily units into buildings that were built before 1990 and those that were built in 1990 or later; the survey does not identify buildings built after March 13, 1991 (the date at which FHA began to be enforced), but the set of multifamily units in buildings built after 1990 provides a reasonable proxy for the set of buildings that are regulated by the FHA. The upper set of rows in the table contain individual features pulled directly from the survey, while the lower set represent some logical combinations of these measures.

Table 5. Prevalence of Accessibility Features

Accessibility Features Present in Home	All Housing Units (Including Vacant Units)	All Renter-Occupied Units	All Owner-Occupied Units	All Multifamily Units ²	Multifamily Units Built Before 1990	Multifamily Units Built In 1990 or Later
Original Accessibility Features						
Can Enter Unit Without Steps	42.0%	38.6%	44.4%	38.8%	36.1%	49.3%
Extra-Wide Doors/Hallways	7.9%	6.5%	8.8%	8.0%	5.5%	17.4%
No Steps Between Rooms	65.5%	72.1%	61.5%	77.3%	77.0%	78.6%
Ramps In Home	1.0%	0.7%	1.1%	0.7%	0.7%	0.9%
Hand Rails/Grab Bars In Home	25.9%	15.0%	32.4%	11.1%	10.7%	13.0%
Handrails/Grab Bars In Bathroom	17.8%	15.9%	19.4%	17.8%	16.0%	24.5%
Handrails/Grab Bars In Other Areas	2.5%	1.5%	2.9%	1.6%	1.4%	2.4%
Door Handles Instead of Knobs	11.0%	8.4%	12.7%	11.1%	7.4%	25.4%
Sink Handles/Levers	27.9%	20.6%	33.0%	21.5%	17.9%	35.2%
Built-In Shower Seats	8.3%	4.0%	11.0%	4.1%	3.3%	7.0%
Raised Toilets	6.7%	3.7%	8.6%	4.1%	3.4%	6.8%
Kitchen Trays/Lazy Susans	18.5%	7.9%	25.3%	7.2%	5.9%	11.9%
Wheelchair Accessible Electrical Outlets	62.9%	59.5%	66.6%	58.8%	56.4%	68.4%
Wheelchair Accessible Electrical Switches	64.2%	60.3%	68.3%	59.6%	57.2%	68.7%
Wheelchair Accessible Climate Controls	47.0%	44.0%	50.2%	43.8%	40.6%	56.1%
Wheelchair Accessible Kitchen Cabinets	15.8%	15.0%	17.1%	14.5%	14.0%	16.4%
Wheelchair Accessible Countertops	51.0%	47.9%	54.9%	46.8%	44.7%	55.0%
Wheelchair Accessible Other Kitchen Features	29.9%	28.2%	32.5%	26.8%	25.4%	32.1%
Wheelchair Accessible Bathroom	39.3%	37.3%	42.5%	37.8%	34.5%	50.3%
Elevators In Home	0.4%	0.4%	0.4%	0.6%	0.6%	0.6%
Bedroom On Entry Level	76.3%	78.8%	73.5%	77.9%	77.5%	79.4%
Full Bathroom On Entry Level	87.7%	85.0%	88.8%	82.8%	82.3%	84.8%

Table 5. Prevalence of Accessibility Features (continued)

Accessibility Features Present in Home	All Housing Units (Including Vacant Units)	All Renter-Occupied Units	All Owner-Occupied Units	All Multifamily Units ²	Multifamily Units Built Before 1990	Multifamily Units Built In 1990 or Later
Constructed Accessibility Features						
Steps Between Rooms, Handrails, and Ramps	0.2%	0.1%	0.3%	0.1%	0.0%	0.1%
Steps Between Rooms and Handrails, No Ramps	11.0%	5.3%	14.5%	3.5%	3.3%	4.1%
Steps Between Rooms and Ramps, No Handrails	0.2%	0.1%	0.2%	0.1%	0.1%	0.1%
Bedroom on Entry Level or Presence of Elevator	76.4%	78.9%	73.6%	78.0%	77.6%	79.6%
Full Bathroom on Entry Level or Presence of Elevator	87.8%	85.1%	88.8%	82.9%	82.4%	84.9%
Total Number of Households/Housing Units						
AHS Sample	155,108	52,500	82,418	36,233	28,551	7,682
Weighted Count ¹	132,419,831	38,816,184	76,091,837	25,900,804	20,529,912	5,370,892

1. Weighted totals use weights rounded to the nearest integer. Housing units without any interview (STATUS=4) were dropped.

2. Multifamily Units refers to the housing units in the AHS sample that are in buildings with four or more units.

The most common feature is full bathroom on entry level, followed by bedroom on entry level and no steps between rooms. These features show up in 88, 77, and 66 percent of all housing units, respectively. The least common features include ramps, elevator in home, and handrails/ grab bars in apartment outside of the bathroom. These features are present in less than 3 percent of all housing units. For the combined measures, the most common again are full bathroom on entry level or presence of elevator, and bedroom on entry level or presence of elevator. These features are present in 87 and 75 percent of housing units respectively. The other combined features are quite rare.

Some notable differences emerge between owner-occupied and rental units. Handrails and grab bars appear to be much more common in owner-occupied homes, while rental units are much less likely to have steps between rooms, presumably because of the greater prevalence of single-floor rental units.

Every one of the features is more likely in multifamily units built after 1990 than in those built before. Notably, extra wide doors/hallways and door handles instead of knobs more than triple in prevalence in the newer units.

Table 6 presents the correlation among the AHS accessibility feature variables. The wheelchair accessibility features are highly correlated with each other, as are the presence of a bathroom and bedroom on the entry floor. Other features are not very correlated.

Table 6. Correlation of Accessibility Features

	AHS Variable	NOSTEP	HMXWDR	HMLEVEL	HMHNDRL	HMRAMPS	HMBRL	HMORL	HMHNDLE	HMSKLR	HMBST	HMTOILET	HMKITRY	HMOUTLET	HMSWITCH	HMCLCTRL	HMACAB	HMCOUNT	HMKIT	HMBROOM	HMELEVATE	HMENTBD	HMENTBTH
Can Enter Unit Without Steps	NOSTEP	0.07	0.01	0.05	0.03	0.06	0.01	0.08	0.03	0.05	0.04	0.01	0.1	0.09	0.07	0.07	0.08	0.06	0.1	0.02	0.06	0.08	
Extra-Wide Doors/Hallways	HMXWDR	0.071	0.05	0.06	0.05	0.18	0.08	0.25	0.23	0.2	0.18	0.18	0.13	0.13	0.11	0.07	0.12	0.1	0.17	0.06	0.05	0.06	
No Steps Between Rooms	HMLEVEL	0.01	0.05	-0.1	-0	0.07	0	0.04	0.07	0.02	0.03	0	0.13	0.12	0.11	0.02	0.11	0.09	0.1	0	0.22	0.16	
Handrails/Grab Bars In Home	HMHNDRL	0.05	0.06	-0.1	0.04	0.14	0.11	0.07	0.08	0.1	0.08	0.11	0.07	0.07	0.07	0.08	0.07	0.06	0.07	0.03	-0	0.05	
Ramps In Home	HMRAMPS	0.03	0.05	-0	0.04	0.07	0.06	0.03	0.01	0.05	0.07	0.01	0.01	0.02	0.01	0.03	0.01	0.02	0.02	0.12	0.02	0.01	
Handrails/Grab Bars In Bathroom	HMBRL	0.06	0.18	0.07	0.14	0.07	0.21	0.14	0.13	0.21	0.25	0.09	0.09	0.09	0.09	0.08	0.09	0.07	0.12	0.06	0.09	0.07	
Handrails/Grab Bars In Other Areas	HMORL	0.009	0.08	0	0.11	0.06	0.21	0.06	0.04	0.1	0.13	0.04	0.02	0.02	0.03	0.05	0.03	0.03	0.03	0.05	0.03	0.02	
Door Handles Instead Of Knobs	HMHNDLE	0.076	0.25	0.04	0.07	0.03	0.14	0.06	0.38	0.19	0.14	0.19	0.12	0.12	0.11	0.05	0.1	0.08	0.13	0.05	0.02	0.05	
Sink Handles/Levers	HMSKLR	0.035	0.23	0.07	0.08	0.01	0.13	0.04	0.38	0.19	0.15	0.29	0.2	0.21	0.16	-0	0.18	0.13	0.15	0.02	-0	0.07	
Built-In Shower Seats	HMBST	0.054	0.2	0.02	0.1	0.05	0.21	0.1	0.19	0.19	0.23	0.19	0.09	0.09	0.08	0.04	0.08	0.06	0.1	0.05	0.03	0.06	
Raised Toilets	HMTOILET	0.038	0.18	0.03	0.08	0.07	0.25	0.13	0.14	0.15	0.23	0.12	0.07	0.07	0.07	0.06	0.07	0.06	0.09	0.04	0.06	0.05	
Kitchen Trays/Lazy Susans	HMKITRY	0.012	0.18	0	0.11	0.01	0.09	0.04	0.19	0.29	0.19	0.12	0.14	0.15	0.12	0.02	0.13	0.09	0.11	0.01	-0	0.06	
Wheelchair Accessible Electrical Outlets	HMOUTLET	0.099	0.13	0.13	0.07	0.01	0.09	0.02	0.12	0.2	0.09	0.07	0.14	0.85	0.64	0.24	0.65	0.43	0.51	0.01	0.07	0.13	
Wheelchair Accessible Electrical Switches	HMSWITCH	0.089	0.13	0.12	0.07	0.02	0.09	0.02	0.12	0.21	0.09	0.07	0.15	0.85	0.68	0.25	0.68	0.44	0.52	0.01	0.07	0.13	
Wheelchair Accessible Climate Controls	HMCLCTRL	0.07	0.11	0.11	0.07	0.01	0.09	0.03	0.11	0.16	0.08	0.07	0.12	0.64	0.68	0.3	0.6	0.45	0.48	0.01	0.07	0.11	
Wheelchair Accessible Kitchen Cabinets	HMACAB	0.066	0.07	0.02	0.08	0.03	0.08	0.05	0.05	-0	0.04	0.06	0.02	0.24	0.25	0.3	0.28	0.35	0.29	0.03	0.05	0.04	
Wheelchair Accessible Countertops	HMCOUNT	0.081	0.12	0.11	0.07	0.01	0.09	0.03	0.1	0.18	0.08	0.07	0.13	0.65	0.68	0.6	0.28	0.53	0.55	0.01	0.07	0.11	
Wheelchair Accessible Other Kitchen Features	HMKIT	0.06	0.1	0.09	0.06	0.02	0.07	0.03	0.08	0.13	0.06	0.06	0.09	0.43	0.44	0.45	0.35	0.53	0.46	0.01	0.05	0.08	
Wheelchair Accessible Bathroom	HMBROOM	0.099	0.17	0.1	0.07	0.02	0.12	0.03	0.13	0.15	0.1	0.09	0.11	0.51	0.52	0.48	0.29	0.55	0.46	0.02	0.11	0.15	
Elevators In Home	HMELEVATE	0.019	0.06	0	0.03	0.12	0.06	0.05	0.05	0.02	0.05	0.04	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.02	0.01	0.01	
Bedroom On Entry Level	HMENTBD	0.056	0.05	0.22	-0	0.02	0.09	0.03	0.02	-0	0.03	0.06	-0	0.07	0.07	0.07	0.05	0.07	0.05	0.11	0.01	0.62	
Full Bathroom On Entry Level	HMENTBTH	0.08	0.06	0.16	0.05	0.01	0.07	0.02	0.05	0.07	0.06	0.05	0.06	0.13	0.13	0.11	0.04	0.11	0.08	0.15	0.01	0.62	

In appendix C, we discuss each of these variables further in light of the expert interviews and the accessibility regulations and literature and offer suggestions for how they could be improved.

Below we summarize the major drawbacks of the existing variables to highlight the caution required when interpreting our summary measures of accessibility described later.

- **Extra-wide doors or hallways.** This question does not elicit information about the accessibility of specific important routes, namely from the front door to the bathroom, bedroom and kitchen. It does not address turning radius for wheelchairs. In addition, “extra-wide” is not defined for the respondent and will thus be subjective.
- **All areas on the same level, meaning no steps between rooms.** This question is ambiguous in the case of homes with more than one story or level.
- **Ramps.** This question could elicit a response of “yes” if the home has one ramp somewhere, even if steps remain in critical areas such as the route to access the bathroom.
- **Bathroom features.** Essential elements of an accessible bathroom such as turning radius and clearance under sinks are not addressed.
- **Kitchen features.** Essential elements of an accessible kitchen such as turning radius and clearance under sinks are not addressed. “Wheelchair-accessible” cabinets and countertops are not defined for the respondent. The kitchen cabinet question requires all, rather than some, cabinets to be accessible.
- **Electrical switches, outlets, climate and window controls.** A large number of units are reported as having accessible electrical outlets. It seems likely that many respondents do not know the requirements for accessibility.
- **Other features.** A number of features required by U.S. regulations are not addressed by the AHS questions. These include laundry facilities, parking, and common areas in multifamily buildings.

Overall, the accessibility module could be improved by focusing on having an accessible route to a bathroom, a bedroom and the kitchen, rather than on having specific accessibility features such as ramps. This refocusing would incorporate the presence of the specific items without having to explicitly ask about them, and would include width clearance in key locations, but not necessarily all locations in the home. The module could also be enhanced by giving the respondent a short explanation of what is needed by a wheelchair user, including turning radius, and width and height requirements for items such as doorways, counters and the location of switches. This will undoubtedly improve the accuracy of many responses.

5. Accessibility Index

Given the discussion above, any index constructed from the AHS data will have major shortcomings as critical aspects of accessibility are missing in the data. That caveat notwithstanding, we explored three alternative methods for constructing an index. Our preferred index, based on a home having a set of critical accessibility features, is presented below.

The alternate methods involve indices that are a weighted sum of accessibility features, using either weights derived from expert opinions, or empirically derived weights based on features installed by households with disabled occupants. The results of this analysis are presented in appendix D. In these alternate approaches, while the weights themselves reflect priorities among the features, they cannot take into account the natural grouping of features that is in the version we present below. Instead, these alternate indices provide a sense of how much each unit would have to be modified in order to be deemed accessible. While we believe all the approaches have merit and suggest similar patterns, we consider our preferred method of defining critical features to be the most intuitive and ultimately the most useful.

5.1. Accessibility index – methodology

We rely on existing literature and experts' opinions as to which features are critical for accessibility. These features are grouped into three levels, as shown in the last three columns of Table 1. The groupings reflect the linkage between accessibility features and how a person with a disability makes use of a dwelling. The first level defines a home that is not yet accessible, but has essential structural elements that make it potentially (but not necessarily) modifiable. The second level defines a home for individuals with moderate mobility difficulties. The third level defines a home that is accessible to a wheelchair user.

Our three level approach is similar in concept to approaches used in other countries for assessing and certifying a dwelling's accessibility. The United Kingdom uses three categories—visitable dwellings; accessible and adaptable dwellings; and wheelchair-accessible dwellings. Australia has a framework of Silver, Gold, and Platinum, reflecting the requirements of people with minor, moderate, and profound mobility impairments. New Zealand uses a 3, 4 and 5 star rating system.

Level 1: Potentially Modifiable. The home has some essential structure features for accessibility, but would not be accessible without further modifications. This includes all of the following:

- Stepless entry into the dwelling from the exterior.
- Bathroom on the entry level *or* presence of elevator in the unit.
- Bedroom on the entry level *or* presence of elevator in the unit.

Level 2: Livable for individuals with moderate mobility difficulties. The home has a minimum level of accessibility such that a person with moderate mobility difficulties can live in the home. This includes all the elements in level 1 plus all of the following:

- No steps between rooms *or* rails/grab bars along all steps.
- Accessible bathroom with grab bars.

Level 3: Wheelchair accessible. The home has a minimum level of accessibility so that a wheelchair user can live in the home and prepare his or her own meals. This includes all the elements in levels 1 and 2 above, but removes the possibility of any steps between rooms, even if grab bars are present, and adds door handles and sink handles/levers.

Thus, all of the following are included:

- Extra-wide doors or hallways.
- No steps between rooms.
- Door handles instead of knobs.
- Sink handles/levers.
- Wheelchair-accessible electrical switches, outlets and climate controls.
- Wheelchair-accessible kitchen countertops, kitchen cabinets, and other kitchen features.

For brevity, we will use the term “accessibility” to refer to all three levels collectively throughout this report, even though we recognize that a unit that meets only level 1 is not yet accessible to those with disabilities.

These AHS accessibility features do not appear in any of the above versions:

- Built-in shower seat.
- Raised toilet.
- Kitchen cabinets with rollout trays or lazy Susans.
- Ramps.
- Handrails or grab bars in “other areas”.

We excluded the first three because the experts reported that they are relatively cheap and easy to install, or portable versions are good substitutes. This is consistent with the international standards and literature, which place a strong focus on dwellings being easily adaptable to individual needs rather than dwellings being fully accessible. We excluded ramps because the experts indicated the question was inadequate, as noted above. Handrails or grab bars in “other areas” was excluded because these are low priority once there are already handrails or grab bars in the bathroom and along any steps or stairs.

5.2. Accessibility index – results

Table 7 shows the fraction of housing units that satisfy these three sets of criteria. The first row is all housing units, including those that are vacant. The next two rows show occupied rental and owner-occupied units. We can see that about one third of units meet the criteria of level 1, potentially modifiable. This seems promising, though it reflects the very limited set of conditions that we imposed on this level. More owner-occupied units meet the level 1 criteria than rental units.

Table 7. Percent of Units with Critical Accessibility Features

	Level 1: Potentially Modifiable ¹		Level 2: Livable ²		Level 3: Wheelchair Accessible ³		Universe Size	Weighted Count
	Non- missing Percent	counts	Non- missing Percent	counts	Non- missing Percent	counts		
All HUS	33.34%	148,837	3.76%	143,318	0.15%	142,665	155,108	132,419,831
All Renter-Occupied Units	31.48%	50,651	4.07%	49,733	0.18%	49,611	52,500	38,816,184
All Owner-Occupied Units	33.91%	81,215	3.68%	79,666	0.13%	79,564	82,418	76,091,837
Disabled Renters	41.12%	8,787	11.37%	8,656	0.65%	8,626	9,146	5,951,085
Disabled Owners	38.69%	12,319	9.57%	12,147	0.56%	12,128	12,402	11,442,687
Wheelchair Users	44.21%	6,271	12.44%	6,189	0.73%	6,180	6,396	4,801,063
Users of Any Mobility Device	40.98%	15,067	11.78%	14,839	0.70%	14,800	15,378	12,155,461

1. Units have entrance accessible without steps or stairs, bathroom on the entry level OR presence of elevator; and bedroom on the entry level OR presence of elevator in the unit.

2. The home has a minimum level of accessibility such that a disabled person with moderate mobility impairment can live in the home. Units have all the features in level 1 plus: accessible bathroom with grab bars; and no steps between rooms or rails/grab bars along all steps.

3. The home has a minimum level of accessibility such that a person using a wheelchair or walker can live in the home. Units have all the features in level 2 plus: extra-wide doors or hallways; no steps between rooms; door handles instead of knobs; sink handles / levels; and wheelchair accessible electrical switches, climate controls, electrical outlets, kitchen countertops, kitchen cabinets, and other kitchen features.

"Disabled" is defined as anyone with serious difficulty walking or climbing stairs, or who uses a mobility device because of a condition other than a temporary injury.

Moving to level 2, we see that fewer than five percent of units are livable for individuals with moderate mobility difficulties. Rental units are more likely to be livable than owner-occupied units.

For level 3, wheelchair accessible, the fractions are exceedingly low, far less than one percent. These low fractions result most from the absence of extra-wide doorways and hallways, but few units have fully accessible bathrooms either. The fourth and fifth rows show rental and owner-occupied units lived in by households with a disabled member, and the last two rows show households with a wheelchair user or with a user of any mobility device. Although the fraction of units that have the critical features is greater for these groups than for all housing units, they are still surprisingly low.

The vast majority of homes with a disabled occupant are not accessible according to the above criteria. It is possible that some respondents are misreporting. Perhaps some people are unaware that their homes have extra-wide doors. Misreporting cannot be the full story, however. Further research would be needed to understand how disabled residents are managing to live in their units.

6. Accessibility of the U.S. housing stock

6.1. All housing units

In this section, we present further disaggregation of our results using the accessibility indices. In Table 8, we use the entire AHS sample of housing units and calculate index values by a variety of building and resident characteristics.

Table 8. Percent of All Housing Units with Critical Accessibility Features

All HUs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	33.34%	3.76%	0.15%	155,108	132,419,831
Occupancy Status					
Renter-occupied	31.48%	4.07%	0.18%	52,500	38,816,184
Owner-occupied	33.91%	3.68%	0.13%	82,418	76,091,837
Vacant Unit	34.81%	3.21%	0.20%	18,107	15,294,158
Seasonal Unit	37.48%	3.53%	0.07%	2,083	2,217,652
Monthly Housing Cost (Median=983)					
Above Median (in sample)	32.41%	2.98%	0.10%	67,477	54,734,202
Below Median (in sample)	33.75%	4.58%	0.19%	67,441	60,173,819
Housing Price (Median=170000)					
Above Median (in sample)	33.16%	3.53%	0.15%	48,237	41,235,737
Below Median (in sample)	35.26%	3.69%	0.10%	46,499	47,907,725
Building Size					
1 Unit	34.36%	3.44%	0.11%	110,052	99,791,163
2-3 Units	24.09%	2.10%	0.13%	8,821	6,726,221
4-49 Units	28.01%	3.84%	0.21%	29,087	20,783,789
50+ Units	47.97%	12.47%	0.82%	7,148	5,118,658
Building Type					
House, apartment, flat	34.52%	3.90%	0.16%	148,030	122,891,475
Mobile home	17.51%	1.67%	0.00%	5,819	9,048,897
Other	34.01%	6.79%	0.84%	1,259	479,459
Building Age					
Built before 1920	14.11%	1.52%	0.15%	9,219	8,989,481
1920s	17.40%	1.41%	0.00%	6,171	5,323,329
1930s	19.37%	1.67%	0.00%	5,972	5,536,516
1940s	27.73%	2.44%	0.04%	9,179	7,835,931
1950s	34.94%	3.56%	0.10%	16,634	13,454,772
1960s	37.39%	3.92%	0.06%	19,072	15,405,187
1970s	36.09%	3.77%	0.10%	27,110	24,754,911
1980s	36.39%	4.86%	0.18%	20,972	16,729,163
1990s	35.39%	4.53%	0.25%	19,942	16,154,036
2000 or after	40.45%	4.96%	0.36%	20,837	18,236,505
Census Region					
Northeast	18.21%	2.68%	0.09%	21,444	23,716,968
Midwest	23.88%	3.78%	0.21%	37,196	29,547,056
South	41.27%	3.81%	0.15%	48,849	50,379,407
West	41.21%	4.50%	0.15%	47,619	28,776,400

Table 8. Percent of All Housing Units with Critical Accessibility Features (continued)

All HUs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Central City/Suburban Status					
Central Cities	30.67%	3.28%	0.17%	48,586	37,612,156
Suburbs	35.00%	3.84%	0.11%	92,920	62,952,270
Non-Metropolitan Areas	33.15%	4.17%	0.21%	13,602	31,855,405
Age of Residents					
Any Resident >= 65	39.27%	8.88%	0.42%	33,183	28,530,410
Any Resident < 18	31.18%	1.93%	0.04%	44,558	37,589,323
All Residents >= 18 and < 65	31.18%	2.42%	0.08%	59,457	50,781,123
Household Composition					
Elderly, Living Alone	39.66%	10.62%	0.48%	15,835	12,719,627
Other	32.30%	2.98%	0.11%	119,083	102,188,394
Race/Ethnicity					
White (Non-Hisp.)	32.69%	4.23%	0.19%	89,299	80,190,806
Black (Non-Hisp.)	30.66%	3.08%	0.07%	18,796	14,159,565
Asian (Non-Hisp.)	28.40%	1.89%	0.03%	7,313	4,486,574
Hispanic of Any Race	39.27%	2.47%	0.04%	16,996	13,841,648
Immigration Status of Householder					
Native, US Citizen	33.10%	4.05%	0.16%	114,077	99,355,631
Foreign-Born, US Citizen	34.18%	2.99%	0.12%	10,966	7,865,388
Foreign-Born, Non-US Citizen	32.05%	1.48%	0.00%	9,875	7,687,002
Education					
Non-High School Graduate	34.51%	4.43%	0.13%	18,295	15,136,856
High School Graduate	32.82%	4.08%	0.21%	31,897	29,785,007
Some College, No Bachelor's	34.30%	3.90%	0.15%	40,206	34,533,809
Bachelor's and Above	31.58%	3.23%	0.11%	44,520	35,452,349
Income Limits					
Very Low Income	34.02%	4.98%	0.22%	45,180	35,858,838
Low Income	32.63%	4.13%	0.20%	22,531	20,283,340
Moderate Income	31.69%	3.25%	0.06%	21,323	18,837,591
Higher Income	33.22%	2.89%	0.11%	45,985	40,046,129
HUD-Assisted Households	37.79%	10.74%	0.43%	8,957	4,168,100
Very Low-Income Renters	32.66%	5.28%	0.26%	27,952	19,603,293
Worst Case Needs	31.87%	3.35%	0.10%	3,986	3,253,707

In the upper part of Table 8, as well as the differences by tenure already noted, we can see that units of below median housing cost are more likely to meet the criteria for levels 2 and 3.¹⁹ This likely reflects the generally lower incomes of the disabled population. Large multifamily buildings (50+ units) are more likely to meet the criteria for all 3 levels. Building age and accessibility have a strong correlation with newer units being much more likely to meet the criteria. Likely related to the age of the housing stock, the Northeast region and, to a lesser extent, the Midwest have fewer accessible units than the South and West. The prevalence of accessible units is greater in non-metropolitan areas. Within metropolitan areas, level 1 units are more prevalent in the suburbs, while level 3 (wheelchair accessible) units are more prevalent in central cities.

Turning to resident characteristics in the lower part of Table 8, we see that homes with at least one resident aged 65 or above, are far more likely to be accessible according to all three sets of criteria. Units occupied by a Black or Asian householder are less likely to be accessible than those occupied by a White householder. Similarly, foreign-born householders are less likely to occupy accessible units than the native born. By education level, householders with bachelor degrees are least likely to reside in accessible units.

Disaggregating by income, we see that the lowest income groups are most likely to live in units meeting the three sets of criteria. HUD-assisted households are also disproportionately likely to live in accessible units.

Table 9 and 10 display the same information as in Table 8 for occupied non-seasonal owned units and rental units respectively. The patterns we noted above generally apply within tenure as well.

¹⁹ As defined by the AHS, the monthly housing cost (ZSMHC) includes utility costs, real estate taxes, cost of homeowner insurance, condominium/homeowner's association fee, land/site rent, other mortgage charges, other required mortgage fees, mortgage payments, routine maintenance costs, and rent payments. It conveniently serves as a way to compare across rental and owned homes.

Table 9. Percent of Owner-Occupied Housing Units with Critical Accessibility Features

Owner HHs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	33.91%	3.68%	0.13%	82,418	76,091,837
Monthly Housing Cost (Median=1179)					
Above Median (in sample)	32.21%	2.81%	0.09%	41,237	34,110,112
Below Median (in sample)	35.31%	4.40%	0.17%	41,181	41,981,725
Housing Price (Median=175000)					
Above Median (in sample)	32.17%	3.62%	0.16%	42,327	35,499,536
Below Median (in sample)	35.44%	3.73%	0.11%	40,091	40,592,301
Building Size					
1 Unit	34.10%	3.60%	0.13%	78,531	72,430,504
2-3 Units	20.04%	0.77%	0.04%	1,300	1,043,955
4-49 Units	28.91%	5.26%	0.22%	2,004	1,878,623
50+ Units	48.64%	11.62%	0.55%	583	738,755
Building Type					
House, apartment, flat	35.26%	3.86%	0.14%	78,291	70,223,456
Mobile home	17.62%	1.35%	0.00%	3,730	5,677,961
Other	28.37%	5.18%	0.00%	397	190,420
Building Age					
Built before 1920	13.80%	1.61%	0.19%	4,096	4,466,955
1920s	18.17%	1.90%	0.00%	2,820	2,597,911
1930s	19.57%	2.19%	0.00%	2,641	2,697,199
1940s	27.57%	3.09%	0.06%	4,610	4,172,398
1950s	35.87%	3.92%	0.12%	9,630	8,547,758
1960s	39.19%	4.47%	0.06%	9,778	8,679,123
1970s	37.52%	3.65%	0.09%	12,707	12,905,559
1980s	35.96%	4.12%	0.11%	10,503	9,310,685
1990s	34.29%	3.87%	0.18%	12,452	10,810,549
2000 or after	39.14%	4.15%	0.27%	13,181	11,903,700
Census Region					
Northeast	17.96%	2.30%	0.04%	11,229	13,480,497
Midwest	23.31%	3.42%	0.19%	20,970	18,033,102
South	43.48%	4.02%	0.13%	26,276	29,118,080
West	42.01%	4.55%	0.16%	23,943	15,460,158

Table 9. Percent of Owner-Occupied Housing Units with Critical Accessibility Features (continued)

Owner HHs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Central City/Suburban Status					
Central Cities	33.57%	3.29%	0.17%	18,996	16,552,275
Suburbs	34.49%	3.66%	0.10%	56,107	40,678,730
Non-Metropolitan Areas	32.98%	4.06%	0.17%	7,315	18,860,832
Age of Residents					
Any Resident >= 65	38.29%	7.51%	0.33%	24,707	23,051,913
Any Resident < 18	31.49%	1.89%	0.03%	26,089	23,790,313
All Residents >= 18 and < 65	32.65%	2.29%	0.05%	33,348	30,801,773
Household Composition					
Elderly, Living Alone	37.22%	7.73%	0.23%	9,480	8,834,579
Other	33.48%	3.15%	0.12%	72,938	67,257,258
Race/Ethnicity					
White (Non-Hisp.)	32.93%	4.00%	0.16%	62,261	59,274,810
Black (Non-Hisp.)	33.53%	2.58%	0.08%	7,643	6,495,686
Asian (Non-Hisp.)	28.43%	1.40%	0.00%	4,046	2,646,988
Hispanic of Any Race	45.57%	2.58%	0.02%	7,288	6,530,287
Immigration Status of Householder					
Native, US Citizen	33.76%	3.86%	0.14%	72,305	68,035,126
Foreign-Born, US Citizen	34.71%	2.53%	0.07%	6,757	5,095,135
Foreign-Born, Non-US Citizen	36.15%	1.44%	0.00%	3,356	2,961,576
Education					
Non-High School Graduate	36.16%	3.84%	0.06%	8,182	8,084,021
High School Graduate	33.16%	3.91%	0.21%	18,351	19,349,561
Some College, No Bachelor's	35.38%	3.86%	0.14%	23,820	22,195,064
Bachelor's and Above	32.55%	3.31%	0.09%	32,065	26,463,191
Income Limits					
Very Low Income	35.61%	4.63%	0.16%	17,228	16,255,545
Low Income	34.24%	4.67%	0.22%	12,837	12,546,747
Moderate Income	32.58%	3.42%	0.06%	14,253	13,442,692
Higher Income	33.54%	2.97%	0.11%	38,160	33,912,655

Table 10. Percent of Renter-Occupied Housing Units with Critical Accessibility Features

Renter HHs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	31.48%	4.07%	0.18%	52,500	38,816,184
Monthly Housing Cost (Median=821)					
Above Median (in sample)	31.35%	3.03%	0.14%	26,255	19,206,910
Below Median (in sample)	31.62%	5.11%	0.22%	26,245	19,609,274
Building Size					
1 Unit	33.79%	2.94%	0.06%	19,245	15,265,293
2-3 Units	25.31%	2.52%	0.18%	5,872	4,616,174
4-49 Units	27.75%	3.75%	0.18%	22,056	15,507,713
50+ Units	47.43%	13.37%	0.82%	5,327	3,427,004
Building Type					
House, apartment, flat	32.13%	4.16%	0.18%	51,041	37,074,915
Mobile home	15.53%	1.42%	0.00%	1,006	1,512,122
Other	36.83%	9.02%	1.80%	453	229,147
Building Age					
Built before 1920	13.73%	1.56%	0.09%	3,469	3,140,621
1920s	15.00%	1.04%	0.00%	2,370	2,014,525
1930s	18.23%	1.09%	0.00%	2,364	2,007,604
1940s	28.04%	1.55%	0.01%	3,147	2,451,443
1950s	32.43%	2.88%	0.01%	5,013	3,357,363
1960s	33.65%	3.13%	0.06%	7,008	4,916,761
1970s	34.26%	4.11%	0.13%	10,843	8,434,236
1980s	36.26%	6.13%	0.28%	7,881	5,183,245
1990s	36.88%	6.97%	0.54%	5,393	3,359,587
2000 or after	41.81%	7.47%	0.54%	5,012	3,950,799
Census Region					
Northeast	18.18%	3.52%	0.18%	7,546	7,585,256
Midwest	25.08%	5.11%	0.22%	11,345	7,650,913
South	36.81%	3.67%	0.21%	15,029	13,464,422
West	38.87%	4.22%	0.13%	18,580	10,115,593

Table 10. Percent of Renter-Occupied Housing Units with Critical Accessibility Features (continued)

Renter HHs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Central City/Suburban Status					
Central Cities	27.43%	3.39%	0.12%	22,708	16,609,211
Suburbs	33.76%	4.22%	0.16%	26,500	15,461,257
Non-Metropolitan Areas	35.92%	5.34%	0.41%	3,292	6,745,716
Age of Residents					
Any Resident >= 65	43.52%	14.82%	0.77%	8,476	5,478,497
Any Resident < 18	30.64%	1.99%	0.06%	18,469	13,799,010
All Residents >= 18 and < 65	28.83%	2.63%	0.11%	26,109	19,979,350
Household Composition					
Elderly, Living Alone	45.51%	17.57%	1.07%	6,355	3,885,048
Other	29.98%	2.64%	0.09%	46,145	34,931,136
Race/Ethnicity					
White (Non-Hisp.)	32.00%	4.91%	0.27%	27,038	20,915,996
Black (Non-Hisp.)	28.21%	3.50%	0.06%	11,153	7,663,879
Asian (Non-Hisp.)	28.34%	2.60%	0.08%	3,267	1,839,586
Hispanic of Any Race	33.44%	2.37%	0.05%	9,708	7,311,361
Immigration Status of Householder					
Native, US Citizen	31.64%	4.46%	0.21%	41,772	31,320,505
Foreign-Born, US Citizen	33.20%	3.85%	0.21%	4,209	2,770,253
Foreign-Born, Non-US Citizen	29.39%	1.50%	0.00%	6,519	4,725,426
Education					
Non-High School Graduate	32.56%	5.12%	0.21%	10,113	7,052,835
High School Graduate	32.17%	4.38%	0.20%	13,546	10,435,446
Some College, No Bachelor's	32.33%	3.98%	0.16%	16,386	12,338,745
Bachelor's and Above	28.65%	3.00%	0.17%	12,455	8,989,158
Income Limits					
Very Low Income	32.66%	5.28%	0.26%	27,952	19,603,293
Low Income	29.99%	3.25%	0.16%	9,694	7,736,593
Moderate Income	29.43%	2.83%	0.08%	7,070	5,394,899
Higher Income	31.44%	2.42%	0.07%	7,825	6,133,474
HUD-Assisted Households	37.79%	10.74%	0.43%	8,957	4,168,100
Very Low-Income Renters	32.66%	5.28%	0.26%	27,952	19,603,293
Worst Case Needs	31.87%	3.35%	0.10%	3,986	3,253,707

Table 11, displays the accessibility for units located within MSAs, with further disaggregation by 29 selected MSAs²⁰ that were part of the 2011 AHS. It is not surprising that we do not see notable differences with Table 8 when considering all MSAs in aggregate because the majority of housing units are located within an MSA. We see, however, wide variation when looking at the individual metropolitan areas. In three metropolitan areas, a majority of housing units meet the level 1 criteria. Specifically, 66 percent of units in Phoenix, 62 percent in Fort Worth and 61 percent in Riverside are potentially modifiable. These are all fairly recently developed areas and so their high shares may be explained in large part by their newer housing stocks. By contrast, a much smaller share of homes meet the level 1 criteria in older MSAs in the Northeast and Midwest. Buffalo, Providence, and Columbus have the smallest share of homes that are potentially modifiable, at 11 percent, 14.4 percent, and 15.6 percent respectively. We generally see less variation in the share of homes that meet the level 2 and level 3 criteria, because the prevalence of these features is so low across the country. Phoenix and Riverside, however, also have a disproportionately large share of homes that qualify as livable (8 and 6.5 percent, respectively).

²⁰ Tables for MSAs are presented in Appendix E.

Table 11. Percent of Housing Units in MSAs with Critical Accessibility Features

All HUs in MSAs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	33.40%	3.63%	0.13%	141,506	100,564,426
Occupancy Status					
Renter-occupied	30.53%	3.80%	0.14%	49,208	32,070,468
Owner-occupied	34.22%	3.55%	0.12%	75,103	57,231,005
Vacant Unit	37.55%	3.37%	0.27%	15,532	10,043,341
Seasonal Unit	39.84%	4.54%	0.02%	1,663	1,219,612
Monthly Housing Cost (Median=1015)					
Above Median (in sample)	32.24%	2.83%	0.07%	62,202	45,785,931
Below Median (in sample)	33.65%	4.51%	0.18%	62,109	43,515,542
Housing Price (Median=178900)					
Above Median (in sample)	32.08%	3.31%	0.13%	42,489	31,543,927
Below Median (in sample)	37.62%	3.74%	0.11%	42,488	33,247,969
Building Size					
1 Unit	35.07%	3.33%	0.10%	98,687	71,667,307
2-3 Units	21.85%	1.66%	0.04%	8,241	5,654,299
4-49 Units	26.83%	3.34%	0.15%	27,675	18,396,863
50+ Units	47.53%	12.07%	0.70%	6,903	4,845,957
Building Type					
House, apartment, flat	34.09%	3.70%	0.14%	136,062	95,974,690
Mobile home	18.06%	1.79%	0.01%	4,290	4,202,453
Other	31.46%	7.21%	0.14%	1,154	387,283
Building Age					
Built before 1920	11.93%	1.18%	0.17%	8,012	6,156,897
1920s	14.92%	1.02%	0.00%	5,710	4,228,159
1930s	17.97%	1.28%	0.00%	5,390	4,183,462
1940s	26.73%	2.21%	0.05%	8,406	5,998,530
1950s	34.53%	3.46%	0.09%	15,521	10,781,951
1960s	36.97%	3.59%	0.07%	17,764	12,289,672
1970s	36.18%	3.77%	0.09%	24,406	18,416,967
1980s	37.21%	4.82%	0.16%	19,350	13,114,209
1990s	36.92%	4.45%	0.21%	18,070	11,710,546
2000 or after	41.03%	4.91%	0.30%	18,877	13,684,033
Census Region					
Northeast	17.20%	2.49%	0.07%	19,717	20,055,212
Midwest	22.92%	3.57%	0.16%	33,230	20,743,651
South	43.44%	3.69%	0.14%	42,934	36,326,476
West	40.48%	4.55%	0.16%	45,625	23,439,087

Table 11. Percent of Housing Units in MSAs with Critical Accessibility Features (continued)

All HUs in MSAs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Central City/Suburban Status					
Central Cities	30.67%	3.28%	0.17%	48,586	37,612,156
Suburbs	35.00%	3.84%	0.11%	92,920	62,952,270
Age of Residents					
Any Resident >= 65	39.28%	8.98%	0.43%	29,898	20,958,308
Any Resident < 18	31.52%	1.86%	0.02%	41,381	29,773,790
All Residents >= 18 and < 65	30.83%	2.26%	0.05%	55,156	40,144,190
Household Composition					
Elderly, Living Alone	39.13%	10.77%	0.50%	14,262	9,421,901
Other	32.20%	2.81%	0.08%	110,049	79,879,572
Race/Ethnicity					
White (Non-Hisp.)	32.70%	4.13%	0.16%	80,617	58,927,802
Black (Non-Hisp.)	30.05%	2.95%	0.06%	17,887	12,267,328
Asian (Non-Hisp.)	28.57%	1.82%	0.04%	7,240	4,324,579
Hispanic of Any Race	38.60%	2.44%	0.04%	16,327	12,217,932
Immigration Status of Householder					
Native, US Citizen	32.90%	3.90%	0.14%	103,950	74,844,276
Foreign-Born, US Citizen	34.19%	2.95%	0.12%	10,731	7,373,017
Foreign-Born, Non-US Citizen	31.80%	1.51%	0.00%	9,630	7,084,180
Education					
Non-High School Graduate	34.01%	3.97%	0.12%	16,493	10,969,882
High School Graduate	33.01%	4.00%	0.20%	28,356	21,298,462
Some College, No Bachelor's	34.29%	3.89%	0.12%	37,036	26,685,693
Bachelor's and Above	31.26%	3.05%	0.09%	42,426	30,347,436
Income Limits					
Very Low Income	33.06%	4.80%	0.20%	41,674	28,197,670
Low Income	33.02%	3.97%	0.17%	20,542	15,191,910
Moderate Income	31.28%	3.18%	0.03%	19,643	14,571,264
Higher Income	33.53%	2.68%	0.09%	42,552	31,456,447
HUD-Assisted Households	35.77%	10.16%	0.33%	8,163	3,495,268
Very Low-Income Renters	31.02%	4.77%	0.20%	26,074	16,198,444
Worst Case Needs	30.75%	3.11%	0.12%	3,805	2,818,469

6.2. Units occupied by disabled individuals

Table 12 shows the accessibility breakdown for housing units that are occupied by at least one disabled person. Although the prevalence of accessible units is greater among this group, at 39 percent for level 1, 10 percent for level 2 and 0.6 percent for level 3, the

patterns we described above for all units still generally apply. Notably, units with below median housing costs are more likely to meet each of the three sets of criteria.

Table 12. Percent of Disabled Households with Critical Accessibility Features

Disabled HHs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	39.50%	10.17%	0.59%	21,548	17,393,772
Occupancy Status					
Renter-occupied	41.12%	11.37%	0.65%	9,146	5,951,085
Owner-occupied	38.69%	9.57%	0.56%	12,402	11,442,687
Monthly Housing Cost (Median=713)					
Above Median (in sample)	37.78%	9.20%	0.51%	10,779	8,517,086
Below Median (in sample)	41.17%	11.11%	0.66%	10,769	8,876,686
Housing Price (Median=149000)					
Above Median (in sample)	39.23%	10.60%	0.75%	6,202	5,250,638
Below Median (in sample)	38.23%	8.69%	0.39%	6,200	6,192,049
Building Size					
1 Unit	38.50%	8.92%	0.50%	14,663	13,081,875
2-3 Units	27.88%	6.35%	0.97%	1,155	808,507
4-49 Units	42.04%	11.39%	0.68%	3,746	2,530,215
50+ Units	57.43%	28.34%	1.30%	1,984	973,175
Building Type					
House, apartment, flat	41.11%	10.76%	0.63%	20,254	15,799,039
Mobile home	23.29%	3.90%	0.01%	1,140	1,530,612
Other	33.06%	18.81%	6.59%	154	64,121
Building Age					
Built before 1920	19.78%	4.95%	0.93%	1,269	1,230,446
1920s	19.23%	4.81%	0.00%	786	659,725
1930s	21.11%	5.05%	0.00%	830	736,599
1940s	33.65%	6.17%	0.22%	1,395	1,183,460
1950s	39.07%	7.78%	0.19%	2,686	2,167,459
1960s	41.88%	9.58%	0.35%	3,001	2,260,880
1970s	42.57%	9.73%	0.55%	4,136	3,513,676
1980s	45.86%	14.32%	0.73%	2,997	2,132,207
1990s	45.88%	14.58%	0.91%	2,478	1,860,204
2000 or after	49.48%	15.74%	1.46%	1,970	1,649,116
Census Region					
Northeast	25.98%	7.75%	0.31%	3,313	3,207,463
Midwest	32.31%	10.79%	0.75%	5,503	3,918,558
South	46.06%	10.31%	0.65%	6,469	6,554,416
West	47.06%	11.33%	0.53%	6,263	3,713,335

Table 12. Percent of Disabled Households with Critical Accessibility Features (continued)

Disabled HHs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Central City/Suburban Status					
Central Cities	36.53%	9.79%	0.61%	7,060	5,002,538
Suburbs	41.67%	10.65%	0.47%	12,438	7,812,593
Non-Metropolitan Areas	38.96%	9.75%	0.76%	2,050	4,578,641
Age of Residents					
Any Resident >= 65	43.50%	13.98%	0.78%	11,386	9,383,431
Any Resident < 18	32.68%	5.11%	0.32%	3,910	3,162,055
All Residents >= 18 and < 65	36.28%	6.29%	0.35%	6,935	5,419,578
Household Composition					
Elderly, Living Alone	45.39%	16.49%	0.79%	5,534	4,132,248
Other	37.69%	8.24%	0.53%	16,014	13,261,524
Race/Ethnicity					
White (Non-Hisp.)	39.69%	11.30%	0.72%	14,445	12,313,054
Black (Non-Hisp.)	36.49%	7.35%	0.22%	3,655	2,517,543
Asian (Non-Hisp.)	28.16%	3.85%	0.06%	825	414,143
Hispanic of Any Race	44.53%	7.44%	0.09%	2,075	1,651,736
Immigration Status of Householder					
Native, US Citizen	39.68%	10.54%	0.63%	18,983	15,655,006
Foreign-Born, US Citizen	37.10%	8.67%	0.31%	1,721	1,140,818
Foreign-Born, Non-US Citizen	39.38%	2.91%	0.01%	844	597,948
Education					
Non-High School Graduate	39.59%	8.90%	0.25%	4,738	3,830,225
High School Graduate	39.88%	10.65%	0.78%	6,015	5,150,577
Some College, No Bachelor's	39.72%	10.58%	0.60%	6,359	5,027,544
Bachelor's and Above	38.50%	10.25%	0.64%	4,436	3,385,426
Income Limits					
Very Low Income	40.15%	10.83%	0.63%	11,039	8,205,812
Low Income	39.15%	9.76%	0.70%	3,707	3,295,251
Moderate Income	37.60%	8.15%	0.14%	2,729	2,441,100
Higher Income	39.75%	10.49%	0.69%	4,084	3,469,645
HUD-Assisted Households	48.75%	18.61%	0.93%	3,088	1,264,300
Very Low-Income Renters	40.13%	12.16%	0.73%	6,561	4,068,232
Worst Case Needs	35.38%	9.07%	0.09%	669	521,898

"Disabled" is defined as anyone with serious difficulty walking or climbing stairs, or who uses a mobility device because of a condition other than a temporary injury

Table 12A shows the fraction of homes occupied by disabled households that are accessible for each of the 29 selected MSAs. Again, we see substantial variation in the likelihood that disabled individuals live in potentially modifiable homes across cities. At

the high end, 78 percent of disabled households live in level 1 homes in Phoenix. Other metropolitan areas where the majority of disabled households are in level 1 homes include Fort Worth (69 percent), Riverside (62 percent), Sacramento (57 percent), and Dallas (56 percent). At the low end, only 20 percent of disabled households in Buffalo live in potentially modifiable homes. Other metropolitan areas where the incidence of level 1 homes is less than 30 percent are Columbus (22 percent), Cleveland (24 percent), San Francisco (27 percent) and Providence (28 percent).

Table 12A. MSA Supplement: Percent of Households with Disabled Members with Critical Accessibility Features

MSA Supplement: Households with Disabled Members	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
In MSA Supplement	42.43%	10.24%	0.43%	14,341	4,034,247
Anaheim	43.84%	10.53%	0.26%	500	132,328
Birmingham	38.15%	8.46%	0.11%	538	75,270
Buffalo	20.00%	8.99%	2.01%	487	65,988
Charlotte	35.63%	6.67%	0.36%	364	81,045
Cincinnati	30.96%	9.33%	0.26%	576	150,185
Cleveland	24.58%	7.08%	0.14%	561	157,265
Columbus	22.12%	5.45%	0.50%	541	110,455
Dallas	57.21%	8.99%	0.27%	391	172,382
Denver	31.77%	9.58%	0.01%	416	127,559
Fort Worth	69.77%	9.27%	1.54%	462	112,273
Indianapolis	37.58%	10.21%	0.39%	551	112,247
Kansas City	42.01%	11.72%	0.36%	508	129,228
Los Angeles	39.71%	6.56%	0.26%	493	446,272
Memphis	49.31%	5.07%	0.65%	516	85,015
Milwaukee	33.79%	14.04%	0.64%	619	99,809
New Orleans	46.15%	9.65%	0.36%	502	73,508
Oakland	31.26%	7.97%	0.20%	515	148,952
Phoenix	78.33%	19.21%	0.96%	422	222,810
Pittsburgh	35.12%	9.71%	0.23%	541	159,835
Portland	40.00%	17.24%	0.12%	481	111,288
Providence	29.31%	11.96%	0.18%	574	83,296
Riverside	63.04%	17.16%	0.40%	526	239,646
Sacramento	57.00%	16.07%	0.94%	492	120,790
San Diego	44.43%	9.40%	0.28%	460	141,419
San Francisco	27.83%	8.88%	0.34%	464	92,831
San Jose	35.61%	7.35%	0.47%	476	77,722
St. Louis	35.82%	8.68%	0.00%	535	193,870
Virginia Beach	32.91%	7.86%	0.36%	523	99,177

"Disabled" is defined as anyone with serious difficulty walking or climbing stairs, or who uses a mobility device because of a condition other than a temporary injury

We see some of the same patterns for level 2, although some metropolitan areas stand out for having a relatively high fraction of level 2 homes. For example, in Portland 17 percent of disabled households live in level 2 homes, which is substantially above the average of 10 percent, whereas the share of disabled in level 1 homes is around the national average. Only 2 metropolitan areas have more than 1 percent of disabled households in level 3 homes. Surprisingly, Buffalo is one of them, at 2 percent; the other is Fort Worth at 1.5 percent.

Table 13 shows the usage of the accessibility features in each of the three levels. Displayed is the fraction of accessible units with a disabled occupant, for which the householder reports that a disabled household member uses the identified accessibility feature “on a regular basis because of a physical limitation”. On average, more than half of the householders are reporting that the accessibility feature is in use by someone who needs it.

Table 13. Percent of Disabled Households Living in Accessible Units that Use Critical Accessibility Features

Accessibility Features	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible
Extra-Wide Doors/Hallways			62.22%
No steps between rooms			63.31%
No steps between rooms or rails/grab bars along all steps		47.32%	63.57%
Handrails/Grab Bars In Bathroom		70.32%	80.48%
Door Handles Instead of Knobs			65.18%
Sink Handles/Levers			62.87%
Wheelchair Accessible Electrical Outlets			47.34%
Wheelchair Accessible Electrical Switches			47.18%
Wheelchair Accessible Climate Controls			46.91%
Wheelchair Accessible Kitchen Cabinets			50.70%
Wheelchair Accessible Countertops			50.98%
Wheelchair Accessible Other Kitchen Features			51.52%
Wheelchair Accessible Bathroom		31.16%	55.32%
Bedroom on Entry Level or Presence of Elevator	30.17%	41.09%	64.74%
Bathroom on Entry Level or Presence of Elevator	29.73%	41.00%	64.26%
Sample Size	8,627	2,367	146
Weighted Count	6,747,103	1,708,043	98,246

"Disabled" is defined as anyone with serious difficulty walking or climbing stairs, or who uses a mobility device because of a condition other than a temporary injury

Table 14 shows the fraction of accessible units with a disabled occupant, where the householder reports that a disabled household member uses at least one of the accessibility features in the indicated accessibility level due to a physical limitation. We break down these results by housing and individual characteristics. As expected, units meeting the level 2 and 3 criteria are more likely to have disabled residents using the features in these criteria. Households paying below the median housing cost are more likely to use the features, as are those in large multi-family buildings. Households with a resident of age 65 and older are more likely to use accessibility features, as are households with white and native born householders. We also see disproportionately high

usage rates among those without a high school degree, the very low income and HUD assisted households.

Table 14. Percent of Housing Units with Disabled Occupants Using Critical Accessibility Features

Disabled HHs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	21.63%	39.18%	39.94%	21,548	17,393,772
Occupancy Status					
Renter-occupied	20.17%	37.03%	37.62%	9,146	5,951,085
Owner-occupied	22.65%	40.65%	41.52%	12,402	11,442,687
Monthly Housing Cost (Median=713)					
Above Median (in sample)	20.18%	34.63%	35.46%	10,779	8,517,086
Below Median (in sample)	23.44%	44.95%	45.65%	10,769	8,876,686
Housing Price (Median=149000)					
Above Median (in sample)	21.76%	40.06%	40.95%	6,202	5,250,638
Below Median (in sample)	23.95%	41.51%	42.36%	6,200	6,192,049
Building Size					
1 Unit	23.47%	40.54%	41.33%	14,663	13,081,875
2-3 Units	15.60%	31.23%	31.69%	1,155	808,507
4-49 Units	17.36%	31.62%	32.22%	3,746	2,530,215
50+ Units	23.28%	51.92%	53.13%	1,984	973,175
Building Type					
House, apartment, flat	21.67%	39.19%	39.96%	20,254	15,799,039
Mobile home				1,140	1,530,612
Other	14.48%	34.76%	34.15%	154	64,121
Building Age					
Built before 1920	25.86%	39.45%	40.20%	1,269	1,230,446
1920s	22.04%	36.54%	37.35%	786	659,725
1930s	20.53%	33.07%	33.93%	830	736,599
1940s	25.47%	40.88%	41.77%	1,395	1,183,460
1950s	19.19%	42.46%	42.97%	2,686	2,167,459
1960s	20.03%	40.99%	41.59%	3,001	2,260,880
1970s	19.01%	37.80%	38.69%	4,136	3,513,676
1980s	23.33%	42.78%	43.51%	2,997	2,132,207
1990s	19.89%	36.41%	37.48%	2,478	1,860,204
2000 or after	24.17%	37.37%	38.04%	1,970	1,649,116
Census Region					
Northeast	20.28%	41.49%	42.35%	3,313	3,207,463
Midwest	22.22%	39.28%	39.79%	5,503	3,918,558
South	23.20%	38.33%	39.51%	6,469	6,554,416
West	20.80%	36.27%	36.69%	6,263	3,713,335

Table 14. Percent of Housing Units with Disabled Occupants Using Critical Accessibility Features
(continued)

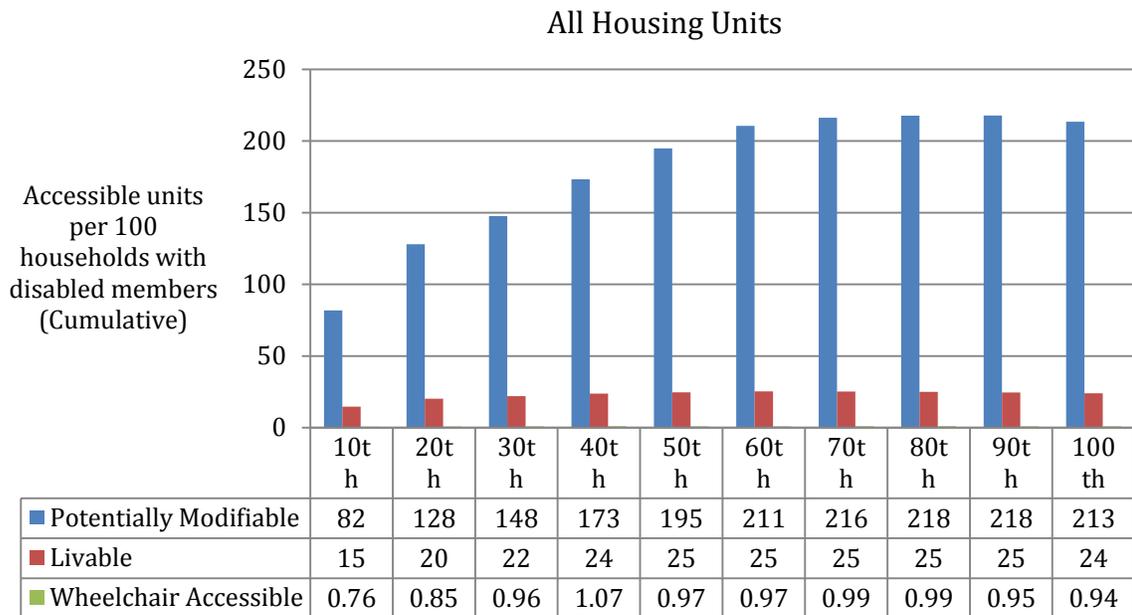
Disabled HHs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Central City/Suburban Status					
Central Cities	20.27%	38.84%	39.48%	7,060	5,002,538
Suburbs	21.07%	38.80%	39.69%	12,438	7,812,593
Non-Metropolitan Areas	25.46%	40.71%	41.39%	2,050	4,578,641
Age of Residents					
Any Resident >= 65	25.35%	49.36%	50.34%	11,386	9,383,431
Any Resident < 18	19.62%	30.44%	30.92%	3,910	3,162,055
All Residents >= 18 and < 65	17.87%	29.52%	30.18%	6,935	5,419,578
Household Composition					
Elderly, Living Alone	23.93%	48.74%	49.59%	5,534	4,132,248
Other	20.91%	36.22%	36.96%	16,014	13,261,524
Race/Ethnicity					
White (Non-Hisp.)	22.98%	41.19%	41.95%	14,445	12,313,054
Black (Non-Hisp.)	18.42%	36.17%	36.48%	3,655	2,517,543
Asian (Non-Hisp.)	13.12%	26.62%	26.32%	825	414,143
Hispanic of Any Race	18.70%	32.35%	34.52%	2,075	1,651,736
Immigration Status of Householder					
Native, US Citizen	22.25%	39.79%	40.49%	18,983	15,655,006
Foreign-Born, US Citizen	18.87%	39.49%	39.85%	1,721	1,140,818
Foreign-Born, Non-US Citizen	13.52%	24.75%	27.10%	844	597,948
Education					
Non-High School Graduate	24.52%	43.71%	45.14%	4,738	3,830,225
High School Graduate	21.45%	39.42%	39.57%	6,015	5,150,577
Some College, No Bachelor's	21.13%	38.81%	39.67%	6,359	5,027,544
Bachelor's and Above	20.28%	35.89%	36.78%	4,436	3,385,426
Income Limits					
Very Low Income	23.84%	43.58%	44.49%	11,039	8,205,812
Low Income	21.17%	37.37%	38.11%	3,707	3,295,251
Moderate Income	17.47%	35.25%	35.61%	2,729	2,441,100
Higher Income	19.94%	33.78%	34.53%	4,084	3,469,645
HUD-Assisted Households	22.45%	48.07%	48.80%	3,088	1,264,300
Very Low-Income Renters	21.38%	40.35%	41.04%	6,561	4,068,232
Worst Case Needs	19.52%	33.26%	34.08%	669	521,898

6.3. Availability and affordability of accessible units

In Figure 1, we assess the affordability of accessible units for households with disabled members. This aggregate figure shows how the overall national housing stock could meet the need for accessible and affordable housing if location did not matter. For households at or below the 10th percentile of the income distribution for the entire AHS sample,

there are 15 affordable units per 100 disabled households with incomes up to the 10th percentile that meet the level 2 criteria for being livable for individuals with moderate mobility disabilities. For households at or below the 20th percentile of the income distribution, the number of affordable and accessible units rises to 20 units per 100 disabled households with incomes up to the 20th percentile. Although the number of affordable units rises with income, at the 50th percentile of income, there still are only 25 affordable and accessible units per 100 disabled households with incomes up to the median. The numbers for wheelchair accessible units are far less, with only fractions of one unit available per 100 disabled households, regardless of income.

Figure 1: Affordability of Accessible Units for Households with Disabled Members



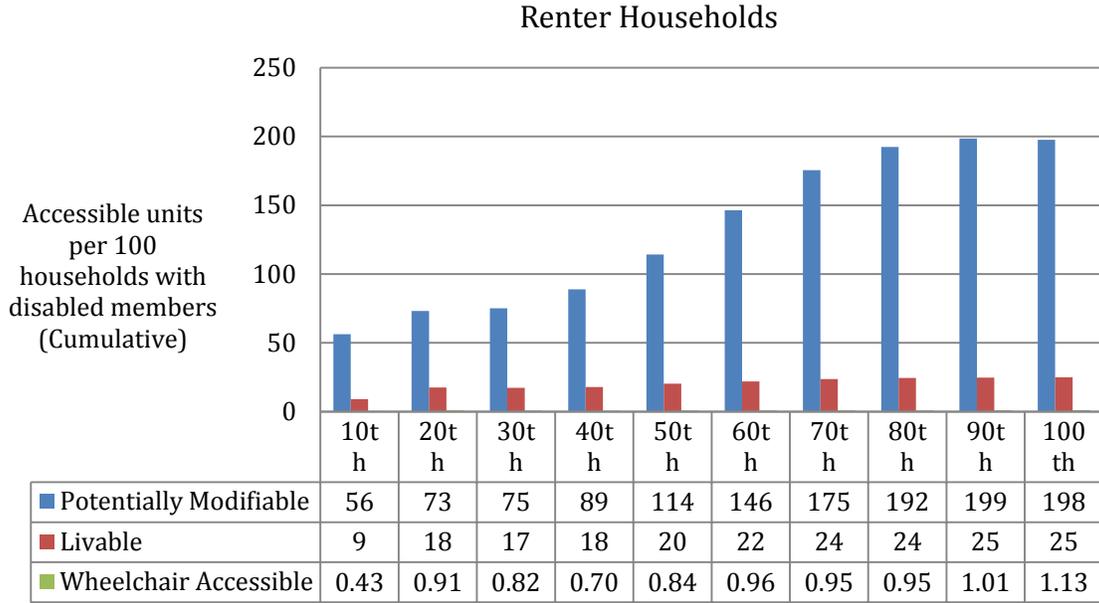
Affordable By Households at Percentile of Income

■ Potentially Modifiable ■ Livable ■ Wheelchair Accessible

It is only with the level 1 criteria that we see more than 100 affordable units exist per 100 disabled households - enough, with perfect reallocation, to provide affordable housing to every disabled household with an income at or above the 20th percentile. We note again, however, that the criteria of level 1 only indicates that the unit is potentially modifiable, and is not actually accessible according to usual definitions.

Figures 2 and 3 display analogous information for owners and renters respectively, assuming that 2011 renters can only occupy 2011 rental units, and 2011 owners can only occupy owned units. In general, disabled renter households have fewer affordable and accessible rental units available to them than disabled owner households.

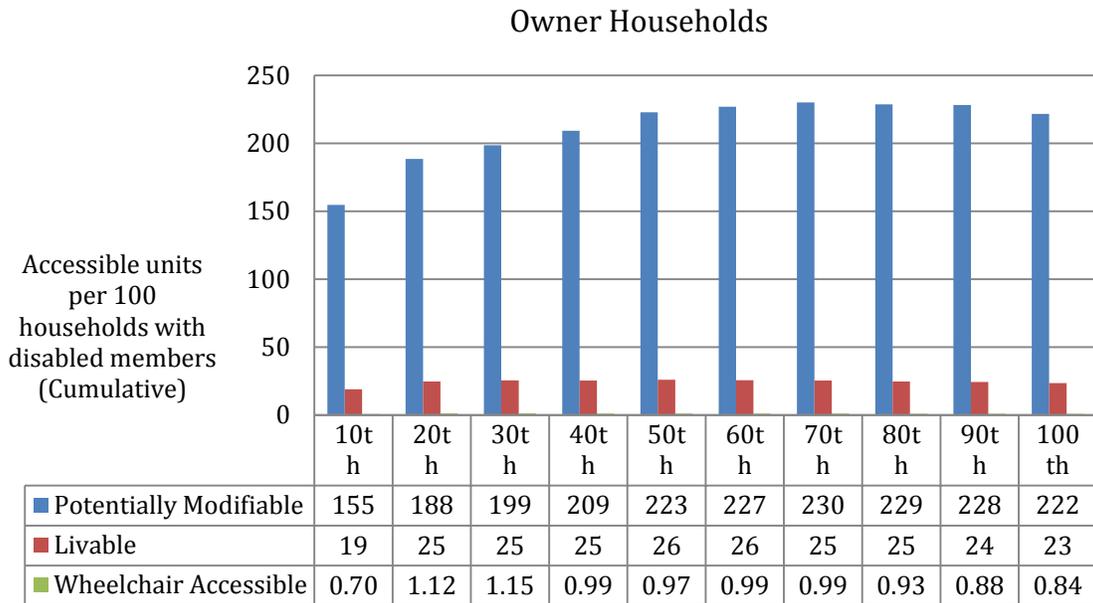
Figure 2: Affordability of Accessible Units for Rental Households with Disabled Members



Affordable By Households at Percentile of Income

■ Potentially Modifiable ■ Livable ■ Wheelchair Accessible

Figure 3: Affordability of Accessible Units for Owner-Occupied Households with Disabled Members



Affordable By Households at Percentile of Income

■ Potentially Modifiable ■ Livable ■ Wheelchair Accessible

7. Conclusion

We have provided a detailed discussion of the 2011 AHS accessibility variables and have made specific recommendations on how these questions can be improved, as well as ones to add or remove. Overall, the survey should focus less on a home having any specific item such as a ramp, an elevator, or rooms on the entry level, but rather, it should focus on having an accessible route into the dwelling and to key rooms, namely, a bathroom, a bedroom and the kitchen. This would incorporate the presence of the specific items without having to explicitly ask about them. It would also incorporate wide hallways and doors in key locations, but not necessarily all locations in the home. In many cases, the accessibility module can be enhanced by providing a short introduction to the respondent explaining what is needed by a person using a mobility device, including the required turning radius. Specifying width and height requirements will undoubtedly improve the accuracy of many responses.

Recognizing that the content of the AHS must be limited and cannot include all areas of accessibility that experts would want, our criteria for suggesting the addition of questions is foremost based on an examination of the U.S. regulations. Currently, the accessibility of laundry, parking, and common areas in multifamily buildings are not addressed. It is important that the most critical regulatory requirements can be captured by the AHS. In addition, we have made a few suggestions that were mentioned by the experts and are found in international guidelines, although not in U.S. regulations.

In our preferred index methodology, we use three levels of accessibility: potentially modifiable, livable for individuals with moderate mobility difficulties, and wheelchair accessible. This is similar in concept to methods used in the UK, Australia and New Zealand, and is somewhat analogous to the LEED rating system for designating green building technologies. In aggregating up to a set of homes (for example, for a jurisdiction or a housing type), this method would report the fraction of homes that are accessible according to these three sets of criteria.

Our analysis makes clear that few housing units in the U.S. are fully accessible. All of the accessibility metrics we considered indicate that fewer than two percent of housing units are accessible, in the common usage of the term. That said, about one third of housing units in the U.S. are potentially modifiable. These units are disproportionately located in newer buildings and in multifamily buildings. They are also disproportionately located in the South and West. In fact, in a few metropolitan areas (Phoenix, Fort Worth, and Riverside), we find that a majority of homes are potentially modifiable. Many metropolitan areas in the Northeast and Midwest with older housing stocks, however, have very few homes that are even modifiable, largely because of inaccessible entrances.

It appears that the U.S. housing stock is not well-suited to accommodate the disabled or to allow people to age in place. Even in the case of newly constructed homes, it appears that only a minority meets basic accessibility standards. As the U.S. population ages, the demand for accessible homes will only grow. More research would be useful to understand how disabled individuals are managing to live in their current homes.

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Appendix A: Expert Interviews

In preparation of this report, we interviewed the following disability experts:

<p>Anne Davis Program Director, Legal Services National Multiple Sclerosis Society, New York City – Southern NY Chapter Ms. Davis is also a board member of the Disabilities Network of New York City.</p>	<p>Robert Piccolo, AIA Deputy Commissioner Mayor’s Office for People with Disabilities New York City</p>
<p>Susan Dooha, JD Executive Director Center for Independence of the Disabled, New York</p>	<p>Bridget Gallagher Senior Vice President Community Services Jewish Home Lifecare</p>
<p>Anita Perr, PhD, OT, ATP, FAOTA Clinical Associate Professor Steinhardt School of Culture, Education, and Human Development New York University</p>	<p>Megan Rochford, MSOTR/L, CAPS Clinical Specialist, Barrier Free Design Rusk Institute of Rehabilitation Medicine New York University Langone Medical Center</p>

We asked these experts a series of questions relating to disability and accessibility, and the AHS variables specifically. The basic interview protocol is below. The results of these interviews were incorporated into this report.

Expert interview protocol

- (1). Provide an overview of the project.
- (2). Show the list of AHS disability questions (that is, the questions in Table 2).

Given our focus on housing accessibility features, what distinct categories of disabilities should be considered?

Should greater differentiation be made within physical disabilities? If so, how?

- (3). Show the list of AHS accessibility features (that is, the questions in Table 3).

For each disability identified in (2):

What accessibility features are critical to include for evaluating the accessibility of a home?

Are there critical accessibility features that are not addressed by the AHS variables?

How can the existing AHS measures be improved?

How do regulations such as the FHA match with these critical accessibility features? Are the regulations missing any critical features? Do the regulations require features that are not important?

(4). Refer to the same list of AHS accessibility features. Describe the construction of an index that is a weighted sum of these features.

What weight should be accorded to each feature?

If needed: For example, suppose extra wide doors or hallways is worth 5, what would the others be worth?

Are there features that are substitutes that should not be doubled counted?

Are there complementary features that cannot be counted without each other?

Are there a set of features that have declining marginal value such that each additional feature counts for less?

Using the resulting index, how would you characterize a fully accessible home, one that is partially accessible, and one that is not accessible?

(5). *Do you think a measure of accessibility based on having a set of critical accessibility features is more useful than an index of accessibility based on a weighted sum of those features? Or vice versa?*

Appendix B: Summary of United States Federal Housing Regulations

	Americans with Disability Act	Fair Housing Act	Architectural Barriers Act
Applies to	Public housing, student and faculty housing, employee housing, nursing homes, temporary housing provided in emergencies, and social service facilities, such as homeless shelters and halfway houses.	“Covered multifamily buildings,” which are defined as buildings with four or more dwelling units constructed for first occupancy on or after March 13, 1991. Includes both public and private dwellings.	Facilities built, altered, or leased with certain federal funds, including public housing and prisons.
Does not apply to	Privately owned or leased housing, including single-family homes, condominiums, or apartments.	Single-family, two-family, and three-family homes.	Developments which are not financed using federal funds.
Guidance documents	The ADA Accessibility Guidelines (ADAAG) are legal requirements imposed on all parties responsible for housing that is covered by the Act. <u>Other guidance:</u> ADA Checklist for Readily Achievable Barrier Removal by the Institute for Human Centered Design.	The FHA Guidelines are legal requirements imposed on all parties responsible for housing that is covered by the Act. <u>Other guidance:</u> Equal Right Center’s Fair Housing Act Checklist: A Guide to Accessible Design and Construction Compliance.	ABA Accessibility Standards are legal requirements imposed on all parties responsible for housing that is covered by the Act. <u>Other guidance:</u> HUD USFA accessibility checklist.
Enforcement	ADA standards are enforced only by the U.S. Department of Justice (DOJ) Disability Rights Section litigation. State and local governments are not authorized to receive or address complaints about ADA compliance. Entities covered by the ADA are responsible for their own compliance. The DOJ has responded to around a dozen requests from States to certify that their state codes full meet or exceed the ADA which reduces compliance burdens for builders.	FHA standards are enforced only by the Department of Housing and Urban Development (HUD) which receives complaints and engage in litigation. 38 states are recognized as having "substantially similar" laws to the FHA and HUD provides funding to agencies in these states to investigate and resolve FHA complaints in the first instance.	The United States Access Board investigates complaints about the ABA.

Appendix C: Coverage and Limitations of 2011 AHS Disability and Accessibility Measures

We consulted the literature and regulatory guidance in considering the 2011 AHS measures. We also asked each expert to describe the accessibility features that are important for disabled individuals. We then presented the AHS accessibility variables and asked them to discuss and provide a relative ranking of their importance.

C.1 Scope of the survey

Self-reports

Several experts noted that the survey's reliance on self-reported information is a fundamental problem. Seven of the questions rely on respondents knowing whether something is accessible for a wheelchair user, when they may not have any experience with wheelchairs or know anybody who uses one. The experts cited multiple examples of medical facilities (particularly doctors' offices) claiming to be accessible when they really are not.

Adaptability

The experts highlighted as a major drawback, the survey's focus on features that are already installed, with little or no attention to the adaptability of the unit. Adaptability is a key theme from the literature review and is a key consideration for most international accessibility schemes (for example, the potential to install grab rails, elevators or hoists are criteria in international scheme). A currently non-accessible unit that allows features to be installed if needed by a resident is much more accessible than a unit that is configured in a way that would not allow for future adaptation.

C.2 Assessment of the AHS 2011 disability measures

Table 2 shows the AHS questions on disability. The current set of questions do not allow for an index of accessibility to be created for the needs of people with communicative or mental disabilities.

- *Communicative domain* impairments include blindness or having difficulty seeing, deafness or having difficulty hearing, and having difficulty with speech or being understood by others.
 - For hearing impairments, critical information would include the presence of devices such as lights instead of doorbells and flashing lights for warning and evacuation in multifamily buildings.
 - For vision impairments, critical information would include the presence of accessible signage such as Braille and large-print signage, sounds in elevators, accessible lighting within the unit and in all common areas in multifamily units, tactile cues such as patches and adhesives on light switches, and cues for identifying stairs or other changes in surfaces.

- *Mental domain impairments* include a learning disability, an intellectual disability, developmental disability, Alzheimer’s disease, or another cognitive impairment that seriously interferes with everyday activities.
 - For cognitive disabilities, the use of signage can be important, as well as safety devices in the home, such as the use of induction cooking to prevent burns.

Given this lack of relevant information, it would be impossible to know whether units surveyed in the AHS are accessible for people with communicative or mental impairments. Hence our focus on physical disabilities only in this report.

The experts also noted that a question on difficulties with balance would be useful. One expert suggested adding a question on difficulty preparing meals. Another noted that the question on bathing should be explicit about bathing in a bath tub or shower, as opposed to a sponge bath. This expert emphasized that often people are in denial about the difficulties they are facing and may answer as though a sponge bath is adequate.

C.3 Assessment of the AHS 2011 accessibility measures

Table 3 shows the AHS questions on accessibility.

Stepless entry into the dwelling from the exterior

U.S. regulatory requirements: All U.S. regulations identify an accessible route into the dwelling as a fundamental element of accessibility. The entry into the dwelling from the exterior can include from the street, sidewalk, garage or other parking area as well as from within other common areas of a building.

Expert views: Both the literature and the experts emphasize the importance of access from the street or parking area to the front door of the unit, noting that this is frequently a barrier to accessibility.

Current AHS measures: The AHS includes the variable NOSTEP which asks whether it is possible to enter the dwelling without climbing up or down any steps. This is a useful measure as it identifies any obvious barriers to accessing the dwelling. It is still possible that the entry into the dwelling is not accessible as a ramp is too steep or doorways are not sufficiently wide. Importantly, the question does not specify where someone would be entering *from*. That is, it does not ask specify entering the unit from the street, or the garage, or, in a multifamily building, the lobby.

Improvements to consider: The question could elicit more useful information by asking whether a person in a wheelchair could get from the street into the unit. This would ensure the respondent is considering the full path of travel from the exterior into the dwelling, rather than just the entry doorway.

Extra-wide doors or hallways

U.S. regulatory requirements: FHA requires that all buildings containing covered dwelling units have at least one accessible entrance along an accessible route, with specific width requirements for the doorways, routes, and any ramps or inclines. For housing funded by HUD, the ADA requirements also include minimum doorway and route widths.

Expert views: It was very clear from the expert discussions that the physical layout or floor plan of the unit is a critical aspect of accessibility. Both the experts and the housing regulations emphasize turning radius as being critical for users of wheelchairs and walkers. Large rooms and a layout with no hallways are ideal. The experts agreed that some existing homes can never be made accessible because of inherent floor plan problems.

Current AHS measures: Experts noted that the current AHS variables are not adequate for capturing this aspect of accessibility. The question on extra wide doors or hallways, HMXDR, could elicit a response of “yes” if the home has just one extra-wide door or hallway. Instead, accessibility should mean that the doors and hallways are extra-wide throughout the home, or, at a minimum, in critical areas such as the entryway and routes providing access to the bathroom and kitchen. In addition, “extra-wide” is not defined and will thus be subjective.

Improvements to consider: Provide a brief explanation to the respondent of the importance of turning radius of 60 inches, door width of at least 32 inches and hallways of at least 36 inches for people with disabilities. Then, instead of asking about the entire home, as HMXDR does, ask about the accessibility of specific routes. For example, whether there is a route with adequate width clearance from the front door to the bathroom, including turning radius if turns are required and assuming the existing furniture can be rearranged. Similarly for routes from the front door to the bedroom and to the kitchen.

All areas on the same level, meaning no steps between rooms

U.S. regulatory requirements: The ADA regulations do not allow anything more than a ½ inch rise without ramps. Similarly, FHA requires that there be an accessible route from the main entrance through to all elements of the dwelling—including each room and bathroom.

Expert views: The experts viewed this as a critical aspect of accessibility. Thresholds between rooms and at the front door may pose a problem for the disabled even if they are not high enough to be considered a step.

Current AHS measures: Experts noted that the existing question, HMLEVEL, seems to omit the entry area or foyer, which most people would not consider to be a “room.” In some homes, there are steps up or down from this area to the rest of the home. The

wording of this question is ambiguous in the case of homes with more than one story or level: is the answer necessarily “no” even if within the story or level there are no steps between rooms? Indeed, when we isolated single-unit, multistory homes²¹ in the AHS sample, more than half answered “no” to this question, indicating that they did not have steps between rooms. Further, the (not universal) conflation of steps between rooms on a single floor and steps between floors obscures the adaptability of the unit; in many cases, a chairlift can be installed on a staircase, allowing for someone with certain mobility constraints to move between floors, but steps between rooms on the same floor often do not have enough clearance to build a suitable ramp.

Improvements to consider: Replace HMLEVEL with a set of questions asking whether there is an accessible route from the front door to a bathroom, to a bathroom with a shower or tub, to a bedroom, and to the kitchen. This question can replace the questions already asked about whether there is a bathroom and a bedroom on the entry level.

Handrails along stairs or steps

U.S. regulatory requirements: All U.S. regulations require handrails to be installed along both sides of stairs and steps, as well as ramps with rises above a ratio of 1:20. Regulations state the minimum height of handrails from the walking surface and the gripping surface of handrails.

Expert views: The experts viewed this as a critical aspect of accessibility.

Current AHS measures: The AHS question, HMNDRLS, requires handrails or grab bars on both sides of any stairs or steps. This is consistent with the requirements in the ADA and FHA.

Improvements to consider: Explicitly say that the handrails or grab bars have to span the length of any steps or stairs.

Ramps

U.S. regulatory requirements: FHA and ADA each provide stipulations on the design of ramps. Both regulations prohibit a slope of more than 8.33% and require a minimum 36” width and the installation of handrails for longer ramps.

²¹ One complicating factor is that the AHS only records the number of stories in a building, not within a unit, so the only way to ensure there is more than one floor in a unit is to restrict the sample to only single-unit buildings. Also, basements are counted as stories, but attics are counted only if they are finished. Even among single-unit, multistory buildings *without* basements, meaning units that necessarily have stairs between two living areas of the home, about half answered “yes” to HMLEVEL (indicating no steps between rooms) and about half answered “no.” The STAIRS question, which asks about interior stairs (defined as a set of three or more steps), explicitly includes stairs going to an attic or basement, so it is unclear whether the presence of stairs indicates a multilevel living area or simply a set of steps leading to an unused attic or basement.

Expert views: The experts noted that ramps installed within homes are often too steep for a disabled person to use without assistance. FHA and ADA regulations would require a typical step of 6-8 inches would require a 6-8 foot ramp, and most homes will not have that amount of space available.

Current AHS measures: The question on ramps, HMRAMPS, could elicit a response of “yes” if the home has one ramp somewhere, even if steps remain in critical areas such as access to the bathroom. Thus the experts concluded that this question is not very helpful in capturing accessibility. The relevant feature the survey should capture is whether the critical areas of a home, in particular a bedroom, a bathroom, and the kitchen, are accessible to people with limited mobility, rather than the presence or absence of features such as ramps.

Improvements to consider: If the above suggestions for replacing HMLEVEL are adopted, then HMRAMPS becomes redundant.

Bathroom features

U.S. regulatory requirements: FHA and ADA both include detailed requirements for bathroom accessibility features. The areas covered by ADA include the thresholds throughout the bathroom; the width and openings of doors; the height and position of toilets; the location of faucets; and the location of grab rails adjacent to the toilet, shower, and bathtub. The FHA housing regulations emphasize reinforced walls so that grab bars can be installed if needed as well as maneuvering space and the positioning of taps and switches.

Expert views: The experts agreed that the bathroom and kitchen are both critical areas of the home but that the bathroom is the more important of these. People are generally more comfortable with accepting help preparing meals, compared with personal care. Having prepared food delivered is also likely more affordable than paying for personal care assistance.

The experts noted that turning radius within the bathroom is critical. An alternative to turning radius within the bathroom could be turning space just outside the bathroom so that a wheelchair user can back in or out, so long as the equipment in the bathroom can still be accessed with the wheelchair oriented that way.

The experts further noted that portable shower seats and raised toilet seats that attach to a regular toilet are as functional as their built in analogs, relatively cheap, easy to install, and importantly for renters, do not require landlord approval. In addition, health insurance may cover shower seats and raised toilet seats as they are considered to be medical equipment. Grab bars are generally cheap and easy to install when the walls are already reinforced. Suction grab bars are also improving and are becoming a viable, cheaper option.

Two critical bathroom features were mentioned as being important but not addressed by the existing AHS questions. First, there should be clearance under the sink so that it can be used while seated (in a wheelchair or other seat). Activities such as face washing may be impossible without this clearance. Second, the water controls in the shower or bath should be reachable while seated.

Current AHS measures: It is not clear whether the wheelchair accessible bathroom question, HMBROOM, is trying to get at turning radius, but the respondent may simply think it means whether a standard wheelchair can enter the bathroom, rather than maneuver within it.

The AHS questions focus on the presence of features which are relatively easy to retrofit but are quite limited when compared to the extensive range of the FHA and ADA requirements, which are more structural in nature.

For homes with more than one bathroom, the questions are not directed to any particular bathroom.

Improvements to consider: For homes with an accessible route from the front door to a bathroom, the accessibility questions should be specific to that bathroom. Modify HMBROOM to explicitly refer to the ability to enter and turn around in a wheelchair or walker. In order to receive useful answers, the respondent should be given information about how much space a wheelchair user actually needs in order to use a bathroom. HMBST and HMTOILET are low priority questions. Add a question about clearance under the sink, and a question on the position of water controls in the bath/shower.

Kitchen features

U.S. regulatory requirements: The FHA requirements include the ability to maneuver within the kitchen and access both cupboards and kitchen features such as the sink and appliances. Other requirements in FHA include the location of switches and faucets and depth of kitchen countertops. Similarly, ADA required at least one 30 inch wide countertop to be provided no higher than 34 inches above the floor and surfaces to enable knee clearance, and the ability to open cupboards and operate appliances with one hand.

Expert views: The experts noted that the kitchen is an important part of the house and, similarly to the bathroom, turning radius within the kitchen is very important but not specifically addressed by the AHS questions. In addition, clearance under the sink and some counters is important for wheelchair users and other disabled individuals who need to sit while preparing meals.

Current AHS measures: The AHS asks about rollout trays or lazy Susans within kitchen cabinets (HMKITRY), but these are easy to install if needed. The kitchen cabinet question (HMACAB) asks about “all” kitchen cabinets. Several of the experts

mentioned that this was excessive—so long as there are a sufficient number of cabinets that can be reached by a disabled person, the fact that there are additional storage units would not render the unit inaccessible. Furthermore, as with all the questions about wheelchair accessibility, the respondent is given no information about what actually constitutes a wheelchair-accessible cabinet or other kitchen feature. For example, Table 5 shows that more than half of homes are reported as having wheelchair accessible countertops. This seems implausibly high and suggests respondent misunderstanding of the height necessary to be accessible. It is unclear what HMKIT is referring to.

Improvements to consider: Add a question on the ability to enter and turn around in a wheelchair or walker. HMKITRY and HMKIT are low priority questions. Modify HMACAB to say “some” rather than “all” kitchen cabinets. Modify HMCOUNT to be explicit about the required counter height. Add a question about clearance under the sink and counters.

Rooms on the entry level

U.S. regulatory requirements: The FHA and ADA requirements focus on an accessible route between the entryway and all rooms and features of the house (with some minor exceptions such as attics and an unfurnished basement). This implies that the kitchen, bedroom, bathroom, and living rooms are accessible from the entry level. FHA also requires that an accessible bathroom is provided on the entry level.

Expert views: Besides having a bathroom and bedroom on the entry level, some of the experts said that a living room and a kitchen on the entry level are important. A living room on the entry level makes a home accessible to visitors, even if no disabled person lives there.

Current AHS measures: AHS asks whether a bedroom (HMENTBD) and full bathroom (HMENTBTH) are on the entry level, and whether an elevator is installed in the home (HMELEVATE). It is possible that even if not on the entry level, there could be an accessible route to the bedroom or bathroom via a stair lift. On the other hand, there could be steps, narrow hallways, or high thresholds that could make a bathroom or bedroom on the entry level inaccessible.

Improvements to consider: Instead of asking whether rooms are on the entry level, ask whether there is an accessible route to a bedroom, to a full bathroom, and to the kitchen.

Electrical switches, outlets, climate and window controls

U.S. regulatory requirements: All U.S. regulatory requirements include specifications for climate controls and electrical switches. The specified range is between 15 and 48 inches if there is no obstruction and then reduces if there is a protruding object or bench top. This same specification applies to the operation of windows.

Expert views: The experts mentioned that windows that can be opened by a wheelchair user are important.

Current AHS measures: The responses to AHS questions indicate that more than half of respondents report their electrical outlets as being accessible. Although it is possible that some electrical outlets and switches are accessible, it is unlikely that all essential switches are accessible. Light switches have historically been placed than 48 inches, and many electrical outlets are located lower than 15 inches. In practice it may not be crucial that every electrical outlet is located within the range, however the positioning of light switches and climate controls outside the accessible region would make a house unlivable without retrofitting accessibility modifications to enable use. The AHS does not ask about windows.

Improvements to consider: Modify these questions to be explicit about height requirement for these outlets, switches and controls (between 15 and 48 inches from the floor). Add a question about whether someone in a wheelchair could open and close windows.

Handles and Levers

U.S. regulatory requirements: The FHA requires handles to be operable without grasping or twisting and this is also advised by the ADA. This precludes the use of twist knobs.

Expert views: The experts noted that door knobs are easy to replace with handles.

Current AHS measures: The door handle question (HMHNDLE) refers to “all” doors which is consistent with regulatory requirements. The sink faucets question (HMSKLVR) refers to “any” faucets.

Improvements to consider: Split HMSKLVR into two questions, one for the kitchen, and one for the bathroom.

Laundry facilities

U.S. regulatory requirements: All U.S. regulations require the washer and dryer (where provided) to be on an accessible route and equipment located in accessible positions. At least 48 inches clearance in front of the laundry equipment should be provided to allow for maneuvering. The opening for the machines and any controls cannot be more than 36 inches from the floor.

Expert views: Laundry facilities are essential to everyday living and are a key feature of an accessible home. In many homes, the laundry may be located in an inaccessible basement. In multifamily units, there should be an accessible route to the building’s common laundry facilities if laundry is not available inside the unit.

Current AHS measures: None.

Improvements to consider: Add a question on whether there is an accessible route to the laundry area and whether the equipment is accessible to a wheelchair user.

Accessible parking

U.S. regulatory requirements: The regulations provide minimum requirements of accessible parking ranging from 1 accessible space for every 25 spaces (ADA) and 2% of spaces (FHA).

Expert views: An accessible route to the parking area or garage may be an essential requirement for some disabled individuals, particularly wheelchair users.

Current AHS measures: The NOSTEP question does not ask specifically about entering the unit from the parking area or garage (if any).

Improvements to consider: Add a question on an accessible route to the parking area or garage.

Common areas in multifamily buildings

U.S. regulatory requirements: For buildings subject to the ADA or FHA requirements, the regulatory requirements apply equally to dwellings and common areas. The requirements for an accessible route, ramps and handrails and location of switches and outlets apply. In addition, elevators must have a minimum width. The ADA also has requirements for warnings and signs to be tactile with minimum sizing and spacing of characters.

Expert views: For multifamily units, accessibility features in the building's common areas are critical.

Current AHS measures: None.

Improvements to consider: Add questions on additional aspects of common areas, such as:

- Wheelchair accessible lobby with automatic or remote-controlled lobby door.
- Elevator with sufficient width and automatic doors that do not swing out.
- Railings and good lighting on all stairs.

Two ADA requirements are explicitly targeted to people with communicative and possibly mental impairments. Adding these questions would allow the AHS to go beyond just addressing physical disabilities:

- Audible and visual emergency alarms.
- Warnings and signs that are tactile and with large font.

Additional accessibility features not addressed by the AHS

In addition to those already mentioned, the experts identified the following features as being important but not included in the AHS. As shown in Table 1, they all appear in some of the international regulations and guidelines; the first also appears in the U.S. guidelines.

- An accessible route to outdoor spaces such as a patio, balcony or courtyard.
- Wheelchair accessible intercom and buzzer in multifamily units.
- Key-less front door entry. Keys can be difficult because of the need to balance when using a cane/walker. Key-less remote entry also eliminates the need to get to the front door to allow another person access to the dwelling.

Appendix D: Alternative Indices Based on Weighting Accessibility Features

D.1. Accessibility index based on expert weighting of accessibility features

In this version, the weights are based on the experts' opinions as to the importance of each accessibility feature. We did not include built-in shower seats, raised toilets, or rollout trays/lazy Susans for the reasons discussed above. We allowed the experts to use any scale and then we recalibrated their individual responses to sum to 100. In the case of "no steps between rooms," we first asked for its weight in comparison with the other features. Then, we asked for the weight that should be accorded to having handrails/grab bars on all steps or having a ramp, or both, conditional on not having "no steps between rooms" (that is, there *are* steps between rooms).

Table D1, column 1 shows the average recalibrated response across the experts. Column 2 is simply a rounded version of the raw averages. The most highly weighted items are not having steps between rooms, having a wheelchair-accessible bathroom, and having a bedroom and bathroom on the entry level, each worth 8 points. When there are steps between rooms, having handrails or a ramp is worth 5 points, and having both is worth 6 points. Handrails or grab bars in the bathroom is worth 7 points. Wheelchair-accessible electrical switches and climate controls are each worth 6.5 points. Electrical outlets, kitchen cabinets, kitchen countertops, and other kitchen features are each worth 6 points. Finally, door handles and sink levers/handles are each worth 5 points. We note that this ordering of importance matches the ordering of the critical features found in the method above moving from level 1 (visitable) to level 3 (wheelchair accessible).

Table D1. Expert Weighting of Accessibility Features

Accessibility Feature	Average Weight	Rounded Weight
Extra-Wide Doors/Hallways	7.52	7.5
No Steps Between Rooms	7.34	7
Steps Between Rooms, Handrails, and Ramps	6.04	6
Steps Between Rooms and Handrails, No Ramps	5.08	5
Steps Between Rooms and Ramps, No Handrails	4.15	4
Handrails/Grab Bars In Bathroom	6.19	6
Handrails/Grab Bars In Other Areas	5.26	5
Door Handles Instead of Knobs	4.70	5
Sink Handles/Levers	4.70	5
Wheelchair Accessible Electrical Outlets	5.64	5.5
Wheelchair Accessible Electrical Switches	6.02	6
Wheelchair Accessible Climate Controls	6.02	6
Wheelchair Accessible Kitchen Cabinets	5.45	5.5
Wheelchair Accessible Countertops	5.82	6
Wheelchair Accessible Other Kitchen Features	5.45	5.5
Wheelchair Accessible Bathroom	7.52	7.5
Bedroom on Entry Level or Presence of Elevator	7.43	7.5
Bathroom on Entry Level or Presence of Elevator	7.43	7.5
Entrance Accessible Without Steps or Stairs	7.52	7.5
Total	100.00	100

We then used the weights in column 2 to create an index for all housing units. Table D2 shows the distribution of the index created from these weights. The first column shows values for all housing units, including those that are vacant, while the second and third columns show those for occupied rental and owner-occupied units. The mean and median index values are displayed as well as the fraction of housing units that have index values of at least 90, at least 80, at least 70, at least 60, and at least 50. Table D3 is an analogous table calculated for housing units with a disabled occupant.

Table D2. Accessibility Indices Based on the Weighted Sum of Accessibility Features for all Housing Units (HUs)

Index Specification:	Expert Weighting			AHS Disabled Household Weighting			AHS High-Income, Disabled Household Weighting		
	All HUs (Including Vacant Units)	All Renter-Occupied Units	All Owner-Occupied Units	All HUs (Including Vacant Units)	All Renter-Occupied Units	All Owner-Occupied Units	All HUs (Including Vacant Units)	All Renter-Occupied Units	All Owner-Occupied Units
Sample:									
Mean Score	40.24	38.58	41.66	51.85	51.26	54.30	51.09	50.26	53.72
Median Score	41.00	39.00	44.00	54.56	52.70	57.98	54.31	52.34	57.50
% with Score >= 50	37.0%	34.1%	39.4%	54.2%	52.5%	58.9%	53.5%	51.5%	58.5%
% with Score >= 60	18.7%	17.2%	20.1%	43.2%	42.1%	47.3%	43.0%	41.5%	47.2%
% with Score >= 70	6.9%	6.4%	7.1%	29.6%	29.3%	32.2%	27.9%	27.1%	30.7%
% with Score >= 80	1.7%	1.7%	1.6%	12.1%	11.7%	13.4%	11.4%	10.9%	12.7%
% with Score >= 90	0.2%	0.3%	0.1%	2.0%	2.1%	2.1%	1.6%	1.7%	1.6%

"High-Income" is defined as having total household income greater than \$ 46,911

"Disabled" is defined as anyone with serious difficulty walking or climbing stairs, or who uses a mobility device because of a condition other than a temporary injury

Table D3. Accessibility Indices Based on the Weighted Sum of Accessibility Features for Housing Units (HUs) with Disabled Occupant

Index Specification:	Expert Weighting			AHS Disabled Household Weighting			AHS High-Income, Disabled Household Weighting		
	All Occupied HUs with Disabled Occupant	Renter-Occupied Units with Disabled Occupant	Owner-Occupied Units with Disabled Occupant	All Occupied HUs with Disabled Occupant	Renter-Occupied Units with Disabled Occupant	Owner-Occupied Units with Disabled Occupant	All Occupied HUs with Disabled Occupant	Renter-Occupied Units with Disabled Occupant	Owner-Occupied Units with Disabled Occupant
Sample:									
Mean Score	45.43	44.93	45.75	58.36	56.77	59.19	57.40	55.68	58.30
Median Score	46.50	45.50	47.50	62.49	59.30	63.54	61.68	58.33	62.81
% with Score >= 50	45.9%	44.1%	47.0%	63.2%	59.4%	65.2%	62.4%	58.6%	64.4%
% with Score >= 60	27.3%	26.4%	27.9%	52.8%	49.5%	54.5%	52.0%	48.4%	53.8%
% with Score >= 70	12.9%	14.0%	12.1%	39.2%	36.9%	40.5%	36.8%	34.4%	38.0%
% with Score >= 80	4.5%	5.6%	3.8%	19.6%	19.2%	19.9%	17.9%	17.7%	18.1%
% with Score >= 90	0.6%	0.9%	0.4%	5.3%	6.2%	4.8%	4.2%	5.1%	3.8%

"High-Income" is defined as having total household income greater than \$ 46,911

"Disabled" is defined as anyone with serious difficulty walking or climbing stairs, or who uses a mobility device because of a condition other than a temporary injury

Once again, very few units are fully accessible, with less than one percent of all units being fully accessible. As expected, units occupied by a disabled resident have somewhat greater accessibility scores, with a median of 48 on this accessibility index, in contrast to 42.5 for all units.

To help interpret the index, we asked the experts how they would characterize a fully accessible home, one that is partially accessible, and one that is not accessible, and, specifically, what value of the index qualifies as an accessible home or a partially accessible home. The consensus opinion is that all the features are needed to qualify as fully accessible, that is, the index should be equal to 100 to qualify as fully accessible. The experts pointed to the housing accessibility regulations which indeed require all these items. They generally resisted defining “partially accessible” and called the concept “meaningless.” That said, they did indicate that some features were more critical than others, and their stated priorities determine the weights above. Thus, a unit with an index value of 90 is more accessible than a unit with an index value of 60.

If we use a score of 90 (as opposed to 100) as the standard for accessibility, only 0.3 percent of all housing units would be deemed accessible. Among housing units with a disabled occupant, only 0.8 percent are accessible.

D.2. Accessibility index based on revealed preference in AHS

In this version, we use the AHS data to empirically estimate the importance of specific accessibility features to households with disabilities. That is, instead of using the expert-generated weights in Table D1, we examine the AHS data to see which features are installed in homes with disabled occupants. The intuition is to more heavily weight those features that are more commonly installed by households who need them.

The first set of columns in Table D4 shows the prevalence of each feature for housing units with a disabled occupant. The first column shows all housing units with a disabled occupant, and the second shows the subset with above-median household income (based on the universe of owner-occupied households). This latter group should be less income constrained in their ability to install accessibility features. Columns 3 and 4 break out renters and owners. We distinguish owner-occupants because owners would not need to have landlord approval to install accessibility features. That said, we would expect all high-income households to be more able to move to alternate, accessible housing, and so tenure itself is not necessarily a constraint. Finally, column 5 shows the features installed in housing units with high-income homeowners.

Table D4. Prevalence of Accessibility Features in Housing Units with Disabled Occupant

Accessibility Features Present in Home	Disabled					Disabled & Live Alone					Uses Mobility Device				
	All HHs	High-Income HHs	Renters	Owners	High-Income Owners	All HHs	High-Income HHs	Renters	Owners	High-Income Owners	All HHs	High-Income HHs	Renters	Owners	High-Income Owners
Original Accessibility Features															
Can Enter Without Steps	45.3%	48.0%	45.4%	45.2%	48.7%	46.5%	43.7%	50.3%	43.4%	40.1%	46.9%	49.1%	47.4%	46.7%	49.8%
Extra-Wide Doors/Hallways	13.3%	14.6%	14.8%	12.5%	13.8%	14.2%	12.4%	18.7%	10.5%	7.4%	15.0%	15.3%	17.3%	13.9%	14.6%
No Steps Between Rooms	69.0%	61.0%	75.5%	65.7%	59.8%	74.2%	68.0%	82.5%	67.4%	59.6%	68.7%	59.8%	75.4%	65.2%	58.9%
Ramps In Home*	2.6%	3.2%	1.9%	3.1%	3.5%	2.8%	6.3%	2.4%	3.3%	5.7%	3.1%	3.8%	2.3%	3.6%	4.1%
Hand Rails/Grab Bars In Home*	31.7%	35.5%	18.6%	40.9%	39.2%	26.6%	39.2%	16.7%	38.9%	53.6%	32.5%	35.9%	19.2%	41.6%	39.8%
Handrails/Grab Bars In Bathroom	40.5%	35.6%	36.2%	42.8%	36.9%	48.0%	39.5%	47.3%	48.5%	41.2%	44.7%	38.1%	40.1%	47.0%	40.0%
Handrails/Grab Bars In Other Areas	6.8%	6.6%	3.8%	8.4%	7.2%	7.2%	6.6%	4.9%	9.2%	7.6%	8.1%	7.7%	4.4%	10.0%	8.7%
Door Handles Instead of Knobs	13.8%	17.9%	14.9%	13.2%	18.7%	15.0%	16.1%	20.4%	10.6%	13.4%	14.9%	18.4%	17.1%	13.8%	19.1%
Sink Handles/Levers	30.0%	40.0%	25.2%	32.5%	41.7%	28.6%	37.5%	28.3%	28.8%	39.7%	30.8%	39.2%	26.2%	33.2%	40.9%
Built-In Shower Seats*	15.5%	18.0%	10.9%	17.9%	18.9%	16.0%	16.5%	13.1%	18.4%	16.0%	17.4%	18.6%	12.1%	20.1%	19.6%
Raised Toilets*	18.8%	17.9%	12.6%	22.0%	19.5%	19.6%	20.3%	15.8%	22.8%	21.7%	21.2%	19.0%	15.2%	24.2%	21.1%
Kitchen Trays/Lazy Susans*	18.2%	28.3%	9.6%	22.7%	30.1%	14.1%	22.1%	9.0%	18.3%	25.0%	18.5%	28.0%	9.8%	22.9%	30.2%
Wheelchair Accessible Electrical Outlets	65.2%	65.9%	61.9%	66.9%	66.5%	65.0%	61.4%	65.0%	65.0%	62.6%	65.4%	64.6%	62.8%	66.7%	65.4%
Wheelchair Accessible Electrical Switches	68.3%	70.4%	64.7%	70.2%	70.9%	67.5%	62.0%	66.5%	68.3%	61.9%	68.7%	69.2%	66.2%	70.1%	69.8%
Wheelchair Accessible Climate Controls	49.8%	49.6%	47.2%	51.1%	49.9%	50.5%	43.5%	50.6%	50.4%	41.8%	50.5%	48.5%	49.2%	51.2%	48.7%
Wheelchair Accessible Kitchen Cabinets	20.1%	17.9%	18.6%	20.9%	18.5%	19.9%	17.9%	19.7%	20.1%	19.0%	21.3%	18.5%	19.7%	22.1%	19.4%
Wheelchair Accessible Countertops	54.9%	55.3%	50.7%	57.0%	56.1%	53.8%	50.4%	52.2%	55.1%	51.1%	55.8%	54.8%	52.6%	57.5%	55.5%
Wheelchair Accessible Other Kitchen Features	33.1%	31.9%	30.5%	34.5%	32.5%	32.6%	28.4%	32.4%	32.7%	26.6%	34.0%	30.2%	32.0%	35.0%	30.8%
Wheelchair Accessible Bathroom	44.2%	45.5%	41.3%	45.7%	46.1%	43.6%	41.9%	44.8%	42.7%	41.6%	45.6%	45.9%	43.9%	46.5%	46.6%
Elevators In Home*	0.9%	0.9%	1.2%	0.8%	1.1%	1.4%	1.2%	2.0%	0.6%	1.7%	1.0%	1.1%	1.3%	0.9%	1.3%
Bedroom On Entry Level*	84.1%	74.4%	86.3%	83.0%	73.6%	88.0%	81.1%	89.6%	86.7%	76.6%	84.2%	73.8%	86.3%	83.1%	73.5%
Full Bathroom On Entry Level*	90.8%	88.7%	89.5%	91.5%	88.8%	91.6%	88.8%	90.5%	92.5%	87.2%	90.8%	88.0%	89.5%	91.5%	88.3%

Table D4. Prevalence of Accessibility Features in Housing Units with Disabled Occupant (continued)

Accessibility Features Present in Home	Disabled					Disabled & Live Alone					Uses Mobility Device				
	All HHs	High-Income HHs	Renters	Owners	High-Income Owners	All HHs	High-Income HHs	Renters	Owners	High-Income Owners	All HHs	High-Income HHs	Renters	Owners	High-Income Owners
Constructed Accessibility Features															
Steps Between Rooms, Handrails,	0.5%	0.5%	0.2%	0.7%	0.6%	0.6%	2.2%	0.3%	1.0%	3.3%	0.7%	0.7%	0.3%	0.9%	0.8%
Steps Between Rooms and Handra	12.0%	15.8%	5.8%	16.3%	17.8%	8.9%	12.8%	3.7%	15.4%	18.7%	12.4%	16.3%	5.6%	17.0%	18.4%
Steps Between Rooms and Ramps,	0.3%	0.4%	0.2%	0.4%	0.4%	0.3%	0.0%	0.2%	0.5%	0.0%	0.4%	0.4%	0.2%	0.5%	0.5%
Bedroom on Entry Level or Presen	84.3%	74.7%	86.5%	83.1%	73.9%	88.1%	81.2%	89.9%	86.7%	76.8%	84.4%	74.1%	86.6%	83.3%	73.9%
Bathroom on Entry Level or Preser	90.9%	88.9%	89.7%	91.6%	88.9%	91.8%	88.9%	90.8%	92.6%	87.3%	91.0%	88.2%	89.7%	91.6%	88.6%
Total Number of Households															
Sample	21,548	6,751	9,146	12,402	5,329	8,161	823	4,693	3,478	548	15,378	4,908	6,557	8,821	3,827
Weighted Count ¹	17,393,772	5,505,022	5,951,085	11,442,687	4,557,142	6,086,495	650,973	2,763,922	3,322,573	449,963	12,155,461	3,963,836	4,133,649	8,021,812	3,246,726

* Not used in Appendix Table C5 weights

"High-Income" is defined as having total household income greater than \$46,911

"Disabled" is defined as anyone with serious difficulty walking or climbing stairs, or who uses a mobility device because of a condition other than a temporary injury

The prevalence of each feature by income and tenure does not show a clear pattern. Income households with a disabled member do not appear to live in systematically different units than their lower income counterparts. This finding was corroborated with regression analysis: the partial correlation between income and the prevalence of each feature was sometimes significantly negative and sometimes significantly positive, depending on the feature. Similarly, we find few systematic differences either between accessibility of units occupied by renters and those occupied by homeowners, or between accessibility features in units occupied by homeowners with high incomes and those occupied by other homeowners.

We also show in additional columns of Table D4 the prevalence of accessibility features among housing units where a disabled individual lives alone, and among housing units occupied by someone who uses a mobility device (this is a subset of our disabled population which also includes individuals who have trouble walking or climbing stairs). Again, no clear patterns emerged.

Table D5 recalibrates the information in Table D4 into weights by setting the sum to 100. Table D5 is thus analogous to the expert weights in Table D1. We note that these revealed-preference weights are roughly similar to the expert weights, which bolsters our confidence about their validity.

Table D5. Weights Based on Feature Prevalence in Disabled Households

Accessibility Features Present in Home	Disabled					Disabled & Live Alone					Uses Mobility Device				
	All HHs	High-Income HHs	Renters	Owners	High-Income Owners	All HHs	High-Income HHs	Renters	Owners	High-Income Owners	All HHs	High-Income HHs	Renters	Owners	High-Income Owners
Weights															
Can Enter Without Steps	6.21	6.63	6.42	6.10	6.66	6.23	6.24	6.58	5.93	5.91	6.29	6.80	6.48	6.19	6.82
Extra-Wide Doors/Hallways	1.82	2.01	2.09	1.69	1.89	1.90	1.77	2.44	1.44	1.10	2.01	2.12	2.36	1.84	2.00
No Steps Between Rooms	9.46	8.43	10.68	8.86	8.20	9.94	9.72	10.79	9.21	8.79	9.21	8.29	10.32	8.66	8.06
Steps Between Rooms, Handrails, and Ramps	0.07	0.07	0.03	0.10	5.06	0.08	0.32	0.03	0.14	0.49	0.09	0.09	0.04	0.12	0.11
Steps Between Rooms and Handrails, No Ramps	1.64	2.19	0.82	2.19	0.08	1.19	1.83	0.48	2.11	2.76	1.66	2.26	0.77	2.25	2.52
Steps Between Rooms and Ramps, No Handrails	0.04	0.05	0.02	0.06	2.43	0.04	0.01	0.02	0.06	0.00	0.05	0.06	0.03	0.06	0.07
Handrails/Grab Bars In Bathroom	5.56	4.92	5.12	5.77	0.06	6.42	5.65	6.19	6.63	6.08	5.99	5.28	5.49	6.24	5.48
Handrails/Grab Bars In Other Areas	0.94	0.91	0.54	1.13	0.98	0.97	0.94	0.64	1.26	1.12	1.09	1.07	0.60	1.33	1.19
Door Handles Instead of Knobs	1.89	2.47	2.11	1.78	2.56	2.01	2.30	2.67	1.44	1.97	2.00	2.55	2.34	1.83	2.61
Sink Handles/Lever	4.11	5.52	3.56	4.39	5.71	3.83	5.37	3.70	3.94	5.86	4.13	5.43	3.59	4.41	5.60
Wheelchair Accessible Electrical Outlets	8.93	9.11	8.75	9.02	9.11	8.71	8.77	8.50	8.88	9.23	8.77	8.94	8.60	8.85	8.95
Wheelchair Accessible Electrical Switches	9.36	9.72	9.15	9.47	9.71	9.04	8.87	8.70	9.33	9.13	9.22	9.59	9.06	9.30	9.55
Wheelchair Accessible Climate Controls	6.82	6.85	6.68	6.89	6.83	6.76	6.22	6.63	6.88	6.17	6.78	6.72	6.74	6.80	6.66
Wheelchair Accessible Kitchen Cabinets	2.75	2.47	2.63	2.82	2.54	2.67	2.55	2.58	2.74	2.80	2.85	2.57	2.70	2.93	2.65
Wheelchair Accessible Countertops	7.52	7.64	7.18	7.69	7.68	7.21	7.21	6.83	7.53	7.53	7.49	7.59	7.20	7.63	7.60
Wheelchair Accessible Other Kitchen Features	4.54	4.41	4.32	4.65	4.45	4.36	4.06	4.24	4.47	3.93	4.55	4.19	4.38	4.64	4.21
Wheelchair Accessible Bathroom	6.06	6.29	5.84	6.16	6.31	5.84	6.00	5.86	5.84	6.14	6.11	6.36	6.01	6.17	6.39
Bedroom on Entry Level or Presence of Elevator	11.55	10.32	12.24	11.22	10.13	11.80	11.61	11.76	11.85	11.32	11.31	10.27	11.85	11.05	10.11
Bathroom on Entry Level or Presence of Elevator	12.47	12.28	12.69	12.36	12.18	12.29	12.72	11.88	12.64	12.88	12.20	12.22	12.28	12.15	12.13
Total Weights:	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

"High-Income" is defined as having total household income greater than \$46,911

"Disabled" includes anyone with serious difficulty walking or climbing stairs, or who uses a mobility device because of a condition other than a

Given the lack of clear differences by income or tenure, we use the prevalence of features for all households with a disabled person (Table D5 first column) and all high-income households with a disabled person (Table D5 second column) to create two additional indices of accessibility for housing units. The distribution of these index values is shown in Table D2 for all housing units, and in Table D3 for housing units occupied by a disabled person.

In these tables we can see that when we weight the accessibility features based on the features people with a disability actually have in their homes, the mean and median index values are similar to those created using the expert weighting system. The entire distribution of the indices is, however, more skewed to right when using the revealed preference weights. As such, the index weighted on features available in the homes of people with disability results in substantially greater percentages of units with a score of 70 or above.

Similar to the accessibility index based on expert weighting, these index scores do not have a clear interpretation and a unit would need a score of 100 to qualify as fully accessible according to housing regulations. That said, index values should be considered more accessible. If we use a score of 90 as the standard for accessibility, 1.2 to 1.4 percent of all housing units would be deemed accessible.

Appendix E: Table 11A-Supplemental Tables

Table 11A. Percent of Housing Units in MSAs with Critical Accessibility Features

All HUs in MSAs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	33.40%	3.63%	0.13%	141,506	100,564,426
Occupancy Status					
Renter-occupied	30.53%	3.80%	0.14%	49,208	32,070,468
Owner-occupied	34.22%	3.55%	0.12%	75,103	57,231,005
Vacant Unit	37.55%	3.37%	0.27%	15,532	10,043,341
Seasonal Unit	39.84%	4.54%	0.02%	1,663	1,219,612
Monthly Housing Cost (Median=1015)					
Above Median (in sample)	32.24%	2.83%	0.07%	62,202	45,785,931
Below Median (in sample)	33.65%	4.51%	0.18%	62,109	43,515,542
Housing Price (Median=178900)					
Above Median (in sample)	32.08%	3.31%	0.13%	42,489	31,543,927
Below Median (in sample)	37.62%	3.74%	0.11%	42,488	33,247,969
Building Size					
1 Unit	35.07%	3.33%	0.10%	98,687	71,667,307
2-3 Units	21.85%	1.66%	0.04%	8,241	5,654,299
4-49 Units	26.83%	3.34%	0.15%	27,675	18,396,863
50+ Units	47.53%	12.07%	0.70%	6,903	4,845,957
Building Type					
House, apartment, flat	34.09%	3.70%	0.14%	136,062	95,974,690
Mobile home	18.06%	1.79%	0.01%	4,290	4,202,453
Other	31.46%	7.21%	0.14%	1,154	387,283
Building Age					
Built before 1920	11.93%	1.18%	0.17%	8,012	6,156,897
1920s	14.92%	1.02%	0.00%	5,710	4,228,159
1930s	17.97%	1.28%	0.00%	5,390	4,183,462
1940s	26.73%	2.21%	0.05%	8,406	5,998,530
1950s	34.53%	3.46%	0.09%	15,521	10,781,951
1960s	36.97%	3.59%	0.07%	17,764	12,289,672
1970s	36.18%	3.77%	0.09%	24,406	18,416,967
1980s	37.21%	4.82%	0.16%	19,350	13,114,209
1990s	36.92%	4.45%	0.21%	18,070	11,710,546
2000 or after	41.03%	4.91%	0.30%	18,877	13,684,033
Census Region					
Northeast	17.20%	2.49%	0.07%	19,717	20,055,212
Midwest	22.92%	3.57%	0.16%	33,230	20,743,651
South	43.44%	3.69%	0.14%	42,934	36,326,476
West	40.48%	4.55%	0.16%	45,625	23,439,087
Central City/Suburban Status					
Central Cities	30.67%	3.28%	0.17%	48,586	37,612,156
Suburbs	35.00%	3.84%	0.11%	92,920	62,952,270

Table 11A. Percent of Housing Units in MSAs with Critical Accessibility Features (continued)

All HUs in MSAs	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Age of Residents					
Any Resident >= 65	39.28%	8.98%	0.43%	29,898	20,958,308
Any Resident < 18	31.52%	1.86%	0.02%	41,381	29,773,790
All Residents >= 18 and < 65	30.83%	2.26%	0.05%	55,156	40,144,190
Household Composition					
Elderly, Living Alone	39.13%	10.77%	0.50%	14,262	9,421,901
Other	32.20%	2.81%	0.08%	110,049	79,879,572
Race/Ethnicity					
White (Non-Hisp.)	32.70%	4.13%	0.16%	80,617	58,927,802
Black (Non-Hisp.)	30.05%	2.95%	0.06%	17,887	12,267,328
Asian (Non-Hisp.)	28.57%	1.82%	0.04%	7,240	4,324,579
Hispanic of Any Race	38.60%	2.44%	0.04%	16,327	12,217,932
Immigration Status of Householder					
Native, US Citizen	32.90%	3.90%	0.14%	103,950	74,844,276
Foreign-Born, US Citizen	34.19%	2.95%	0.12%	10,731	7,373,017
Foreign-Born, Non-US Citizen	31.80%	1.51%	0.00%	9,630	7,084,180
Education					
Non-High School Graduate	34.01%	3.97%	0.12%	16,493	10,969,882
High School Graduate	33.01%	4.00%	0.20%	28,356	21,298,462
Some College, No Bachelor's	34.29%	3.89%	0.12%	37,036	26,685,693
Bachelor's and Above	31.26%	3.05%	0.09%	42,426	30,347,436
Income Limits					
Very Low Income	33.06%	4.80%	0.20%	41,674	28,197,670
Low Income	33.02%	3.97%	0.17%	20,542	15,191,910
Moderate Income	31.28%	3.18%	0.03%	19,643	14,571,264
Higher Income	33.53%	2.68%	0.09%	42,552	31,456,447
HUD-Assisted Households	35.77%	10.16%	0.33%	8,163	3,495,268
Very Low-Income Renters	31.02%	4.77%	0.20%	26,074	16,198,444
Worst Case Needs	30.75%	3.11%	0.12%	3,805	2,818,469

Table 11A. Anaheim MSA: Percent of All Housing Units with Critical Accessibility Features

Anaheim MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	38.86%	4.03%	0.08%	3,825	1,053,770
Occupancy Status					
Renter-occupied	33.63%	2.73%	0.11%	1,593	415,638
Owner-occupied	43.08%	4.79%	0.06%	1,909	567,157
Vacant Unit	33.16%	1.79%	0.00%	265	59,328
Seasonal Unit	42.90%	21.43%	0.00%	58	11,647
Monthly Housing Cost (Median=1588)					
Above Median (in sample)	37.84%	1.74%	0.04%	1,751	501,552
Below Median (in sample)	40.49%	6.28%	0.13%	1,751	481,243
Housing Price (Median=495000)					
Above Median (in sample)	42.46%	4.17%	0.07%	1,044	297,878
Below Median (in sample)	42.79%	5.97%	0.05%	1,043	313,857
Building Size					
1 Unit	41.95%	3.38%	0.05%	2,463	695,349
2-3 Units	30.16%	5.92%	0.00%	141	40,199
4-49 Units	33.13%	5.17%	0.06%	1,035	260,977
50+ Units	32.42%	5.69%	0.55%	186	57,245
Building Type					
House, apartment, flat	39.69%	3.94%	0.08%	3,678	1,019,114
Mobile home	11.45%	6.24%	0.00%	118	31,473
Other	52.13%	9.42%	0.00%	29	3,183
Building Age					
Built before 1920	8.59%	0.00%	0.00%	10	1,618
1920s	30.93%	0.00%	0.00%	15	5,878
1930s	35.37%	0.00%	0.00%	47	10,951
1940s	39.14%	1.06%	0.00%	87	24,768
1950s	50.12%	3.91%	0.00%	378	134,337
1960s	48.25%	4.97%	0.00%	909	255,424
1970s	35.82%	4.37%	0.06%	1,127	317,867
1980s	30.90%	4.70%	0.09%	581	158,075
1990s	28.80%	1.81%	0.39%	372	78,634
2000 or after	26.58%	2.40%	0.22%	299	66,218
Central City/Suburban Status					
Central Cities	38.67%	3.25%	0.00%	664	205,875
Suburbs	38.91%	4.22%	0.09%	3,161	847,895
Age of Residents					
Any Resident >= 65	45.29%	11.92%	0.33%	817	244,044
Any Resident < 18	37.88%	1.73%	0.00%	1,384	380,739
All Residents >= 18 and < 65	36.42%	1.41%	0.00%	1,387	382,671

Table 11A. Anaheim MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Anaheim MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	47.98%	16.57%	0.89%	315	91,410
Other	38.24%	2.69%	0.00%	3,187	891,385
Race/Ethnicity					
White (Non-Hisp.)	41.39%	4.44%	0.15%	1,915	539,083
Black (Non-Hisp.)	47.71%	0.00%	0.00%	52	12,629
Asian (Non-Hisp.)	31.17%	4.13%	0.00%	588	169,072
Hispanic of Any Race	39.34%	2.81%	0.00%	877	243,922
Immigration Status of Householder					
Native, US Citizen	40.66%	4.21%	0.13%	2,221	616,366
Foreign-Born, US Citizen	39.18%	4.31%	0.00%	699	208,593
Foreign-Born, Non-US Citizen	33.02%	2.32%	0.00%	582	157,836
Education					
Non-High School Graduate	41.02%	4.10%	0.14%	420	119,193
High School Graduate	35.41%	3.84%	0.18%	586	162,235
Some College, No Bachelor's	40.23%	4.23%	0.12%	1,027	287,739
Bachelor's and Above	39.28%	3.71%	0.00%	1,469	413,628
Income Limits					
Very Low Income	37.65%	6.69%	0.16%	1,175	325,555
Low Income	38.63%	2.78%	0.08%	607	177,072
Moderate Income	37.15%	4.16%	0.13%	405	112,913
Higher Income	41.70%	2.03%	0.00%	1,321	370,912
Low Income	38.21%	2.76%	0.08%	607	177,072
HUD-Assisted Households	35.60%	10.36%	1.10%	102	28,591
Very Low-Income Renters	32.37%	3.63%	0.16%	743	199,389
Worst Case Needs	26.42%	0.62%	0.00%	119	31,669

Table 11A. Birmingham MSA: Percent of All Housing Units with Critical Accessibility Features

Birmingham MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	35.21%	4.74%	0.07%	3,680	501,908
Occupancy Status					
Renter-occupied	32.84%	3.86%	0.22%	905	115,603
Owner-occupied	35.64%	5.54%	0.03%	2,179	309,736
Vacant Unit	37.01%	1.46%	0.00%	547	72,102
Seasonal Unit	44.05%	2.31%	0.00%	49	4,467
Monthly Housing Cost (Median=743.5)					
Above Median (in sample)	37.37%	5.38%	0.04%	1,542	216,267
Below Median (in sample)	32.29%	4.77%	0.13%	1,542	209,072
Housing Price (Median=125000)					
Above Median (in sample)	37.64%	7.51%	0.05%	1,336	197,880
Below Median (in sample)	32.68%	2.06%	0.00%	1,245	160,948
Building Size					
1 Unit	34.89%	4.58%	0.02%	3,057	420,333
2-3 Units	52.56%	4.45%	0.00%	58	7,346
4-49 Units	36.26%	5.24%	0.37%	526	70,239
50+ Units	17.60%	12.10%	0.00%	39	3,990
Building Type					
House, apartment, flat	37.13%	5.22%	0.08%	3,325	450,466
Mobile home	19.13%	0.59%	0.00%	330	49,774
Other	7.73%	0.00%	0.00%	25	1,668
Building Age					
Built before 1920	12.52%	1.85%	0.00%	52	8,589
1920s	11.34%	0.94%	0.00%	98	17,767
1930s	22.47%	2.32%	0.00%	163	21,516
1940s	38.89%	1.25%	0.00%	244	31,653
1950s	31.78%	2.38%	0.00%	467	62,150
1960s	31.88%	1.37%	0.00%	447	65,697
1970s	34.84%	1.97%	0.00%	650	79,788
1980s	28.76%	5.71%	0.00%	479	77,210
1990s	39.52%	8.99%	0.32%	611	81,045
2000 or after	58.81%	11.10%	0.17%	469	56,493
Central City/Suburban Status					
Central Cities	28.81%	3.55%	0.16%	870	123,471
Suburbs	37.23%	5.10%	0.05%	2,810	378,437
Age of Residents					
Any Resident >= 65	44.97%	11.29%	0.09%	795	105,785
Any Resident < 18	34.77%	4.00%	0.00%	933	129,689
All Residents >= 18 and < 65	30.73%	2.40%	0.13%	1,421	199,236

Table 11A. Birmingham MSA: Percent of All Housing Units with Critical Accessibility Features
(continued)

Birmingham MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	35.70%	6.61%	0.17%	379	52,666
Other	34.77%	4.87%	0.07%	2,705	372,673
Race/Ethnicity					
White (Non-Hisp.)	36.09%	4.96%	0.06%	2,041	282,391
Black (Non-Hisp.)	34.34%	6.34%	0.15%	900	118,182
Asian (Non-Hisp.)	16.28%	0.00%	0.00%	26	3,900
Hispanic of Any Race	28.77%	0.98%	0.00%	101	15,536
Immigration Status of Householder					
Native, US Citizen	35.47%	5.23%	0.09%	2,963	408,050
Foreign-Born, US Citizen	27.80%	0.00%	0.00%	44	5,536
Foreign-Born, Non-US Citizen	18.03%	2.39%	0.00%	77	11,753
Education					
Non-High School Graduate	32.41%	2.81%	0.00%	515	70,417
High School Graduate	33.79%	4.97%	0.17%	741	102,390
Some College, No Bachelor's	35.60%	6.07%	0.00%	890	120,377
Bachelor's and Above	36.36%	5.44%	0.13%	938	132,155
Income Limits					
Very Low Income	34.52%	4.64%	0.13%	1,028	136,229
Low Income	31.40%	1.88%	0.00%	540	72,697
Moderate Income	36.56%	6.06%	0.13%	506	68,097
Higher Income	36.15%	6.63%	0.06%	1,010	148,316
Low Income	31.37%	1.88%	0.00%	540	72,697
HUD-Assisted Households	28.75%	7.70%	0.81%	159	20,943
Very Low-Income Renters	32.03%	5.58%	0.26%	501	66,987
Worst Case Needs	31.19%	1.65%	0.00%	82	14,025

Table 11A. Buffalo MSA: Percent of All Housing Units with Critical Accessibility Features

Buffalo MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	11.33%	1.67%	0.32%	3,351	518,839
Occupancy Status					
Renter-occupied	13.08%	1.58%	0.10%	1,071	170,010
Owner-occupied	9.88%	1.87%	0.46%	1,869	293,360
Vacant Unit	15.32%	0.45%	0.23%	382	52,103
Seasonal Unit	4.17%	0.00%	0.00%	29	3,366
Monthly Housing Cost (Median=747)					
Above Median (in sample)	13.09%	2.06%	0.64%	1,475	234,817
Below Median (in sample)	8.92%	1.47%	0.00%	1,465	228,553
Housing Price (Median=110000)					
Above Median (in sample)	10.63%	2.43%	0.77%	1,080	180,301
Below Median (in sample)	10.65%	0.97%	0.00%	1,033	149,667
Building Size					
1 Unit	11.05%	1.66%	0.43%	2,117	335,606
2-3 Units	6.57%	0.39%	0.09%	708	105,878
4-49 Units	17.87%	1.68%	0.00%	431	61,296
50+ Units	22.57%	10.54%	0.63%	95	16,059
Building Type					
House, apartment, flat	11.45%	1.68%	0.33%	3,291	507,732
Mobile home	6.38%	1.42%	0.00%	42	10,259
Other	0.00%	0.00%	0.00%	18	848
Building Age					
Built before 1920	5.08%	0.29%	0.00%	599	98,582
1920s	5.95%	0.15%	0.00%	358	62,360
1930s	9.81%	0.31%	0.00%	304	46,340
1940s	10.63%	0.87%	0.00%	303	56,604
1950s	16.48%	1.39%	0.00%	548	80,881
1960s	13.57%	0.74%	0.00%	355	57,887
1970s	14.99%	5.43%	0.00%	337	47,389
1980s	15.93%	8.31%	5.94%	168	22,792
1990s	13.29%	1.90%	0.00%	237	31,322
2000 or after	18.85%	5.32%	1.69%	142	14,682
Central City/Suburban Status					
Central Cities	8.39%	0.27%	0.00%	983	180,167
Suburbs	12.79%	2.37%	0.48%	2,368	338,672
Age of Residents					
Any Resident >= 65	16.98%	4.84%	1.34%	767	108,039
Any Resident < 18	6.61%	0.00%	0.00%	815	126,076
All Residents >= 18 and < 65	10.58%	1.28%	0.04%	1,386	233,372

Table 11A. Buffalo MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Buffalo MSA: All Housing Units					
Household Composition					
Elderly, Living Alone	19.44%	3.67%	0.15%	411	57,935
Other	9.85%	1.50%	0.35%	2,529	405,435
Race/Ethnicity					
White (Non-Hisp.)	12.24%	2.13%	0.42%	2,385	363,720
Black (Non-Hisp.)	4.58%	0.40%	0.00%	368	66,057
Asian (Non-Hisp.)	2.80%	0.00%	0.00%	51	8,355
Hispanic of Any Race	7.46%	1.11%	0.00%	100	17,594
Immigration Status of Householder					
Native, US Citizen	10.96%	1.77%	0.35%	2,773	435,715
Foreign-Born, US Citizen	14.56%	0.56%	0.00%	87	19,314
Foreign-Born, Non-US Citizen	7.59%	4.53%	0.00%	80	8,341
Education					
Non-High School Graduate	14.26%	2.92%	0.00%	329	49,375
High School Graduate	11.83%	2.43%	0.07%	830	130,030
Some College, No Bachelor's	11.77%	1.84%	0.96%	928	139,818
Bachelor's and Above	8.52%	0.71%	0.06%	853	144,147
Income Limits					
Very Low Income	12.29%	2.55%	0.05%	1,010	169,316
Low Income	11.46%	1.69%	0.12%	500	71,033
Moderate Income	9.02%	0.61%	0.00%	521	93,004
Higher Income	10.66%	1.65%	1.03%	909	130,017
Low Income	11.20%	1.65%	0.12%	500	71,033
HUD-Assisted Households	16.81%	4.56%	0.00%	206	33,563
Very Low-Income Renters	11.90%	1.77%	0.09%	602	101,065
Worst Case Needs	21.90%	0.82%	0.00%	88	11,414

Table11A. Charlotte MSA: Percent of All Housing Units with Critical Accessibility Features

Charlotte MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	27.59%	2.46%	0.10%	3,390	746,475
Occupancy Status					
Renter-occupied	28.49%	2.17%	0.22%	1,018	224,435
Owner-occupied	27.23%	2.52%	0.00%	1,976	445,597
Vacant Unit	27.15%	3.19%	0.42%	365	70,575
Seasonal Unit	24.78%	3.67%	0.00%	31	5,868
Monthly Housing Cost (Median=960)					
Above Median (in sample)	25.30%	1.84%	0.00%	1,498	335,160
Below Median (in sample)	30.01%	2.97%	0.15%	1,496	334,872
Housing Price (Median=150000)					
Above Median (in sample)	25.39%	2.72%	0.00%	1,161	258,329
Below Median (in sample)	29.09%	2.34%	0.00%	1,037	230,058
Building Size					
1 Unit	26.61%	2.23%	0.00%	2,721	604,964
2-3 Units	37.57%	3.24%	0.00%	73	14,717
4-49 Units	30.60%	3.37%	0.61%	550	117,036
50+ Units	37.29%	5.15%	0.00%	46	9,758
Building Type					
House, apartment, flat	28.27%	2.62%	0.10%	3,224	702,964
Mobile home	15.48%	0.00%	0.00%	145	41,530
Other	44.57%	0.00%	0.00%	21	1,981
Building Age					
Built before 1920	11.23%	2.98%	0.00%	36	7,718
1920s	5.79%	0.00%	0.00%	32	7,130
1930s	36.76%	1.41%	0.00%	71	15,408
1940s	25.95%	4.85%	0.00%	143	30,434
1950s	28.55%	3.24%	0.00%	240	51,854
1960s	29.29%	2.62%	0.00%	322	70,933
1970s	29.08%	2.26%	0.00%	418	92,663
1980s	24.39%	2.44%	0.00%	496	112,145
1990s	28.26%	2.19%	0.13%	731	156,910
2000 or after	28.31%	2.35%	0.26%	901	201,280
Central City/Suburban Status					
South	27.30%	2.46%	0.10%	3,390	746,475
Suburbs	27.59%	2.46%	0.10%	3,390	746,475
Age of Residents					
Any Resident >= 65	36.50%	6.28%	0.05%	583	130,707
Any Resident < 18	26.23%	1.56%	0.19%	1,045	232,985
All Residents >= 18 and < 65	25.35%	1.42%	0.00%	1,403	314,623

Table 11A. Charlotte MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Charlotte MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	37.46%	8.01%	0.10%	263	58,771
Other	26.71%	1.87%	0.07%	2,731	611,261
Race/Ethnicity					
White (Non-Hisp.)	28.07%	2.71%	0.07%	1,931	435,963
Black (Non-Hisp.)	26.69%	2.27%	0.12%	741	161,949
Asian (Non-Hisp.)	24.77%	0.00%	0.00%	67	14,890
Hispanic of Any Race	26.14%	1.03%	0.00%	228	51,116
Immigration Status of Householder					
Native, US Citizen	28.03%	2.56%	0.08%	2,670	597,663
Foreign-Born, US Citizen	24.83%	2.03%	0.00%	101	22,804
Foreign-Born, Non-US Citizen	24.25%	0.54%	0.00%	223	49,565
Education					
Non-High School Graduate	31.14%	4.44%	0.29%	370	83,497
High School Graduate	27.32%	3.08%	0.00%	612	136,470
Some College, No Bachelor's	27.99%	2.11%	0.13%	923	206,283
Bachelor's and Above	26.35%	1.58%	0.00%	1,089	243,782
Income Limits					
Very Low Income	30.08%	3.50%	0.21%	944	211,613
Low Income	29.10%	2.04%	0.05%	521	115,478
Moderate Income	26.90%	2.76%	0.00%	510	114,249
Higher Income	25.05%	1.40%	0.00%	1,019	228,692
Low Income	29.04%	2.04%	0.05%	521	115,478
HUD-Assisted Households	33.38%	7.97%	0.00%	68	14,143
Very Low-Income Renters	28.97%	2.90%	0.40%	499	110,083
Worst Case Needs	23.46%	2.20%	0.00%	90	19,995

Table 11A. Cincinnati MSA: Percent of All Housing Units with Critical Accessibility Features

Cincinnati MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	25.53%	4.28%	0.07%	3,761	920,636
Occupancy Status					
Renter-occupied	24.49%	4.27%	0.23%	1,098	266,962
Owner-occupied	26.35%	4.61%	0.00%	2,143	539,468
Vacant Unit	21.47%	1.57%	0.00%	496	109,185
Seasonal Unit	54.91%	4.54%	0.00%	24	5,021
Monthly Housing Cost (Median=861)					
Above Median (in sample)	23.57%	3.74%	0.06%	1,621	409,961
Below Median (in sample)	28.01%	5.29%	0.09%	1,620	396,469
Housing Price (Median=135000)					
Above Median (in sample)	25.70%	3.54%	0.00%	1,219	297,748
Below Median (in sample)	27.76%	5.42%	0.00%	1,207	304,316
Building Size					
1 Unit	26.49%	4.41%	0.00%	2,718	672,200
2-3 Units	19.56%	1.15%	0.00%	213	58,632
4-49 Units	19.33%	2.05%	0.01%	715	168,349
50+ Units	57.75%	25.49%	2.96%	115	21,455
Building Type					
House, apartment, flat	25.79%	4.39%	0.05%	3,615	888,587
Mobile home	17.71%	0.00%	0.00%	126	30,086
Other	31.94%	22.82%	15.00%	20	1,963
Building Age					
Built before 1920	15.78%	1.46%	0.24%	446	99,884
1920s	9.67%	4.64%	0.00%	191	47,832
1930s	15.60%	1.67%	0.00%	168	43,493
1940s	25.85%	2.87%	0.00%	252	62,625
1950s	35.65%	5.77%	0.00%	412	110,299
1960s	32.95%	7.93%	0.00%	411	105,794
1970s	24.97%	3.60%	0.00%	522	136,742
1980s	28.10%	5.00%	0.00%	414	98,856
1990s	24.74%	3.49%	0.32%	546	122,356
2000 or after	26.11%	4.15%	0.01%	399	92,755
Central City/Suburban Status					
Central Cities	19.24%	4.57%	0.01%	816	189,173
Suburbs	27.04%	4.20%	0.08%	2,945	731,463
Age of Residents					
Any Resident >= 65	39.39%	12.59%	0.32%	741	182,918
Any Resident < 18	22.04%	2.30%	0.00%	1,117	266,966
All Residents >= 18 and < 65	21.73%	2.10%	0.00%	1,427	364,499

Table 11A. Cincinnati MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Cincinnati MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	44.73%	16.46%	0.59%	365	99,516
Other	23.03%	2.78%	0.00%	2,876	706,914
Race/Ethnicity					
White (Non-Hisp.)	27.49%	5.10%	0.07%	2,638	656,537
Black (Non-Hisp.)	19.30%	1.77%	0.14%	430	105,705
Asian (Non-Hisp.)	11.87%	0.00%	0.00%	46	11,941
Hispanic of Any Race	13.25%	1.18%	0.00%	83	20,186
Immigration Status of Householder					
Native, US Citizen	25.86%	4.69%	0.08%	3,099	770,091
Foreign-Born, US Citizen	30.18%	0.89%	0.00%	72	15,613
Foreign-Born, Non-US Citizen	17.70%	0.00%	0.00%	70	20,726
Education					
Non-High School Graduate	30.42%	5.77%	0.00%	401	94,126
High School Graduate	27.21%	4.54%	0.06%	866	223,504
Some College, No Bachelor's	26.10%	3.74%	0.00%	937	231,614
Bachelor's and Above	22.40%	4.70%	0.18%	1,037	257,186
Income Limits					
Very Low Income	27.95%	7.26%	0.14%	1,099	254,064
Low Income	27.03%	4.44%	0.17%	538	146,605
Moderate Income	24.95%	1.51%	0.00%	506	129,523
Higher Income	23.40%	3.40%	0.00%	1,098	276,238
Low Income	26.89%	4.44%	0.17%	538	146,605
HUD-Assisted Households	24.59%	8.02%	0.34%	209	43,314
Very Low-Income Renters	25.85%	6.11%	0.24%	645	145,079
Worst Case Needs	25.07%	2.46%	0.00%	87	22,451

Table 11A. Cleveland MSA: Percent of All Housing Units with Critical Accessibility Features

Cleveland MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	18.14%	2.40%	0.14%	3,618	958,408
Occupancy Status					
Renter-occupied	24.53%	2.09%	0.20%	1,039	272,929
Owner-occupied	15.09%	2.63%	0.09%	2,073	586,498
Vacant Unit	19.48%	1.54%	0.32%	488	92,589
Seasonal Unit	11.30%	3.50%	0.00%	18	6,392
Monthly Housing Cost (Median=836)					
Above Median (in sample)	17.43%	1.93%	0.11%	1,559	426,276
Below Median (in sample)	18.71%	3.00%	0.14%	1,553	433,151
Housing Price (Median=125000)					
Above Median (in sample)	16.44%	2.42%	0.09%	1,182	314,330
Below Median (in sample)	14.04%	2.57%	0.07%	1,171	329,052
Building Size					
1 Unit	16.53%	1.94%	0.07%	2,650	717,232
2-3 Units	9.07%	1.34%	0.00%	255	63,552
4-49 Units	17.15%	2.71%	0.34%	445	114,961
50+ Units	47.69%	8.27%	0.66%	268	62,663
Building Type					
House, apartment, flat	18.31%	2.41%	0.14%	3,573	945,689
Mobile home	3.42%	0.00%	0.00%	28	10,733
Other	13.29%	7.08%	0.00%	17	1,986
Building Age					
Built before 1920	7.50%	0.14%	0.00%	308	95,688
1920s	12.59%	1.05%	0.00%	364	82,290
1930s	13.41%	0.38%	0.00%	237	66,434
1940s	18.06%	3.24%	0.21%	352	80,595
1950s	19.88%	1.01%	0.00%	685	197,918
1960s	21.15%	2.42%	0.00%	479	136,030
1970s	23.63%	3.98%	0.00%	470	139,499
1980s	18.25%	5.06%	0.70%	229	57,338
1990s	22.43%	5.63%	1.40%	260	52,943
2000 or after	17.91%	4.72%	0.00%	234	49,673
Central City/Suburban Status					
Central Cities	12.24%	1.51%	0.08%	826	211,800
Suburbs	19.75%	2.65%	0.15%	2,792	746,608
Age of Residents					
Any Resident >= 65	22.98%	6.06%	0.26%	907	263,421
Any Resident < 18	14.94%	0.68%	0.00%	872	218,441
All Residents >= 18 and < 65	17.15%	1.04%	0.10%	1,381	390,525

Table 11A. Cleveland MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Cleveland MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	24.60%	8.48%	0.51%	454	135,724
Other	16.85%	1.35%	0.05%	2,658	723,703
Race/Ethnicity					
White (Non-Hisp.)	18.74%	2.72%	0.08%	2,276	628,646
Black (Non-Hisp.)	15.12%	2.22%	0.34%	601	162,811
Asian (Non-Hisp.)	11.84%	0.00%	0.00%	56	14,571
Hispanic of Any Race	21.99%	0.96%	0.00%	152	46,490
Immigration Status of Householder					
Native, US Citizen	18.26%	2.52%	0.13%	2,898	801,968
Foreign-Born, US Citizen	11.35%	2.66%	0.00%	138	35,429
Foreign-Born, Non-US Citizen	21.69%	0.00%	0.00%	76	22,030
Education					
Non-High School Graduate	25.42%	3.50%	0.00%	361	93,484
High School Graduate	19.94%	2.41%	0.09%	818	246,614
Some College, No Bachelor's	14.17%	1.97%	0.12%	986	270,307
Bachelor's and Above	17.66%	2.67%	0.21%	947	249,022
Income Limits					
Very Low Income	17.10%	2.53%	0.20%	961	286,439
Low Income	23.01%	4.47%	0.14%	570	156,879
Moderate Income	21.52%	2.37%	0.21%	509	140,213
Higher Income	14.50%	1.30%	0.00%	1,072	275,896
Low Income	22.97%	4.47%	0.14%	570	156,879
HUD-Assisted Households	23.07%	4.46%	0.78%	195	42,019
Very Low-Income Renters	20.78%	2.46%	0.21%	562	162,161
Worst Case Needs	30.94%	0.00%	0.00%	74	31,895

Table 11A. Columbus MSA: Percent of All Housing Units with Critical Accessibility Features

Columbus MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	16.02%	2.03%	0.15%	3,745	798,454
Occupancy Status					
Renter-occupied	16.94%	2.86%	0.22%	1,207	293,326
Owner-occupied	14.31%	1.51%	0.10%	2,024	389,270
Vacant Unit	20.27%	1.58%	0.18%	496	113,806
Seasonal Unit	33.33%	0.00%	0.00%	18	2,052
Monthly Housing Cost (Median=931)					
Above Median (in sample)	11.98%	1.57%	0.08%	1,616	330,729
Below Median (in sample)	18.73%	2.59%	0.21%	1,615	351,867
Housing Price (Median=135000)					
Above Median (in sample)	13.04%	1.48%	0.06%	1,159	231,364
Below Median (in sample)	16.95%	1.41%	0.12%	1,127	212,566
Building Size					
1 Unit	14.71%	1.18%	0.09%	2,833	559,288
2-3 Units	19.34%	2.13%	0.00%	148	34,562
4-49 Units	16.59%	2.79%	0.23%	704	186,425
50+ Units	60.01%	29.17%	1.77%	60	18,179
Building Type					
House, apartment, flat	16.19%	2.06%	0.15%	3,661	780,407
Mobile home	5.38%	0.00%	0.00%	69	15,433
Other	58.76%	16.59%	0.00%	15	2,614
Building Age					
Built before 1920	13.30%	0.32%	0.00%	262	49,592
1920s	6.92%	0.30%	0.00%	185	54,489
1930s	15.69%	1.47%	0.00%	94	24,223
1940s	14.72%	0.00%	0.00%	172	32,860
1950s	20.25%	2.06%	0.36%	365	81,233
1960s	19.36%	0.93%	0.11%	499	113,864
1970s	12.39%	0.89%	0.01%	621	144,356
1980s	16.12%	4.73%	0.00%	386	87,695
1990s	16.77%	4.48%	0.38%	664	117,223
2000 or after	19.68%	1.99%	0.33%	497	92,919
Central City/Suburban Status					
Central Cities	15.35%	1.28%	0.10%	1,847	479,309
Suburbs	17.01%	3.14%	0.23%	1,898	319,145
Age of Residents					
Any Resident >= 65	28.79%	7.53%	0.32%	663	134,026
Any Resident < 18	12.52%	0.78%	0.12%	1,088	220,301
All Residents >= 18 and < 65	11.79%	0.80%	0.09%	1,512	336,759

Table 11A. Columbus MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Columbus MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	31.34%	11.12%	0.63%	348	69,695
Other	13.69%	1.10%	0.09%	2,883	612,901
Race/Ethnicity					
White (Non-Hisp.)	15.12%	2.31%	0.19%	2,515	518,808
Black (Non-Hisp.)	17.54%	0.86%	0.00%	465	118,392
Asian (Non-Hisp.)	20.90%	3.40%	0.00%	96	13,728
Hispanic of Any Race	7.18%	1.26%	0.00%	108	23,285
Immigration Status of Householder					
Native, US Citizen	15.61%	2.11%	0.16%	2,970	625,895
Foreign-Born, US Citizen	15.41%	2.01%	0.00%	111	23,591
Foreign-Born, Non-US Citizen	12.18%	1.69%	0.00%	150	33,110
Education					
Non-High School Graduate	25.49%	3.66%	0.00%	311	60,666
High School Graduate	16.83%	2.23%	0.08%	851	178,573
Some College, No Bachelor's	12.86%	1.84%	0.25%	911	195,842
Bachelor's and Above	14.14%	1.82%	0.14%	1,158	247,515
Income Limits					
Very Low Income	20.17%	4.15%	0.30%	939	212,508
Low Income	12.77%	1.43%	0.00%	544	105,261
Moderate Income	14.05%	1.30%	0.00%	552	128,643
Higher Income	13.18%	0.99%	0.16%	1,196	236,184
Low Income	12.73%	1.43%	0.00%	544	105,261
HUD-Assisted Households	28.38%	6.93%	1.37%	136	29,016
Very Low-Income Renters	20.39%	5.03%	0.45%	588	141,703
Worst Case Needs	14.85%	7.48%	0.86%	101	29,054

Table 11A. Dallas MSA: Percent of All Housing Units with Critical Accessibility Features

Dallas MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	49.41%	3.11%	0.13%	3,552	1,688,355
Occupancy Status					
Renter-occupied	37.36%	2.85%	0.07%	1,322	624,823
Owner-occupied	59.27%	3.15%	0.00%	1,839	906,170
Vacant Unit	39.27%	3.98%	1.38%	373	151,702
Seasonal Unit	61.84%	3.84%	0.00%	18	5,660
Monthly Housing Cost (Median=1038)					
Above Median (in sample)	59.60%	3.38%	0.03%	1,581	772,598
Below Median (in sample)	40.61%	2.66%	0.03%	1,580	758,395
Housing Price (Median=140000)					
Above Median (in sample)	64.07%	3.54%	0.00%	993	475,037
Below Median (in sample)	53.22%	2.56%	0.00%	990	483,924
Building Size					
1 Unit	57.23%	3.03%	0.00%	2,416	1,163,199
2-3 Units	54.31%	3.07%	0.00%	76	33,453
4-49 Units	25.61%	1.71%	0.11%	925	425,821
50+ Units	63.01%	13.82%	2.74%	135	65,882
Building Type					
House, apartment, flat	50.43%	3.09%	0.14%	3,430	1,630,639
Mobile home	15.04%	1.42%	0.00%	95	51,460
Other	59.69%	30.22%	0.00%	27	6,256
Building Age					
Built before 1920	15.00%	0.00%	0.00%	19	9,164
1920s	40.06%	0.00%	0.00%	22	14,010
1930s	31.66%	5.22%	0.00%	83	43,542
1940s	34.64%	0.77%	0.00%	139	69,957
1950s	35.67%	1.27%	0.00%	263	115,184
1960s	48.16%	4.94%	0.00%	397	178,216
1970s	61.59%	3.05%	0.00%	550	280,306
1980s	41.69%	3.10%	0.05%	782	427,698
1990s	52.79%	1.85%	0.11%	561	235,830
2000 or after	59.03%	4.14%	0.55%	736	314,448
Central City/Suburban Status					
Central Cities	37.90%	2.78%	0.29%	1,392	724,482
Suburbs	57.89%	3.34%	0.02%	2,160	963,873
Age of Residents					
Any Resident >= 65	61.56%	8.76%	0.10%	533	255,437
Any Resident < 18	50.76%	1.96%	0.00%	1,270	584,533
All Residents >= 18 and < 65	46.21%	1.86%	0.03%	1,409	712,173

Table 11A. Dallas MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Dallas MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	62.57%	10.67%	0.00%	229	102,051
Other	49.44%	2.46%	0.03%	2,932	1,428,942
Race/Ethnicity					
White (Non-Hisp.)	56.73%	3.78%	0.02%	1,594	805,558
Black (Non-Hisp.)	49.88%	4.54%	0.00%	552	238,151
Asian (Non-Hisp.)	48.52%	1.28%	0.00%	206	96,875
Hispanic of Any Race	37.94%	0.85%	0.07%	765	367,925
Immigration Status of Householder					
Native, US Citizen	53.11%	3.52%	0.04%	2,391	1,163,255
Foreign-Born, US Citizen	50.60%	2.58%	0.00%	283	128,849
Foreign-Born, Non-US Citizen	36.41%	0.78%	0.00%	487	238,889
Education					
Non-High School Graduate	39.94%	1.34%	0.10%	575	263,462
High School Graduate	46.80%	1.73%	0.07%	585	277,128
Some College, No Bachelor's	49.76%	2.92%	0.00%	837	418,586
Bachelor's and Above	57.20%	4.50%	0.00%	1,164	571,817
Income Limits					
Very Low Income	42.77%	2.99%	0.10%	1,019	480,487
Low Income	45.10%	3.84%	0.00%	500	233,457
Moderate Income	46.78%	2.94%	0.00%	487	255,735
Higher Income	60.64%	2.76%	0.00%	1,156	562,676
Low Income	44.61%	3.83%	0.00%	500	233,457
HUD-Assisted Households	42.56%	7.93%	0.00%	99	27,571
Very Low-Income Renters	36.62%	2.97%	0.16%	620	293,571
Worst Case Needs	27.11%	0.00%	0.00%	104	51,708

Table 11A. Denver MSA: Percent of All Housing Units with Critical Accessibility Features

Denver MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	22.31%	2.76%	0.03%	3,380	1,065,613
Occupancy Status					
Renter-occupied	28.27%	4.63%	0.01%	1,187	373,405
Owner-occupied	18.10%	1.59%	0.05%	1,904	619,338
Vacant Unit	30.10%	3.46%	0.00%	244	62,220
Seasonal Unit	17.84%	2.79%	0.00%	45	10,650
Monthly Housing Cost (Median=1162)					
Above Median (in sample)	19.21%	1.84%	0.00%	1,546	508,104
Below Median (in sample)	24.78%	3.68%	0.07%	1,545	484,639
Housing Price (Median=221000)					
Above Median (in sample)	16.66%	1.25%	0.00%	1,028	340,602
Below Median (in sample)	20.02%	2.01%	0.10%	1,023	315,280
Building Size					
1 Unit	18.16%	1.41%	0.00%	2,324	748,800
2-3 Units	20.12%	4.46%	0.00%	87	30,168
4-49 Units	24.92%	3.69%	0.00%	759	220,789
50+ Units	62.09%	14.30%	0.52%	210	65,856
Building Type					
House, apartment, flat	22.36%	2.73%	0.03%	3,295	1,043,255
Mobile home	15.82%	1.85%	0.00%	49	17,577
Other	36.02%	13.80%	0.00%	36	4,781
Building Age					
Built before 1920	13.77%	0.84%	0.00%	122	38,515
1920s	24.66%	0.00%	0.00%	80	24,365
1930s	23.14%	0.00%	0.00%	48	15,533
1940s	26.25%	2.01%	0.00%	133	36,316
1950s	29.52%	4.11%	0.00%	344	99,311
1960s	28.22%	2.68%	0.00%	342	112,574
1970s	22.27%	2.54%	0.14%	730	234,211
1980s	17.68%	3.04%	0.01%	464	142,342
1990s	18.53%	3.42%	0.00%	479	151,771
2000 or after	22.30%	2.77%	0.00%	638	210,675
Central City/Suburban Status					
Central Cities	28.17%	3.25%	0.00%	980	288,043
Suburbs	20.17%	2.58%	0.04%	2,400	777,570
Age of Residents					
Any Resident >= 65	28.96%	7.90%	0.17%	627	200,388
Any Resident < 18	18.04%	1.49%	0.00%	1,029	336,057
All Residents >= 18 and < 65	21.54%	1.42%	0.00%	1,471	468,014

Table 11A. Denver MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Denver MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	38.84%	13.81%	0.00%	290	82,866
Other	20.35%	1.73%	0.04%	2,801	909,877
Race/Ethnicity					
White (Non-Hisp.)	21.12%	2.90%	0.05%	2,233	728,180
Black (Non-Hisp.)	24.01%	5.50%	0.00%	164	49,978
Asian (Non-Hisp.)	14.02%	0.00%	0.00%	80	25,426
Hispanic of Any Race	26.00%	1.46%	0.00%	563	172,329
Immigration Status of Householder					
Native, US Citizen	22.13%	2.98%	0.04%	2,690	866,608
Foreign-Born, US Citizen	20.66%	1.00%	0.00%	163	47,787
Foreign-Born, Non-US Citizen	19.85%	0.84%	0.00%	238	78,348
Education					
Non-High School Graduate	28.80%	2.57%	0.00%	332	102,692
High School Graduate	24.66%	5.01%	0.00%	532	168,702
Some College, No Bachelor's	21.41%	3.03%	0.01%	926	298,189
Bachelor's and Above	19.48%	1.65%	0.07%	1,301	423,160
Income Limits					
Very Low Income	27.18%	5.30%	0.01%	955	295,522
Low Income	25.35%	3.59%	0.19%	525	164,695
Moderate Income	20.60%	1.79%	0.00%	540	176,046
Higher Income	16.64%	0.71%	0.00%	1,072	356,813
Low Income	25.26%	3.58%	0.19%	525	164,695
HUD-Assisted Households	34.66%	17.38%	0.07%	126	29,447
Very Low-Income Renters	28.89%	6.47%	0.01%	604	186,372
Worst Case Needs	22.28%	6.20%	0.00%	100	35,890

Table 11A. Fort Worth MSA: Percent of All Housing Units with Critical Accessibility Features

Fort Worth MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	62.10%	2.83%	0.23%	3,707	856,236
Occupancy Status					
Renter-occupied	50.72%	2.21%	0.59%	1,265	294,966
Owner-occupied	70.52%	2.83%	0.00%	2,053	491,024
Vacant Unit	50.30%	6.75%	0.48%	369	63,448
Seasonal Unit	38.31%	0.00%	0.00%	20	6,798
Monthly Housing Cost (Median=989)					
Above Median (in sample)	72.36%	2.98%	0.38%	1,660	413,894
Below Median (in sample)	52.87%	2.17%	0.04%	1,658	372,096
Housing Price (Median=124500)					
Above Median (in sample)	73.60%	2.98%	0.00%	1,113	265,892
Below Median (in sample)	66.16%	3.06%	0.00%	1,113	256,683
Building Size					
1 Unit	69.22%	3.18%	0.26%	2,821	651,405
2-3 Units	47.65%	1.39%	0.00%	78	16,637
4-49 Units	37.91%	1.42%	0.08%	773	175,642
50+ Units	40.18%	5.10%	0.95%	35	12,552
Building Type					
House, apartment, flat	63.67%	2.84%	0.24%	3,525	815,362
Mobile home	28.22%	2.61%	0.00%	163	38,746
Other	68.66%	0.00%	0.00%	19	2,128
Building Age					
Built before 1920	13.51%	0.00%	0.00%	18	2,591
1920s	28.30%	0.00%	0.00%	27	5,413
1930s	27.26%	0.00%	0.00%	102	18,232
1940s	62.06%	11.11%	0.00%	178	34,463
1950s	50.28%	0.80%	0.00%	274	55,108
1960s	61.93%	4.88%	0.14%	368	95,027
1970s	67.91%	3.89%	0.00%	586	147,960
1980s	59.73%	2.77%	0.92%	879	206,798
1990s	66.49%	0.92%	0.00%	506	113,293
2000 or after	66.01%	1.51%	0.00%	769	177,351
Central City/Suburban Status					
Central Cities	59.72%	2.83%	0.39%	1,692	479,235
Suburbs	65.09%	2.82%	0.04%	2,015	377,001
Age of Residents					
Any Resident >= 65	74.11%	9.45%	1.22%	586	131,050
Any Resident < 18	65.06%	1.80%	0.00%	1,231	289,061
All Residents >= 18 and < 65	58.29%	0.81%	0.04%	1,553	375,723

Table 11A. Fort Worth MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Fort Worth MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	68.31%	13.63%	2.57%	263	61,183
Other	62.76%	1.67%	0.02%	3,055	724,807
Race/Ethnicity					
White (Non-Hisp.)	68.60%	3.37%	0.36%	1,948	467,684
Black (Non-Hisp.)	52.77%	1.46%	0.00%	470	106,291
Asian (Non-Hisp.)	44.08%	0.91%	0.00%	124	28,326
Hispanic of Any Race	59.43%	1.57%	0.00%	734	170,841
Immigration Status of Householder					
Native, US Citizen	64.58%	3.05%	0.26%	2,721	656,780
Foreign-Born, US Citizen	53.78%	0.71%	0.00%	240	57,383
Foreign-Born, Non-US Citizen	58.16%	0.05%	0.00%	357	71,827
Education					
Non-High School Graduate	52.77%	2.31%	0.00%	566	122,112
High School Graduate	53.42%	0.94%	0.08%	728	163,926
Some College, No Bachelor's	65.40%	3.55%	0.59%	1,067	266,393
Bachelor's and Above	72.82%	2.81%	0.00%	957	233,559
Income Limits					
Very Low Income	53.30%	3.06%	0.06%	1,014	228,978
Low Income	64.47%	4.67%	0.10%	620	151,435
Moderate Income	61.47%	1.54%	0.00%	566	124,709
Higher Income	71.11%	1.59%	0.51%	1,118	280,868
Low Income	64.38%	4.66%	0.10%	620	151,435
HUD-Assisted Households	37.26%	7.01%	0.86%	94	15,833
Very Low-Income Renters	48.79%	1.65%	0.10%	584	137,618
Worst Case Needs	39.23%	0.77%	0.00%	95	19,057

Table 11A. Indianapolis MSA: Percent of All Housing Units with Critical Accessibility Features

Indianapolis MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	28.40%	4.08%	0.12%	3,752	764,008
Occupancy Status					
Renter-occupied	28.77%	3.40%	0.12%	1,134	227,503
Owner-occupied	28.66%	4.80%	0.14%	2,136	439,946
Vacant Unit	25.89%	1.69%	0.00%	458	93,470
Seasonal Unit	28.28%	1.42%	0.00%	24	3,089
Monthly Housing Cost (Median=869)					
Above Median (in sample)	24.79%	2.74%	0.15%	1,638	330,592
Below Median (in sample)	32.60%	5.94%	0.12%	1,632	336,857
Housing Price (Median=125000)					
Above Median (in sample)	25.06%	3.55%	0.09%	1,209	243,535
Below Median (in sample)	32.87%	5.79%	0.18%	1,171	239,717
Building Size					
1 Unit	27.80%	3.78%	0.13%	2,855	573,188
2-3 Units	28.52%	3.99%	0.00%	100	22,877
4-49 Units	28.56%	2.81%	0.11%	716	149,702
50+ Units	47.21%	26.98%	0.12%	81	18,241
Building Type					
House, apartment, flat	28.88%	4.11%	0.13%	3,648	745,179
Mobile home	9.08%	2.41%	0.00%	91	17,730
Other	19.46%	9.88%	0.00%	13	1,099
Building Age					
Built before 1920	15.22%	1.91%	0.00%	233	47,535
1920s	28.25%	0.61%	0.00%	130	24,010
1930s	15.07%	2.75%	0.00%	112	24,525
1940s	20.06%	0.00%	0.00%	205	40,870
1950s	34.34%	1.93%	0.00%	346	67,895
1960s	28.32%	2.02%	0.01%	509	103,783
1970s	33.70%	4.43%	0.23%	530	120,389
1980s	30.65%	5.88%	0.25%	401	96,138
1990s	31.22%	5.11%	0.17%	595	112,830
2000 or after	25.62%	7.00%	0.17%	691	126,033
Central City/Suburban Status					
Central Cities	25.58%	3.03%	0.08%	1,919	373,608
Suburbs	31.00%	5.03%	0.16%	1,833	390,400
Age of Residents					
Any Resident >= 65	42.01%	12.08%	0.38%	679	134,297
Any Resident < 18	20.17%	1.20%	0.00%	1,124	222,709
All Residents >= 18 and < 65	29.35%	3.36%	0.12%	1,494	314,562

Table 11A. Indianapolis MSA: Percent of All Housing Units with Critical Accessibility Features
(continued)

Indianapolis MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition	41.82%	12.04%	0.38%	679	134,297
Elderly, Living Alone	48.23%	14.94%	0.33%	323	60,898
Other	26.73%	3.28%	0.12%	2,947	606,551
Race/Ethnicity					
White (Non-Hisp.)	29.33%	5.13%	0.17%	2,478	505,506
Black (Non-Hisp.)	26.99%	2.47%	0.00%	484	90,580
Asian (Non-Hisp.)	18.19%	1.75%	0.09%	60	12,172
Hispanic of Any Race	27.92%	0.00%	0.00%	199	48,768
Immigration Status of Householder					
Native, US Citizen	29.09%	4.61%	0.15%	3,022	607,709
Foreign-Born, US Citizen	22.53%	3.45%	0.00%	91	17,222
Foreign-Born, Non-US Citizen	25.46%	0.30%	0.03%	157	42,518
Education					
Non-High School Graduate	33.17%	7.18%	0.25%	433	91,831
High School Graduate	28.79%	4.06%	0.10%	819	160,879
Some College, No Bachelor's	31.43%	5.15%	0.25%	993	206,239
Bachelor's and Above	23.99%	2.52%	0.00%	1,025	208,500
Income Limits					
Very Low Income	29.77%	6.96%	0.30%	949	192,309
Low Income	31.18%	4.77%	0.00%	560	112,162
Moderate Income	35.86%	4.18%	0.20%	587	118,390
Higher Income	23.34%	2.19%	0.04%	1,174	244,588
Low Income	30.67%	4.70%	0.00%	560	112,162
HUD-Assisted Households	24.94%	8.84%	1.30%	112	16,040
Very Low-Income Renters	27.04%	5.18%	0.17%	561	108,114
Worst Case Needs	22.82%	0.71%	0.00%	75	14,095

Table 15. Kansas City MSA: Percent of All Housing Units with Critical Accessibility Features

Kansas City MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	27.17%	4.61%	0.26%	3,753	891,839
Occupancy Status					
Renter-occupied	27.50%	6.19%	0.18%	1,116	274,418
Owner-occupied	27.58%	3.79%	0.35%	2,147	507,334
Vacant Unit	23.51%	4.49%	0.00%	440	104,681
Seasonal Unit	26.49%	2.80%	0.00%	50	5,406
Monthly Housing Cost (Median=940)					
Above Median (in sample)	26.29%	4.31%	0.00%	1,633	399,038
Below Median (in sample)	28.89%	4.97%	0.60%	1,630	382,714
Housing Price (Median=135000)					
Above Median (in sample)	26.71%	3.83%	0.65%	1,236	271,517
Below Median (in sample)	29.18%	3.75%	0.00%	1,149	285,130
Building Size					
1 Unit	26.46%	3.22%	0.27%	2,941	682,855
2-3 Units	27.76%	1.48%	0.00%	125	32,019
4-49 Units	25.35%	6.39%	0.12%	572	154,774
50+ Units	61.78%	40.56%	1.51%	115	22,191
Building Type					
House, apartment, flat	27.43%	4.63%	0.25%	3,620	864,947
Mobile home	9.20%	1.80%	0.99%	78	18,000
Other	50.35%	11.08%	0.00%	55	8,892
Building Age					
Built before 1920	13.25%	0.57%	0.00%	180	38,644
1920s	14.21%	0.61%	0.00%	140	27,538
1930s	20.06%	1.17%	0.00%	135	46,185
1940s	29.85%	2.31%	0.00%	208	46,297
1950s	35.74%	3.77%	0.00%	429	114,953
1960s	27.55%	3.82%	0.00%	463	115,754
1970s	26.48%	5.59%	0.08%	634	174,892
1980s	26.96%	6.88%	0.00%	493	120,069
1990s	23.51%	6.01%	0.16%	550	101,020
2000 or after	31.70%	5.17%	1.80%	521	106,487
Central City/Suburban Status					
Central Cities	19.92%	3.41%	0.53%	1,050	350,486
Suburbs	31.65%	5.34%	0.10%	2,703	541,353
Age of Residents					
Any Resident >= 65	37.43%	12.87%	1.15%	773	186,318
Any Resident < 18	21.41%	0.90%	0.00%	1,059	248,990
All Residents >= 18 and < 65	26.56%	2.92%	0.04%	1,475	359,560

Table 11A. Kansas City MSA: Percent of All Housing Units with Critical Accessibility Features
(continued)

Kansas City MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	38.76%	15.82%	2.05%	393	105,497
Other	25.80%	2.94%	0.02%	2,870	676,255
Race/Ethnicity					
White (Non-Hisp.)	30.05%	5.52%	0.37%	2,536	578,073
Black (Non-Hisp.)	22.09%	2.77%	0.00%	406	112,679
Asian (Non-Hisp.)	5.90%	0.61%	0.00%	71	22,606
Hispanic of Any Race	19.75%	1.21%	0.28%	191	49,648
Immigration Status of Householder					
Native, US Citizen	28.80%	4.97%	0.30%	3,040	718,336
Foreign-Born, US Citizen	11.05%	0.54%	0.00%	93	25,539
Foreign-Born, Non-US Citizen	14.63%	0.83%	0.37%	130	37,877
Education					
Non-High School Graduate	28.69%	5.08%	0.39%	338	78,614
High School Graduate	27.07%	5.94%	0.18%	821	195,020
Some College, No Bachelor's	31.30%	6.15%	0.65%	1,004	247,718
Bachelor's and Above	24.03%	2.10%	0.00%	1,100	260,400
Income Limits					
Very Low Income	31.00%	6.67%	0.80%	1,052	270,395
Low Income	23.75%	4.18%	0.11%	580	148,386
Moderate Income	26.17%	1.68%	0.00%	580	127,692
Higher Income	26.84%	4.27%	0.00%	1,051	235,279
Low Income	23.70%	4.17%	0.11%	580	148,386
HUD-Assisted Households	40.23%	18.85%	0.81%	179	37,990
Very Low-Income Renters	31.28%	8.68%	0.33%	606	153,422
Worst Case Needs	20.27%	2.75%	0.82%	74	24,074

Table 11A. Los Angeles MSA: Percent of All Housing Units with Critical Accessibility Features

Los Angeles MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	36.79%	2.85%	0.07%	3,708	3,456,256
Occupancy Status					
Renter-occupied	33.59%	2.98%	0.07%	1,988	1,737,332
Owner-occupied	40.63%	2.71%	0.07%	1,438	1,491,991
Vacant Unit	31.80%	1.84%	0.00%	259	209,513
Seasonal Unit	56.49%	10.67%	0.00%	23	17,420
Monthly Housing Cost (Median=1243)					
Above Median (in sample)	38.93%	2.53%	0.00%	1,715	1,708,429
Below Median (in sample)	34.59%	3.23%	0.15%	1,711	1,520,894
Housing Price (Median=400000)					
Above Median (in sample)	40.18%	2.37%	0.00%	792	812,647
Below Median (in sample)	41.40%	2.96%	0.13%	776	784,952
Building Size					
1 Unit	42.58%	2.64%	0.05%	2,031	2,008,606
2-3 Units	27.54%	0.58%	0.00%	188	169,372
4-49 Units	24.67%	1.77%	0.02%	1,160	1,009,209
50+ Units	42.53%	10.86%	0.48%	329	269,069
Building Type					
House, apartment, flat	37.02%	2.90%	0.07%	3,645	3,395,643
Mobile home	24.47%	0.00%	0.00%	53	51,774
Other	13.86%	0.00%	0.00%	10	8,839
Building Age					
Built before 1920	21.60%	2.96%	0.00%	83	75,800
1920s	26.24%	2.94%	0.00%	261	241,487
1930s	27.25%	1.88%	0.00%	223	203,383
1940s	39.13%	2.51%	0.00%	428	403,114
1950s	43.79%	2.80%	0.13%	793	767,826
1960s	39.91%	2.52%	0.00%	580	539,861
1970s	34.39%	2.67%	0.00%	601	556,481
1980s	33.19%	3.88%	0.34%	368	329,694
1990s	32.75%	2.15%	0.09%	193	168,195
2000 or after	40.33%	5.22%	0.00%	178	170,415
Central City/Suburban Status					
Central Cities	33.03%	3.51%	0.07%	2,009	1,821,349
Suburbs	40.78%	2.16%	0.06%	1,699	1,634,907
Age of Residents					
Any Resident >= 65	41.96%	5.89%	0.31%	823	752,021
Any Resident < 18	37.38%	1.66%	0.00%	1,185	1,117,704
All Residents >= 18 and < 65	34.50%	2.10%	0.00%	1,506	1,448,938

Table 11A. Los Angeles MSA: Percent of All Housing Units with Critical Accessibility Features
(continued)

Los Angeles MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition	41.35%	5.84%	0.30%	823	752,021
Elderly, Living Alone	44.30%	11.33%	0.06%	350	291,944
Other	36.21%	2.03%	0.07%	3,076	2,937,379
Race/Ethnicity					
White (Non-Hisp.)	35.85%	3.93%	0.00%	1,190	1,156,888
Black (Non-Hisp.)	35.46%	3.55%	0.05%	331	297,690
Asian (Non-Hisp.)	32.59%	3.14%	0.24%	505	461,211
Hispanic of Any Race	39.95%	1.70%	0.08%	1,346	1,262,424
Immigration Status of Householder					
Native, US Citizen	36.98%	3.07%	0.06%	1,882	1,818,374
Foreign-Born, US Citizen	37.35%	3.06%	0.15%	832	762,693
Foreign-Born, Non-US Citizen	36.35%	1.94%	0.00%	712	648,256
Education					
Non-High School Graduate	41.12%	2.83%	0.03%	745	661,109
High School Graduate	37.02%	2.85%	0.18%	641	589,393
Some College, No Bachelor's	35.20%	3.52%	0.00%	871	827,532
Bachelor's and Above	35.83%	2.38%	0.09%	1,169	1,151,289
Income Limits					
Very Low Income	38.64%	3.85%	0.09%	1,610	1,429,463
Low Income	37.56%	3.15%	0.00%	537	525,978
Moderate Income	32.01%	2.14%	0.00%	157	153,736
Higher Income	36.03%	1.81%	0.09%	1,169	1,166,909
Low Income	36.62%	3.09%	0.00%	537	525,978
HUD-Assisted Households	33.63%	7.63%	0.11%	297	147,495
Very Low-Income Renters	35.00%	3.57%	0.13%	1,187	984,875
Worst Case Needs	36.44%	2.96%	0.00%	202	190,831

Table 11A. Memphis MSA: Percent of All Housing Units with Critical Accessibility Features

Memphis MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	46.86%	2.31%	0.17%	3,621	552,267
Occupancy Status					
Renter-occupied	37.01%	2.60%	0.31%	1,104	178,253
Owner-occupied	55.51%	2.35%	0.12%	2,009	293,912
Vacant Unit	36.74%	0.99%	0.00%	487	78,510
Seasonal Unit	29.02%	4.84%	0.00%	21	1,592
Monthly Housing Cost (Median=898)					
Above Median (in sample)	57.74%	2.38%	0.14%	1,557	220,406
Below Median (in sample)	40.27%	2.51%	0.24%	1,556	251,759
Housing Price (Median=120000)					
Above Median (in sample)	57.81%	3.06%	0.09%	1,154	134,520
Below Median (in sample)	52.16%	1.83%	0.14%	1,101	193,464
Building Size					
1 Unit	51.70%	2.27%	0.12%	2,856	419,722
2-3 Units	31.53%	3.25%	0.62%	102	14,636
4-49 Units	30.59%	1.45%	0.00%	589	100,546
50+ Units	35.36%	8.37%	2.50%	74	17,363
Building Type					
House, apartment, flat	48.26%	2.35%	0.18%	3,470	523,902
Mobile home	17.36%	1.87%	0.00%	105	22,449
Other	35.56%	0.00%	0.00%	46	5,916
Building Age					
Built before 1920	18.92%	2.03%	2.03%	44	5,830
1920s	8.08%	0.00%	0.00%	75	11,096
1930s	27.77%	1.98%	0.00%	70	14,465
1940s	22.67%	0.00%	0.00%	181	30,883
1950s	45.45%	1.45%	0.00%	380	63,754
1960s	47.64%	1.63%	0.28%	490	73,167
1970s	42.74%	1.44%	0.07%	687	132,288
1980s	52.42%	2.29%	0.25%	518	81,777
1990s	55.05%	5.18%	0.29%	607	67,414
2000 or after	63.55%	3.84%	0.17%	569	71,593
Central City/Suburban Status					
Central Cities	38.87%	1.38%	0.22%	1,682	296,156
Suburbs	56.02%	3.31%	0.12%	1,939	256,111
Age of Residents					
Any Resident >= 65	47.34%	4.26%	0.32%	690	117,300
Any Resident < 18	53.19%	1.53%	0.07%	1,094	159,635
All Residents >= 18 and < 65	45.44%	2.08%	0.21%	1,389	205,023

Table 11A. Memphis MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Memphis MSA: All Housing Units					
Household Composition	46.05%	4.26%	0.32%	690	117,300
Elderly, Living Alone	42.75%	4.17%	0.58%	338	64,666
Other	49.37%	2.19%	0.13%	2,775	407,499
Race/Ethnicity					
White (Non-Hisp.)	52.99%	3.00%	0.09%	1,508	204,193
Black (Non-Hisp.)	44.43%	2.11%	0.31%	1,381	228,927
Asian (Non-Hisp.)	67.50%	1.88%	0.00%	44	5,973
Hispanic of Any Race	44.25%	0.80%	0.00%	128	25,157
Immigration Status of Householder					
Native, US Citizen	48.72%	2.49%	0.21%	2,962	443,912
Foreign-Born, US Citizen	49.53%	4.10%	0.00%	54	9,319
Foreign-Born, Non-US Citizen	42.38%	0.54%	0.00%	97	18,934
Education					
Non-High School Graduate	40.35%	2.51%	0.35%	570	90,538
High School Graduate	47.53%	1.75%	0.32%	717	112,543
Some College, No Bachelor's	51.55%	2.46%	0.08%	977	148,038
Bachelor's and Above	51.80%	3.05%	0.09%	849	121,046
Income Limits					
Very Low Income	39.77%	2.54%	0.33%	1,071	183,806
Low Income	47.99%	2.27%	0.24%	479	82,571
Moderate Income	53.77%	1.37%	0.00%	470	74,185
Higher Income	57.76%	3.10%	0.08%	1,095	131,799
Low Income	47.92%	2.27%	0.24%	479	82,571
HUD-Assisted Households	47.15%	6.70%	1.83%	158	26,035
Very Low-Income Renters	34.59%	2.69%	0.49%	606	97,080
Worst Case Needs	25.94%	1.07%	0.00%	120	19,771

Table 11A. Milwaukee MSA: Percent of All Housing Units with Critical Accessibility Features

Milwaukee MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	22.94%	5.12%	0.12%	3,984	673,979
Occupancy Status					
Renter-occupied	26.60%	8.28%	0.28%	1,548	231,197
Owner-occupied	21.24%	3.53%	0.02%	2,088	392,029
Vacant Unit	17.92%	2.43%	0.28%	317	47,939
Seasonal Unit	34.56%	3.23%	0.00%	31	2,814
Monthly Housing Cost (Median=867.5)					
Above Median (in sample)	18.80%	4.30%	0.06%	1,818	312,192
Below Median (in sample)	27.73%	6.29%	0.18%	1,818	311,034
Housing Price (Median=179000)					
Above Median (in sample)	21.91%	3.73%	0.04%	1,136	191,443
Below Median (in sample)	20.65%	3.20%	0.00%	1,133	227,729
Building Size					
1 Unit	19.74%	2.97%	0.02%	2,237	401,518
2-3 Units	11.26%	2.55%	0.28%	615	101,601
4-49 Units	30.88%	8.68%	0.00%	921	134,309
50+ Units	62.39%	23.02%	1.35%	211	36,551
Building Type					
House, apartment, flat	23.04%	5.14%	0.13%	3,928	666,582
Mobile home	12.37%	0.00%	0.00%	17	4,406
Other	14.59%	10.56%	0.00%	39	2,991
Building Age					
Built before 1920	9.43%	1.38%	0.00%	477	79,710
1920s	14.54%	3.50%	0.00%	316	55,608
1930s	17.36%	1.58%	0.00%	254	39,776
1940s	18.59%	3.11%	0.00%	241	54,334
1950s	29.57%	4.66%	0.00%	622	104,893
1960s	20.38%	1.66%	0.00%	499	103,730
1970s	24.78%	3.77%	0.10%	552	99,342
1980s	25.51%	12.55%	0.00%	274	46,207
1990s	33.00%	11.69%	0.62%	433	57,260
2000 or after	41.19%	16.58%	1.08%	316	33,119
Central City/Suburban Status					
Central Cities	19.15%	3.90%	0.13%	1,705	314,947
Suburbs	26.13%	6.12%	0.12%	2,279	359,032
Age of Residents					
Any Resident >= 65	34.93%	10.66%	0.33%	816	162,945
Any Resident < 18	15.41%	2.37%	0.00%	1,157	191,209
All Residents >= 18 and < 65	21.75%	4.01%	0.07%	1,696	275,045

Table 11A. Milwaukee MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Milwaukee MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	36.04%	13.17%	0.54%	445	88,244
Other	21.13%	4.02%	0.05%	3,191	534,982
Race/Ethnicity					
White (Non-Hisp.)	23.18%	4.89%	0.12%	2,649	454,223
Black (Non-Hisp.)	24.68%	9.55%	0.21%	593	102,943
Asian (Non-Hisp.)	29.28%	1.52%	0.00%	73	14,438
Hispanic of Any Race	20.50%	2.01%	0.00%	268	41,782
Immigration Status of Householder					
Native, US Citizen	23.13%	5.31%	0.13%	3,383	581,901
Foreign-Born, US Citizen	16.50%	7.30%	0.00%	113	21,176
Foreign-Born, Non-US Citizen	32.87%	2.37%	0.00%	140	20,149
Education					
Non-High School Graduate	24.09%	6.16%	0.01%	457	82,740
High School Graduate	25.69%	5.60%	0.27%	894	169,325
Some College, No Bachelor's	22.45%	5.05%	0.05%	1,116	180,424
Bachelor's and Above	21.38%	4.84%	0.09%	1,169	190,737
Income Limits					
Very Low Income	26.19%	7.83%	0.27%	1,303	213,011
Low Income	26.13%	5.05%	0.00%	675	115,891
Moderate Income	21.18%	3.17%	0.00%	585	99,966
Higher Income	19.32%	3.79%	0.09%	1,073	194,358
Low Income	25.93%	5.02%	0.00%	675	115,891
HUD-Assisted Households	48.90%	17.72%	1.17%	198	31,713
Very Low-Income Renters	26.43%	10.22%	0.43%	878	129,061
Worst Case Needs	8.57%	2.41%	0.42%	149	24,536

Table 11A. New Orleans MSA: Percent of All Housing Units with Critical Accessibility Features

New Orleans MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	45.33%	3.16%	0.15%	3,670	545,543
Occupancy Status					
Renter-occupied	35.59%	2.73%	0.06%	1,153	171,034
Owner-occupied	53.66%	3.88%	0.09%	1,905	288,990
Vacant Unit	34.47%	0.96%	0.69%	561	79,281
Seasonal Unit	45.40%	1.17%	0.00%	51	6,238
Monthly Housing Cost (Median=867)					
Above Median (in sample)	47.68%	2.92%	0.09%	1,530	220,948
Below Median (in sample)	46.38%	3.95%	0.08%	1,528	239,076
Housing Price (Median=150000)					
Above Median (in sample)	50.01%	3.66%	0.06%	1,206	183,591
Below Median (in sample)	52.87%	3.63%	0.13%	1,041	144,898
Building Size					
1 Unit	51.41%	3.49%	0.10%	2,633	391,575
2-3 Units	23.51%	0.92%	0.00%	380	55,039
4-49 Units	31.01%	0.62%	0.00%	549	79,841
50+ Units	39.59%	12.53%	2.08%	108	19,088
Building Type					
House, apartment, flat	46.61%	3.23%	0.15%	3,541	527,478
Mobile home	7.61%	0.89%	0.00%	121	17,617
Other	0.00%	0.00%	0.00%	8	448
Building Age					
Built before 1920	9.77%	0.88%	0.00%	259	38,022
1920s	4.33%	0.77%	0.00%	144	26,090
1930s	16.49%	1.27%	0.00%	104	14,611
1940s	21.94%	1.10%	0.00%	228	27,514
1950s	48.27%	1.65%	0.00%	397	66,467
1960s	57.38%	4.96%	0.24%	604	97,161
1970s	54.96%	3.96%	0.21%	863	123,841
1980s	58.54%	2.50%	0.15%	429	66,933
1990s	51.39%	4.84%	0.34%	242	29,497
2000 or after	43.09%	4.08%	0.17%	400	55,407
Central City/Suburban Status					
Central Cities	27.83%	1.59%	0.25%	1,348	199,747
Suburbs	55.25%	4.04%	0.09%	2,322	345,796
Age of Residents					
Any Resident >= 65	55.45%	9.55%	0.31%	733	120,632
Any Resident < 18	49.77%	1.46%	0.00%	940	150,642
All Residents >= 18 and < 65	40.20%	1.22%	0.00%	1,438	199,518

Table 11A. New Orleans MSA: Percent of All Housing Units with Critical Accessibility Features
(continued)

New Orleans MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	49.16%	6.17%	0.16%	370	61,663
Other	46.68%	3.02%	0.07%	2,688	398,361
Race/Ethnicity					
White (Non-Hisp.)	47.91%	4.73%	0.08%	1,709	259,147
Black (Non-Hisp.)	44.90%	1.88%	0.11%	993	157,147
Asian (Non-Hisp.)	51.97%	0.00%	0.00%	69	8,923
Hispanic of Any Race	46.77%	1.64%	0.00%	237	29,667
Immigration Status of Householder					
Native, US Citizen	46.85%	3.66%	0.09%	2,811	428,302
Foreign-Born, US Citizen	63.02%	1.11%	0.00%	135	17,906
Foreign-Born, Non-US Citizen	31.00%	0.00%	0.00%	112	13,816
Education					
Non-High School Graduate	45.53%	2.12%	0.00%	505	76,633
High School Graduate	51.60%	6.21%	0.15%	801	128,938
Some College, No Bachelor's	48.59%	2.39%	0.00%	904	135,553
Bachelor's and Above	41.18%	2.50%	0.15%	848	118,900
Income Limits					
Very Low Income	43.06%	2.87%	0.06%	1,091	157,202
Low Income	47.58%	3.16%	0.11%	547	81,741
Moderate Income	45.72%	2.28%	0.14%	480	75,149
Higher Income	51.49%	4.83%	0.05%	940	145,932
Low Income	47.43%	3.15%	0.11%	547	81,741
HUD-Assisted Households	51.15%	6.30%	0.00%	183	29,687
Very Low-Income Renters	38.56%	3.38%	0.11%	606	90,133
Worst Case Needs	34.54%	1.29%	0.00%	129	20,961

Table 11A. Oakland MSA: Percent of All Housing Units with Critical Accessibility Features

Oakland MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	28.21%	2.84%	0.09%	3,655	994,472
Occupancy Status					
Renter-occupied	28.25%	2.66%	0.16%	1,425	385,262
Owner-occupied	28.40%	3.22%	0.03%	1,917	522,076
Vacant Unit	26.11%	1.07%	0.19%	280	80,946
Seasonal Unit	36.09%	2.03%	0.00%	33	6,188
Monthly Housing Cost (Median=1501)					
Above Median (in sample)	26.48%	2.16%	0.13%	1,672	440,852
Below Median (in sample)	30.13%	3.78%	0.04%	1,670	466,486
Housing Price (Median=389500)					
Above Median (in sample)	25.72%	4.24%	0.00%	1,041	274,360
Below Median (in sample)	30.44%	2.00%	0.09%	1,041	287,694
Building Size					
1 Unit	29.94%	2.80%	0.04%	2,483	662,712
2-3 Units	28.89%	3.94%	0.00%	226	65,466
4-49 Units	18.03%	1.27%	0.09%	744	206,039
50+ Units	42.78%	7.68%	0.80%	202	60,255
Building Type					
House, apartment, flat	28.57%	2.87%	0.09%	3,548	972,525
Mobile home	7.34%	0.00%	0.00%	35	13,411
Other	20.34%	3.52%	0.00%	72	8,536
Building Age					
Built before 1920	14.21%	0.31%	0.00%	167	49,166
1920s	18.19%	0.00%	0.00%	183	45,935
1930s	25.56%	3.14%	0.00%	194	57,573
1940s	26.76%	3.88%	0.00%	327	104,118
1950s	35.04%	1.40%	0.11%	508	134,972
1960s	32.14%	2.88%	0.00%	595	160,081
1970s	30.94%	2.84%	0.00%	565	188,496
1980s	26.20%	1.85%	0.23%	467	126,100
1990s	23.09%	4.03%	0.00%	340	68,068
2000 or after	28.03%	8.97%	0.83%	309	59,963
Central City/Suburban Status					
Central Cities	17.90%	2.94%	0.12%	703	241,700
Suburbs	31.41%	2.81%	0.08%	2,952	752,772
Age of Residents					
Any Resident >= 65	31.37%	8.15%	0.18%	854	251,638
Any Resident < 18	30.36%	1.14%	0.00%	1,155	320,048
All Residents >= 18 and < 65	24.97%	1.19%	0.09%	1,414	355,426

Table 11A. Oakland MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Oakland MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	33.05%	10.56%	0.43%	350	103,234
Other	27.74%	2.01%	0.04%	2,992	804,104
Race/Ethnicity					
White (Non-Hisp.)	27.43%	3.44%	0.16%	1,640	459,039
Black (Non-Hisp.)	23.47%	2.83%	0.00%	367	94,235
Asian (Non-Hisp.)	29.08%	1.91%	0.00%	648	164,775
Hispanic of Any Race	34.50%	2.97%	0.00%	570	162,610
Immigration Status of Householder					
Native, US Citizen	26.87%	3.38%	0.12%	2,253	617,437
Foreign-Born, US Citizen	28.46%	1.68%	0.00%	679	163,377
Foreign-Born, Non-US Citizen	35.26%	2.67%	0.00%	410	126,524
Education					
Non-High School Graduate	36.06%	2.68%	0.00%	361	93,647
High School Graduate	28.71%	5.89%	0.10%	549	158,689
Some College, No Bachelor's	26.75%	2.38%	0.18%	914	252,161
Bachelor's and Above	27.40%	2.30%	0.03%	1,518	402,841
Income Limits					
Very Low Income	30.77%	4.15%	0.21%	1,068	294,590
Low Income	26.33%	2.78%	0.14%	378	101,980
Moderate Income	26.84%	2.74%	0.00%	698	195,770
Higher Income	27.70%	2.15%	0.00%	1,198	314,998
Low Income	26.10%	2.76%	0.14%	378	101,980
HUD-Assisted Households	43.43%	5.39%	0.31%	207	53,881
Very Low-Income Renters	32.32%	3.69%	0.35%	709	181,960
Worst Case Needs	20.32%	3.03%	1.16%	112	27,545

Table 11A. Phoenix MSA: Percent of All Housing Units with Critical Accessibility Features

Phoenix MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	66.49%	8.01%	0.28%	3,513	1,822,003
Occupancy Status					
Renter-occupied	57.03%	4.78%	0.39%	1,096	553,504
Owner-occupied	73.00%	9.58%	0.20%	1,722	970,769
Vacant Unit	60.27%	7.07%	0.44%	539	240,767
Seasonal Unit	70.81%	15.87%	0.00%	156	56,963
Monthly Housing Cost (Median=1000)					
Above Median (in sample)	71.98%	5.80%	0.36%	1,413	783,749
Below Median (in sample)	62.17%	10.05%	0.18%	1,405	740,524
Housing Price (Median=150000)					
Above Median (in sample)	79.98%	8.38%	0.38%	1,132	592,467
Below Median (in sample)	64.59%	11.54%	0.07%	1,010	563,537
Building Size					
1 Unit	72.85%	8.97%	0.16%	2,559	1,387,676
2-3 Units	62.94%	1.93%	0.00%	71	24,642
4-49 Units	44.79%	4.14%	0.16%	781	359,007
50+ Units	43.68%	13.01%	5.15%	102	50,678
Building Type					
House, apartment, flat	69.13%	7.96%	0.30%	3,262	1,702,024
Mobile home	28.26%	8.48%	0.00%	213	113,188
Other	46.07%	16.03%	0.00%	38	6,791
Building Age					
Built before 1920	100.00%	0.00%	0.00%	3	2,028
1920s	50.37%	0.00%	0.00%	7	2,160
1930s	55.87%	0.00%	0.00%	23	12,080
1940s	55.46%	3.78%	0.00%	53	44,967
1950s	80.77%	5.12%	0.00%	171	108,550
1960s	72.44%	10.15%	0.00%	288	167,420
1970s	66.27%	11.53%	0.00%	658	384,928
1980s	60.39%	6.35%	0.10%	761	397,841
1990s	68.05%	8.60%	0.85%	682	328,845
2000 or after	66.53%	6.45%	0.49%	867	373,184
Central City/Suburban Status					
Central Cities	63.28%	5.75%	0.14%	1,588	1,094,320
Suburbs	71.28%	11.43%	0.49%	1,925	727,683
Age of Residents					
Any Resident >= 65	75.44%	19.65%	0.55%	658	362,214
Any Resident < 18	64.03%	3.82%	0.00%	979	516,488
All Residents >= 18 and < 65	65.35%	4.95%	0.31%	1,228	676,477

Table 11A. Phoenix MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Phoenix MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	68.60%	23.33%	1.73%	302	167,529
Other	67.09%	5.96%	0.09%	2,516	1,356,744
Race/Ethnicity					
White (Non-Hisp.)	71.43%	9.08%	0.34%	1,880	1,026,600
Black (Non-Hisp.)	56.63%	3.26%	0.00%	152	78,069
Asian (Non-Hisp.)	64.92%	1.85%	0.00%	69	35,833
Hispanic of Any Race	58.99%	6.37%	0.18%	640	343,184
Immigration Status of Householder					
Native, US Citizen	69.12%	8.22%	0.33%	2,290	1,237,599
Foreign-Born, US Citizen	68.11%	9.45%	0.00%	210	109,613
Foreign-Born, Non-US Citizen	53.81%	4.25%	0.00%	318	177,061
Education					
Non-High School Graduate	58.90%	5.94%	0.00%	365	195,821
High School Graduate	65.14%	9.01%	0.12%	560	286,745
Some College, No Bachelor's	67.56%	9.22%	0.11%	996	555,073
Bachelor's and Above	71.51%	6.36%	0.64%	897	486,634
Income Limits					
Very Low Income	59.29%	8.21%	0.15%	913	472,496
Low Income	65.42%	11.17%	0.22%	466	260,104
Moderate Income	65.90%	7.16%	0.12%	470	269,869
Higher Income	76.04%	6.21%	0.47%	971	522,689
Low Income	64.19%	10.97%	0.22%	466	260,104
HUD-Assisted Households	53.92%	9.97%	0.00%	71	31,980
Very Low-Income Renters	54.32%	4.74%	0.00%	538	275,914
Worst Case Needs	51.28%	3.25%	0.00%	103	56,577

Table 11A. Pittsburgh MSA: Percent of All Housing Units with Critical Accessibility Features

Pittsburgh MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	24.49%	4.65%	0.08%	3,609	1,108,222
Occupancy Status					
Renter-occupied	22.08%	6.85%	0.12%	995	304,225
Owner-occupied	25.78%	3.73%	0.00%	2,173	691,732
Vacant Unit	17.45%	5.15%	0.82%	400	102,138
Seasonal Unit	55.33%	0.00%	0.00%	41	10,127
Monthly Housing Cost (Median=743)					
Above Median (in sample)	24.73%	4.56%	0.03%	1,588	506,302
Below Median (in sample)	24.59%	4.79%	0.04%	1,580	489,655
Housing Price (Median=120000)					
Above Median (in sample)	30.19%	4.60%	0.00%	1,288	410,429
Below Median (in sample)	19.91%	2.53%	0.09%	1,184	359,147
Building Size					
1 Unit	23.84%	3.58%	0.04%	2,842	891,600
2-3 Units	13.31%	0.27%	0.00%	238	71,455
4-49 Units	25.52%	5.49%	0.34%	384	105,288
50+ Units	56.89%	35.28%	0.46%	145	39,879
Building Type					
House, apartment, flat	24.65%	4.77%	0.08%	3,440	1,055,521
Mobile home	21.32%	2.78%	0.00%	119	43,912
Other	21.46%	0.00%	0.00%	50	8,789
Building Age					
Built before 1920	9.85%	0.45%	0.00%	544	187,227
1920s	9.82%	2.69%	0.00%	381	117,677
1930s	11.52%	1.44%	0.00%	262	91,352
1940s	17.54%	1.80%	0.00%	344	98,562
1950s	49.98%	8.51%	0.00%	549	185,710
1960s	33.91%	7.06%	0.00%	393	116,294
1970s	23.11%	6.41%	0.00%	426	135,306
1980s	19.44%	3.23%	0.22%	263	77,528
1990s	30.24%	5.27%	0.88%	247	56,094
2000 or after	35.74%	13.41%	0.44%	200	42,472
Central City/Suburban Status					
Central Cities	13.49%	2.46%	0.08%	616	200,436
Suburbs	26.84%	5.13%	0.08%	2,993	907,786
Age of Residents					
Any Resident >= 65	32.65%	9.57%	0.12%	932	297,230
Any Resident < 18	20.84%	2.86%	0.00%	860	276,234
All Residents >= 18 and < 65	22.07%	2.50%	0.00%	1,411	432,756

Table 11A. Pittsburgh MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Pittsburgh MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	36.76%	14.02%	0.22%	503	167,411
Other	22.29%	2.88%	0.00%	2,665	828,546
Race/Ethnicity					
White (Non-Hisp.)	25.35%	4.55%	0.04%	2,753	863,487
Black (Non-Hisp.)	14.26%	3.29%	0.00%	281	90,328
Asian (Non-Hisp.)	36.71%	14.02%	0.00%	46	13,269
Hispanic of Any Race	36.76%	8.27%	0.00%	61	19,500
Immigration Status of Householder					
Native, US Citizen	24.63%	4.72%	0.04%	3,045	950,554
Foreign-Born, US Citizen	17.36%	0.87%	0.00%	63	19,966
Foreign-Born, Non-US Citizen	31.47%	5.80%	0.00%	60	25,437
Education					
Non-High School Graduate	25.66%	7.31%	0.00%	321	81,140
High School Graduate	26.87%	7.12%	0.12%	933	302,894
Some College, No Bachelor's	27.75%	3.24%	0.00%	904	295,769
Bachelor's and Above	19.45%	3.00%	0.00%	1,010	316,154
Income Limits					
Very Low Income	29.67%	7.51%	0.12%	959	303,408
Low Income	20.60%	2.82%	0.00%	539	172,321
Moderate Income	22.85%	5.63%	0.00%	547	182,297
Higher Income	23.33%	2.65%	0.00%	1,124	338,115
Low Income	20.51%	2.82%	0.00%	539	172,321
HUD-Assisted Households	29.76%	16.32%	0.36%	218	52,474
Very Low-Income Renters	23.86%	8.58%	0.24%	525	156,693
Worst Case Needs	19.20%	0.98%	0.00%	66	21,959

Table 11A. Portland MSA: Percent of All Housing Units with Critical Accessibility Features

Portland MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	28.09%	5.22%	0.09%	3,682	933,977
Occupancy Status					
Renter-occupied	32.50%	6.88%	0.04%	1,298	344,001
Owner-occupied	24.15%	4.06%	0.06%	2,071	514,914
Vacant Unit	37.01%	6.02%	0.74%	287	70,430
Seasonal Unit	29.73%	5.95%	0.00%	26	4,632
Monthly Housing Cost (Median=1127)					
Above Median (in sample)	25.81%	3.15%	0.04%	1,685	404,459
Below Median (in sample)	28.92%	7.05%	0.07%	1,684	454,456
Housing Price (Median=240000)					
Above Median (in sample)	22.74%	3.24%	0.06%	1,131	271,420
Below Median (in sample)	26.59%	4.78%	0.06%	1,120	283,106
Building Size					
1 Unit	25.74%	4.14%	0.05%	2,667	659,176
2-3 Units	30.90%	2.87%	0.00%	145	35,944
4-49 Units	31.35%	6.93%	0.19%	704	200,589
50+ Units	51.73%	18.51%	0.41%	166	38,268
Building Type					
House, apartment, flat	28.66%	5.18%	0.08%	3,531	896,808
Mobile home	12.07%	4.22%	0.00%	126	34,419
Other	44.14%	31.75%	5.49%	25	2,750
Building Age					
Built before 1920	8.53%	0.03%	0.00%	180	37,656
1920s	8.63%	0.41%	0.00%	159	41,291
1930s	17.74%	6.47%	0.00%	114	47,818
1940s	25.64%	3.97%	0.00%	236	72,343
1950s	35.42%	4.06%	0.33%	321	91,674
1960s	31.48%	6.90%	0.00%	355	98,848
1970s	32.96%	4.12%	0.00%	697	176,790
1980s	31.13%	9.46%	0.00%	372	100,238
1990s	27.10%	5.11%	0.36%	705	145,365
2000 or after	29.04%	6.52%	0.00%	543	121,954
Central City/Suburban Status					
Central Cities	22.23%	4.12%	0.04%	1,038	342,491
Suburbs	31.36%	5.85%	0.12%	2,644	591,486
Age of Residents					
Any Resident >= 65	34.32%	12.74%	0.24%	746	188,830
Any Resident < 18	27.76%	2.28%	0.00%	1,049	255,150
All Residents >= 18 and < 65	24.76%	3.54%	0.00%	1,613	425,157

Table 11A. Portland MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Portland MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	36.31%	11.91%	0.50%	366	95,394
Other	26.35%	4.35%	0.00%	3,003	763,521
Race/Ethnicity					
White (Non-Hisp.)	27.89%	5.63%	0.06%	2,783	706,041
Black (Non-Hisp.)	24.02%	1.95%	0.00%	69	18,568
Asian (Non-Hisp.)	18.97%	4.69%	0.00%	160	39,170
Hispanic of Any Race	26.89%	1.20%	0.00%	248	70,034
Immigration Status of Householder					
Native, US Citizen	27.63%	5.31%	0.06%	2,921	738,684
Foreign-Born, US Citizen	26.26%	5.93%	0.00%	218	50,311
Foreign-Born, Non-US Citizen	26.23%	3.08%	0.00%	230	69,920
Education					
Non-High School Graduate	35.85%	5.97%	0.00%	273	69,763
High School Graduate	26.26%	6.82%	0.00%	651	160,597
Some College, No Bachelor's	28.48%	4.92%	0.10%	1,162	299,211
Bachelor's and Above	25.27%	4.43%	0.05%	1,283	329,344
Income Limits					
Very Low Income	27.89%	7.17%	0.13%	923	237,602
Low Income	33.49%	5.66%	0.00%	600	157,396
Moderate Income	25.63%	4.50%	0.00%	632	161,117
Higher Income	24.90%	3.76%	0.05%	1,214	302,800
Low Income	33.22%	5.62%	0.00%	600	157,396
HUD-Assisted Households	36.95%	9.49%	0.00%	113	24,463
Very Low-Income Renters	32.28%	9.19%	0.10%	593	148,289
Worst Case Needs	32.00%	10.36%	0.00%	78	22,948

Table 11A. Providence MSA: Percent of All Housing Units with Critical Accessibility Features

Providence MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	14.50%	3.48%	0.08%	3,868	583,022
Occupancy Status					
Renter-occupied	17.56%	6.29%	0.15%	1,358	212,908
Owner-occupied	13.00%	1.92%	0.02%	2,071	308,888
Vacant Unit	10.40%	1.82%	0.25%	339	44,843
Seasonal Unit	13.79%	0.46%	0.00%	100	16,383
Monthly Housing Cost (Median=1022)					
Above Median (in sample)	14.84%	1.39%	0.03%	1,715	246,930
Below Median (in sample)	14.82%	5.80%	0.11%	1,714	274,866
Housing Price (Median=225000)					
Above Median (in sample)	13.78%	1.18%	0.04%	1,193	172,970
Below Median (in sample)	11.81%	2.42%	0.00%	1,161	179,287
Building Size					
1 Unit	14.29%	2.09%	0.00%	2,256	335,281
2-3 Units	6.61%	0.78%	0.00%	837	121,570
4-49 Units	12.43%	4.33%	0.47%	581	100,370
50+ Units	64.37%	32.89%	0.04%	194	25,801
Building Type					
House, apartment, flat	14.46%	3.50%	0.08%	3,820	575,112
Mobile home	20.82%	2.16%	0.00%	36	5,846
Other	6.55%	0.27%	0.27%	12	2,064
Building Age					
Built before 1920	7.69%	0.52%	0.00%	724	102,973
1920s	6.58%	0.46%	0.00%	298	42,689
1930s	5.39%	0.93%	0.00%	259	40,928
1940s	7.82%	1.39%	0.00%	286	46,634
1950s	18.00%	1.57%	0.00%	485	68,383
1960s	21.46%	5.19%	0.00%	403	67,603
1970s	19.80%	6.21%	0.17%	493	91,055
1980s	21.35%	7.45%	0.22%	406	65,454
1990s	16.03%	5.74%	0.44%	292	35,867
2000 or after	14.30%	5.99%	0.00%	222	21,436
Central City/Suburban Status					
Central Cities	9.80%	2.19%	0.04%	1,021	171,458
Suburbs	16.45%	4.02%	0.10%	2,847	411,564
Age of Residents					
Any Resident >= 65	17.83%	5.80%	0.16%	951	145,987
Any Resident < 18	12.71%	0.71%	0.00%	967	129,050
All Residents >= 18 and < 65	14.07%	3.91%	0.06%	1,565	252,627

Table 11A. Providence MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Providence MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	18.39%	6.84%	0.33%	463	73,716
Other	14.26%	3.16%	0.03%	2,966	448,080
Race/Ethnicity					
White (Non-Hisp.)	16.08%	3.94%	0.09%	2,834	430,148
Black (Non-Hisp.)	8.95%	5.31%	0.00%	153	25,918
Asian (Non-Hisp.)	6.18%	0.00%	0.00%	87	13,045
Hispanic of Any Race	10.97%	1.52%	0.00%	322	44,321
Immigration Status of Householder					
Native, US Citizen	15.92%	4.11%	0.08%	2,917	447,326
Foreign-Born, US Citizen	6.67%	1.02%	0.00%	325	49,337
Foreign-Born, Non-US Citizen	11.44%	0.83%	0.00%	187	25,133
Education					
Non-High School Graduate	17.66%	9.46%	0.17%	542	84,076
High School Graduate	14.39%	4.01%	0.01%	921	136,291
Some College, No Bachelor's	15.10%	2.41%	0.11%	926	144,504
Bachelor's and Above	13.44%	1.39%	0.04%	1,040	156,925
Income Limits					
Very Low Income	17.55%	7.05%	0.16%	1,181	191,526
Low Income	13.72%	2.42%	0.01%	581	90,557
Moderate Income	12.77%	2.38%	0.08%	559	87,296
Higher Income	13.31%	0.98%	0.00%	1,108	152,417
Low Income	13.15%	2.36%	0.01%	581	90,557
HUD-Assisted Households	39.83%	22.60%	0.45%	316	37,105
Very Low-Income Renters	20.51%	8.99%	0.25%	790	119,519
Worst Case Needs	15.35%	3.41%	0.00%	89	14,003

Table 11A. Riverside MSA: Percent of All Housing Units with Critical Accessibility Features

Riverside MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	61.54%	6.49%	0.17%	3,643	1,511,645
Occupancy Status					
Renter-occupied	54.86%	4.11%	0.15%	1,226	483,837
Owner-occupied	65.52%	7.79%	0.14%	1,820	816,405
Vacant Unit	61.34%	5.76%	0.29%	544	187,759
Seasonal Unit	60.84%	12.63%	1.00%	53	23,644
Monthly Housing Cost (Median=1184)					
Above Median (in sample)	64.93%	6.98%	0.15%	1,524	699,934
Below Median (in sample)	57.65%	5.79%	0.13%	1,522	600,308
Housing Price (Median=200000)					
Above Median (in sample)	69.98%	9.17%	0.31%	1,126	498,049
Below Median (in sample)	61.72%	6.18%	0.00%	1,124	476,335
Building Size					
1 Unit	64.26%	6.98%	0.15%	2,951	1,239,532
2-3 Units	69.57%	5.11%	0.69%	104	28,212
4-49 Units	47.47%	2.80%	0.13%	499	217,365
50+ Units	40.45%	16.44%	0.98%	89	26,536
Building Type					
House, apartment, flat	64.31%	6.57%	0.18%	3,360	1,396,089
Mobile home	27.16%	5.29%	0.00%	258	113,862
Other	62.53%	22.29%	0.00%	25	1,694
Building Age					
Built before 1920	43.82%	0.00%	0.00%	18	10,285
1920s	34.19%	0.00%	0.00%	26	18,226
1930s	50.24%	2.37%	0.00%	59	20,818
1940s	44.11%	4.29%	0.00%	134	59,264
1950s	65.53%	6.11%	0.00%	267	111,580
1960s	72.84%	3.04%	0.24%	439	186,384
1970s	61.00%	6.04%	0.06%	653	320,166
1980s	55.68%	7.57%	0.00%	854	353,823
1990s	70.74%	9.87%	0.33%	491	196,814
2000 or after	60.49%	7.11%	0.52%	702	234,285
Central City/Suburban Status					
Central Cities	60.04%	4.57%	0.08%	631	310,270
Suburbs	61.93%	7.00%	0.19%	3,012	1,201,375
Age of Residents					
Any Resident >= 65	67.11%	15.73%	0.41%	686	305,803
Any Resident < 18	57.78%	3.69%	0.03%	1,341	567,855
All Residents >= 18 and < 65	63.48%	3.98%	0.09%	1,111	458,649

Table 11A. Riverside MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

Riverside MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	65.23%	13.42%	0.28%	244	96,390
Other	61.29%	5.89%	0.13%	2,802	1,203,852
Race/Ethnicity					
White (Non-Hisp.)	65.12%	8.60%	0.20%	1,374	620,971
Black (Non-Hisp.)	52.71%	6.19%	0.00%	227	100,203
Asian (Non-Hisp.)	44.91%	3.06%	0.00%	190	71,521
Hispanic of Any Race	62.29%	4.32%	0.13%	1,189	484,675
Immigration Status of Householder					
Native, US Citizen	63.56%	7.51%	0.15%	2,165	946,065
Foreign-Born, US Citizen	57.24%	5.38%	0.22%	451	190,837
Foreign-Born, Non-US Citizen	55.15%	1.31%	0.00%	430	163,340
Education					
Non-High School Graduate	60.50%	5.83%	0.09%	571	213,204
High School Graduate	65.75%	5.65%	0.11%	727	325,635
Some College, No Bachelor's	61.30%	6.91%	0.22%	1,097	480,156
Bachelor's and Above	57.99%	6.97%	0.09%	651	281,247
Income Limits					
Very Low Income	55.22%	6.40%	0.27%	1,070	422,293
Low Income	59.54%	5.73%	0.00%	566	229,205
Moderate Income	64.54%	7.65%	0.21%	370	172,619
Higher Income	67.09%	6.35%	0.07%	1,045	477,258
Low Income	59.32%	5.73%	0.00%	566	229,205
HUD-Assisted Households	56.09%	17.88%	0.83%	81	22,095
Very Low-Income Renters	52.93%	4.99%	0.30%	646	241,475
Worst Case Needs	51.83%	1.84%	0.00%	109	41,266

Table 11A. Sacramento MSA: Percent of All Housing Units with Critical Accessibility Features

Sacramento MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	50.42%	7.49%	0.36%	3,618	882,585
Occupancy Status					
Renter-occupied	46.81%	8.79%	0.29%	1,328	334,827
Owner-occupied	53.88%	7.14%	0.43%	1,862	454,045
Vacant Unit	45.08%	2.90%	0.22%	398	89,194
Seasonal Unit	57.88%	10.71%	0.00%	30	4,519
Monthly Housing Cost (Median=1180.5)					
Above Median (in sample)	54.98%	6.68%	0.24%	1,595	385,944
Below Median (in sample)	46.95%	8.98%	0.51%	1,595	402,928
Housing Price (Median=230000)					
Above Median (in sample)	53.55%	6.71%	0.51%	1,064	261,475
Below Median (in sample)	54.00%	7.09%	0.34%	1,057	245,735
Building Size					
1 Unit	53.96%	7.44%	0.40%	2,755	666,633
2-3 Units	50.75%	2.34%	0.00%	103	26,421
4-49 Units	35.75%	5.08%	0.32%	648	166,527
50+ Units	50.78%	31.40%	0.00%	112	23,004
Building Type					
House, apartment, flat	51.56%	7.66%	0.37%	3,422	851,509
Mobile home	9.75%	1.05%	0.00%	111	23,584
Other	51.34%	8.34%	0.00%	85	7,492
Building Age					
Built before 1920	8.26%	0.00%	0.00%	39	9,473
1920s	11.75%	3.55%	0.00%	51	14,736
1930s	14.51%	0.68%	0.00%	73	21,315
1940s	28.78%	1.95%	0.00%	154	36,402
1950s	52.80%	8.10%	0.00%	324	81,298
1960s	42.85%	7.64%	0.00%	446	124,814
1970s	54.91%	5.49%	0.15%	710	179,020
1980s	50.98%	7.34%	0.10%	635	159,279
1990s	61.58%	12.95%	1.64%	510	110,662
2000 or after	58.22%	8.73%	0.64%	676	145,586
Central City/Suburban Status					
Central Cities	41.94%	7.30%	0.05%	848	267,069
Suburbs	54.07%	7.57%	0.50%	2,770	615,516
Age of Residents					
Any Resident >= 65	57.45%	16.29%	1.21%	797	191,709
Any Resident < 18	52.86%	7.98%	0.18%	1,075	262,613
All Residents >= 18 and < 65	46.01%	3.47%	0.04%	1,378	350,572

Table 11A. Sacramento MSA: Percent of All Housing Units with Critical Accessibility Features
(continued)

Sacramento MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	53.92%	21.87%	0.89%	333	83,222
Other	50.56%	6.22%	0.32%	2,857	705,650
Race/Ethnicity					
White (Non-Hisp.)	50.82%	7.84%	0.54%	2,045	516,075
Black (Non-Hisp.)	52.58%	15.74%	0.28%	218	55,244
Asian (Non-Hisp.)	53.88%	6.81%	0.00%	299	64,060
Hispanic of Any Race	46.33%	4.50%	0.00%	495	122,902
Immigration Status of Householder					
Native, US Citizen	50.14%	7.45%	0.43%	2,563	635,708
Foreign-Born, US Citizen	59.19%	11.30%	0.26%	366	87,061
Foreign-Born, Non-US Citizen	47.42%	6.98%	0.00%	261	66,103
Education					
Non-High School Graduate	50.18%	7.44%	0.42%	2,563	635,708
High School Graduate	52.63%	11.20%	0.00%	323	83,807
Some College, No Bachelor's	52.96%	8.26%	0.28%	611	154,023
Bachelor's and Above	49.55%	6.83%	0.45%	1,178	289,539
Income Limits					
Very Low Income	50.66%	7.66%	0.46%	1,078	261,503
Low Income	48.16%	9.04%	0.16%	1,051	253,216
Moderate Income	53.30%	9.58%	0.36%	550	130,697
Higher Income	44.83%	7.48%	0.60%	489	136,842
Low Income	55.40%	6.08%	0.46%	1,100	268,117
HUD-Assisted Households					
	48.53%	15.13%	0.00%	105	24,610
Very Low-Income Renters					
	45.73%	8.81%	0.09%	679	170,406
Worst Case Needs					
	56.19%	7.16%	0.00%	117	28,772

Table 11A. San Diego MSA: Percent of All Housing Units with Critical Accessibility Features

San Diego MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	43.03%	3.76%	0.10%	3,784	1,185,126
Occupancy Status					
Renter-occupied	36.36%	2.25%	0.08%	1,673	529,487
Owner-occupied	49.71%	4.67%	0.12%	1,794	570,778
Vacant Unit	36.98%	6.15%	0.27%	256	71,140
Seasonal Unit	45.21%	13.77%	0.00%	61	13,721
Monthly Housing Cost (Median=1411)					
Above Median (in sample)	46.88%	3.68%	0.12%	1,738	544,678
Below Median (in sample)	39.86%	3.33%	0.08%	1,729	555,587
Housing Price (Median=375000)					
Above Median (in sample)	52.66%	5.72%	0.21%	1,010	320,924
Below Median (in sample)	45.60%	4.19%	0.00%	970	300,273
Building Size					
1 Unit	47.92%	4.28%	0.11%	2,420	754,310
2-3 Units	43.33%	4.93%	0.00%	158	44,487
4-49 Units	30.89%	1.81%	0.00%	1,009	325,954
50+ Units	45.18%	6.83%	0.70%	197	60,375
Building Type					
House, apartment, flat	44.64%	3.75%	0.11%	3,592	1,126,615
Mobile home	7.94%	2.01%	0.00%	123	42,662
Other	26.03%	8.68%	0.00%	69	15,849
Building Age					
Built before 1920	58.45%	0.00%	0.00%	30	14,243
1920s	30.39%	0.00%	0.00%	35	9,999
1930s	34.49%	1.29%	0.00%	99	34,574
1940s	39.52%	3.90%	0.00%	193	58,323
1950s	46.67%	1.79%	0.00%	367	125,081
1960s	49.22%	4.48%	0.00%	560	190,869
1970s	43.55%	4.60%	0.07%	905	303,158
1980s	41.50%	3.09%	0.08%	826	250,307
1990s	35.87%	4.49%	0.21%	363	103,606
2000 or after	40.31%	4.90%	0.66%	406	94,966
Central City/Suburban Status					
Central Cities	38.40%	4.13%	0.00%	1,738	605,345
Suburbs	47.78%	3.37%	0.21%	2,046	579,781
Age of Residents					
Any Resident >= 65	46.08%	8.10%	0.24%	827	259,391
Any Resident < 18	43.72%	1.66%	0.00%	1,176	370,629
All Residents >= 18 and < 65	41.82%	2.53%	0.09%	1,551	496,163

Table 11A. San Diego MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

San Diego MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	42.65%	10.30%	0.22%	323	100,373
Other	43.44%	2.85%	0.09%	3,144	999,892
Race/Ethnicity					
White (Non-Hisp.)	44.89%	4.39%	0.16%	2,071	655,694
Black (Non-Hisp.)	26.91%	4.49%	0.00%	171	56,126
Asian (Non-Hisp.)	53.54%	2.06%	0.00%	313	100,858
Hispanic of Any Race	39.50%	1.43%	0.00%	827	258,165
Immigration Status of Householder					
Native, US Citizen	43.32%	3.94%	0.13%	2,550	810,102
Foreign-Born, US Citizen	48.43%	3.25%	0.00%	507	157,745
Foreign-Born, Non-US Citizen	37.44%	1.14%	0.00%	410	132,418
Education					
Non-High School Graduate	42.11%	3.39%	0.16%	415	140,872
High School Graduate	42.78%	3.39%	0.10%	619	195,248
Some College, No Bachelor's	44.93%	2.40%	0.06%	1,089	340,349
Bachelor's and Above	42.80%	4.49%	0.11%	1,344	423,796
Income Limits					
Very Low Income	41.35%	3.24%	0.13%	1,129	368,768
Low Income	44.98%	2.93%	0.00%	629	200,021
Moderate Income	36.89%	2.43%	0.13%	454	147,327
Higher Income	47.00%	4.43%	0.10%	1,261	387,782
Low Income	44.23%	2.89%	0.00%	629	200,021
HUD-Assisted Households	36.72%	5.20%	0.00%	147	48,227
Very Low-Income Renters	39.02%	2.88%	0.09%	767	244,341
Worst Case Needs	31.65%	2.41%	0.45%	139	48,964

Table 11A. San Francisco MSA: Percent of All Housing Units with Critical Accessibility Features

San Francisco MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	24.47%	3.45%	0.08%	3,621	766,435
Occupancy Status					
Renter-occupied	24.01%	3.75%	0.09%	1,780	367,948
Owner-occupied	25.31%	3.40%	0.00%	1,563	353,987
Vacant Unit	22.83%	1.51%	1.15%	235	35,855
Seasonal Unit	13.15%	0.00%	0.00%	43	8,645
Monthly Housing Cost (Median=1670)					
Above Median (in sample)	23.64%	3.00%	0.00%	1,672	360,874
Below Median (in sample)	25.86%	4.20%	0.09%	1,671	361,061
Housing Price (Median=700000)					
Above Median (in sample)	26.74%	5.14%	0.00%	916	189,445
Below Median (in sample)	23.42%	1.28%	0.05%	812	189,024
Building Size					
1 Unit	23.91%	3.35%	0.00%	1,797	380,189
2-3 Units	22.98%	4.03%	0.00%	419	86,946
4-49 Units	20.50%	1.91%	0.06%	1,063	242,257
50+ Units	54.97%	11.51%	1.21%	342	57,043
Building Type					
House, apartment, flat	24.63%	3.46%	0.09%	3,530	750,768
Mobile home	14.36%	0.00%	0.00%	15	4,150
Other	12.50%	4.40%	0.00%	76	11,517
Building Age					
Built before 1920	11.04%	0.38%	0.00%	423	72,158
1920s	21.59%	6.76%	0.00%	328	75,034
1930s	6.27%	0.32%	0.00%	321	72,959
1940s	23.49%	2.48%	0.00%	463	100,918
1950s	31.05%	3.16%	0.00%	625	124,590
1960s	31.10%	3.04%	0.00%	468	117,921
1970s	19.34%	3.25%	0.00%	437	99,675
1980s	32.38%	8.98%	0.22%	231	46,136
1990s	41.08%	7.46%	0.86%	176	37,030
2000 or after	36.88%	3.65%	1.01%	149	20,014
Central City/Suburban Status					
Central Cities	18.12%	3.19%	0.09%	1,809	381,571
Suburbs	30.05%	3.67%	0.08%	1,812	384,864
Age of Residents					
Any Resident >= 65	29.30%	7.31%	0.17%	889	194,263
Any Resident < 18	22.16%	2.60%	0.00%	876	193,433
All Residents >= 18 and < 65	23.50%	2.44%	0.00%	1,652	348,218

Table 11A. San Francisco MSA: Percent of All Housing Units with Critical Accessibility Features
(continued)

San Francisco MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	26.47%	7.38%	0.38%	393	86,261
Other	24.45%	3.06%	0.00%	2,950	635,674
Race/Ethnicity					
White (Non-Hisp.)	26.50%	4.90%	0.00%	1,878	407,442
Black (Non-Hisp.)	23.37%	0.00%	0.00%	137	34,498
Asian (Non-Hisp.)	19.20%	1.16%	0.19%	733	163,289
Hispanic of Any Race	26.79%	3.48%	0.00%	489	99,546
Immigration Status of Householder					
Native, US Citizen	26.20%	4.72%	0.04%	2,129	463,318
Foreign-Born, US Citizen	21.07%	1.91%	0.08%	808	170,139
Foreign-Born, Non-US Citizen	23.86%	0.60%	0.00%	406	88,478
Education					
Non-High School Graduate	22.76%	3.07%	0.28%	330	56,924
High School Graduate	26.24%	1.43%	0.00%	429	80,382
Some College, No Bachelor's	23.54%	3.36%	0.00%	697	164,372
Bachelor's and Above	25.08%	4.10%	0.04%	1,887	420,257
Income Limits					
Very Low Income	28.24%	4.67%	0.16%	1,101	224,589
Low Income	18.40%	0.85%	0.00%	488	106,333
Moderate Income	24.26%	3.79%	0.00%	515	125,210
Higher Income	25.07%	3.73%	0.00%	1,242	267,410
Low Income	17.27%	0.82%	0.00%	488	106,333
HUD-Assisted Households	30.23%	15.00%	0.67%	167	24,153
Very Low-Income Renters	26.66%	4.28%	0.22%	789	162,528
Worst Case Needs	32.03%	6.32%	0.00%	161	41,379

Table 11A. San Jose MSA: Percent of All Housing Units with Critical Accessibility Features

San Jose MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	32.97%	2.78%	0.07%	3,818	655,536
Occupancy Status					
Renter-occupied	32.80%	2.79%	0.10%	1,589	273,726
Owner-occupied	32.66%	2.51%	0.06%	2,014	352,119
Vacant Unit	39.03%	8.38%	0.00%	178	24,805
Seasonal Unit	37.65%	0.00%	0.00%	37	4,886
Monthly Housing Cost (Median=1750)					
Above Median (in sample)	32.93%	2.58%	0.06%	1,803	322,124
Below Median (in sample)	32.49%	2.68%	0.09%	1,800	303,721
Housing Price (Median=580000)					
Above Median (in sample)	33.62%	3.45%	0.11%	1,067	175,480
Below Median (in sample)	32.00%	2.18%	0.00%	1,057	188,805
Building Size					
1 Unit	33.81%	2.77%	0.02%	2,556	438,258
2-3 Units	50.42%	2.96%	0.00%	93	16,239
4-49 Units	26.42%	1.51%	0.00%	950	158,215
50+ Units	42.37%	8.11%	1.02%	219	42,824
Building Type					
House, apartment, flat	33.87%	2.81%	0.08%	3,654	630,771
Mobile home	2.85%	1.53%	0.00%	110	19,977
Other	43.82%	3.99%	0.00%	54	4,788
Building Age					
Built before 1920	28.90%	1.03%	0.00%	67	10,541
1920s	28.33%	0.00%	0.00%	44	7,777
1930s	36.42%	2.49%	0.00%	75	10,236
1940s	40.25%	2.23%	0.00%	210	29,739
1950s	40.33%	4.75%	0.11%	564	96,982
1960s	31.32%	1.02%	0.00%	781	156,224
1970s	30.67%	2.51%	0.00%	829	142,382
1980s	31.20%	3.36%	0.31%	507	86,284
1990s	25.71%	2.98%	0.19%	382	55,670
2000 or after	36.97%	4.74%	0.00%	359	59,701
Central City/Suburban Status					
Central Cities	29.80%	2.54%	0.08%	1,874	343,672
Suburbs	36.41%	3.03%	0.07%	1,944	311,864
Age of Residents					
Any Resident >= 65	41.22%	5.44%	0.32%	880	144,376
Any Resident < 18	30.13%	1.88%	0.04%	1,331	249,265
All Residents >= 18 and < 65	30.32%	1.67%	0.00%	1,492	245,409

Table 11A. San Jose MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
San Jose MSA: All Housing Units					
Household Composition	40.92%	5.41%	0.32%	880	144,376
Elderly, Living Alone	41.88%	9.75%	0.53%	322	51,378
Other	31.90%	2.00%	0.04%	3,281	574,467
Race/Ethnicity					
White (Non-Hisp.)	32.31%	2.41%	0.13%	1,644	274,296
Black (Non-Hisp.)	25.54%	0.55%	0.00%	110	16,281
Asian (Non-Hisp.)	33.81%	3.79%	0.06%	1,037	180,680
Hispanic of Any Race	33.39%	2.00%	0.00%	730	138,218
Immigration Status of Householder					
Native, US Citizen	35.86%	2.59%	0.14%	2,010	336,365
Foreign-Born, US Citizen	31.66%	4.03%	0.00%	970	167,982
Foreign-Born, Non-US Citizen	25.41%	0.85%	0.00%	623	121,498
Education					
Non-High School Graduate	31.28%	3.02%	0.00%	380	63,121
High School Graduate	31.79%	3.43%	0.19%	493	96,356
Some College, No Bachelor's	29.79%	1.32%	0.06%	850	154,557
Bachelor's and Above	34.74%	2.94%	0.06%	1,880	311,811
Income Limits					
Very Low Income	33.72%	3.21%	0.09%	1,148	202,787
Low Income	32.96%	1.52%	0.11%	456	79,435
Moderate Income	32.44%	2.68%	0.09%	671	112,478
Higher Income	31.93%	2.52%	0.04%	1,328	231,145
Low Income	32.82%	1.51%	0.11%	456	79,435
HUD-Assisted Households	42.81%	14.72%	0.69%	106	14,610
Very Low-Income Renters	30.94%	3.26%	0.15%	722	129,929
Worst Case Needs	22.75%	1.40%	0.00%	108	20,491

Table 11A. St. Louis MSA: Percent of All Housing Units with Critical Accessibility Features

St. Louis MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	29.99%	3.11%	0.02%	3,626	1,244,015
Occupancy Status					
Renter-occupied	26.69%	4.19%	0.00%	975	322,182
Owner-occupied	31.48%	2.75%	0.02%	2,174	785,413
Vacant Unit	27.39%	2.25%	0.00%	432	127,697
Seasonal Unit	46.29%	4.75%	0.00%	45	8,723
Monthly Housing Cost (Median=882)					
Above Median (in sample)	30.92%	2.52%	0.04%	1,576	557,816
Below Median (in sample)	29.25%	3.82%	0.00%	1,573	549,779
Housing Price (Median=144000)					
Above Median (in sample)	32.46%	3.13%	0.05%	1,226	403,802
Below Median (in sample)	31.02%	2.39%	0.00%	1,218	452,149
Building Size					
1 Unit	31.43%	2.89%	0.02%	2,760	967,312
2-3 Units	13.82%	0.75%	0.00%	168	61,690
4-49 Units	26.71%	2.09%	0.00%	601	189,040
50+ Units	37.19%	25.18%	0.00%	97	25,973
Building Type					
House, apartment, flat	30.55%	3.24%	0.02%	3,485	1,192,308
Mobile home	16.23%	0.00%	0.00%	117	48,328
Other	27.97%	0.00%	0.00%	24	3,379
Building Age					
Built before 1920	10.25%	1.19%	0.00%	268	90,093
1920s	17.47%	2.79%	0.00%	251	82,211
1930s	18.01%	0.38%	0.00%	159	73,664
1940s	30.36%	2.50%	0.00%	240	75,919
1950s	37.68%	5.70%	0.00%	452	177,051
1960s	39.43%	2.70%	0.00%	569	198,424
1970s	28.99%	3.13%	0.00%	510	183,975
1980s	35.14%	3.28%	0.00%	414	144,205
1990s	30.84%	2.48%	0.18%	391	109,219
2000 or after	26.55%	3.96%	0.00%	372	109,254
Central City/Suburban Status					
Central Cities	13.80%	3.52%	0.00%	613	251,615
Suburbs	33.94%	3.01%	0.02%	3,013	992,400
Age of Residents					
Any Resident >= 65	35.99%	7.63%	0.07%	791	281,903
Any Resident < 18	28.48%	0.93%	0.00%	945	327,947
All Residents >= 18 and < 65	28.36%	2.17%	0.00%	1,450	510,706

Table 11A. St. Louis MSA: Percent of All Housing Units with Critical Accessibility Features (continued)

St. Louis MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	34.27%	7.83%	0.14%	385	145,483
Other	29.47%	2.47%	0.00%	2,764	962,112
Race/Ethnicity					
White (Non-Hisp.)	32.03%	3.67%	0.02%	2,333	825,183
Black (Non-Hisp.)	23.29%	1.16%	0.00%	633	225,830
Asian (Non-Hisp.)	26.31%	0.00%	0.00%	66	18,477
Hispanic of Any Race	28.67%	5.87%	0.00%	84	28,686
Immigration Status of Householder					
Native, US Citizen	30.05%	3.11%	0.02%	3,004	1,060,314
Foreign-Born, US Citizen	34.01%	2.27%	0.00%	71	19,214
Foreign-Born, Non-US Citizen	29.22%	6.07%	0.00%	74	28,067
Education					
Non-High School Graduate	36.34%	3.38%	0.00%	357	120,970
High School Graduate	33.42%	4.89%	0.00%	767	270,338
Some College, No Bachelor's	27.49%	3.14%	0.00%	1,027	369,503
Bachelor's and Above	28.12%	1.78%	0.06%	998	346,784
Income Limits					
Very Low Income	31.21%	3.22%	0.00%	990	332,574
Low Income	32.02%	4.19%	0.00%	539	202,637
Moderate Income	25.37%	3.67%	0.00%	538	190,138
Higher Income	30.46%	2.33%	0.05%	1,082	382,246
Low Income	31.94%	4.18%	0.00%	539	202,637
HUD-Assisted Households	30.53%	9.75%	0.00%	191	48,055
Very Low-Income Renters	31.06%	5.21%	0.00%	541	165,825
Worst Case Needs	33.80%	1.10%	0.00%	64	20,300

Table 11A. Virginia Beach MSA: Percent of All Housing Units with Critical Accessibility Features

Virginia Beach MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Total Sample	24.50%	2.37%	0.07%	3,755	694,021
Occupancy Status					
Renter-occupied	26.44%	3.61%	0.09%	1,256	247,231
Owner-occupied	22.39%	1.73%	0.04%	2,040	380,976
Vacant Unit	31.99%	1.14%	0.21%	406	61,281
Seasonal Unit	14.27%	1.82%	0.00%	53	4,533
Monthly Housing Cost (Median=1115.5)					
Above Median (in sample)	23.23%	1.49%	0.00%	1,648	312,989
Below Median (in sample)	24.69%	3.43%	0.11%	1,648	315,218
Housing Price (Median=220000)					
Above Median (in sample)	20.33%	2.41%	0.07%	1,153	198,848
Below Median (in sample)	24.15%	1.04%	0.00%	1,150	219,801
Building Size					
1 Unit	22.73%	1.70%	0.03%	2,874	533,631
2-3 Units	32.27%	1.44%	0.00%	101	14,610
4-49 Units	32.04%	3.30%	0.18%	689	118,490
50+ Units	22.38%	11.87%	0.38%	91	27,290
Building Type					
House, apartment, flat	24.69%	2.39%	0.07%	3,631	672,634
Mobile home	17.78%	0.00%	0.00%	83	17,826
Other	22.17%	10.64%	0.00%	41	3,561
Building Age					
Built before 1920	2.60%	0.00%	0.00%	97	21,420
1920s	14.41%	0.00%	0.00%	55	14,814
1930s	25.84%	0.42%	0.00%	89	25,018
1940s	25.35%	1.64%	0.00%	254	46,075
1950s	25.68%	0.89%	0.00%	393	77,751
1960s	30.99%	3.00%	0.00%	485	87,474
1970s	29.33%	2.85%	0.00%	598	103,971
1980s	26.83%	3.31%	0.16%	793	157,389
1990s	18.44%	3.39%	0.23%	580	93,525
2000 or after	17.82%	1.22%	0.00%	411	66,584
Central City/Suburban Status					
Central Cities	24.73%	2.30%	0.02%	2,257	480,415
Suburbs	24.01%	2.52%	0.17%	1,498	213,606
Age of Residents					
Any Resident >= 65	28.88%	6.09%	0.25%	749	142,270
Any Resident < 18	22.21%	1.70%	0.00%	1,044	203,857
All Residents >= 18 and < 65	22.98%	1.18%	0.00%	1,559	292,773

Table 11A. Virginia Beach MSA: Percent of All Housing Units with Critical Accessibility Features
(continued)

Virginia Beach MSA: All Housing Units	Level 1: Potentially Modifiable	Level 2: Livable	Level 3: Wheelchair Accessible	Sample Size	Weighted Counts
Household Composition					
Elderly, Living Alone	31.01%	7.26%	0.32%	341	67,374
Other	23.11%	1.88%	0.03%	2,955	560,833
Race/Ethnicity					
White (Non-Hisp.)	24.97%	2.59%	0.04%	2,015	380,213
Black (Non-Hisp.)	23.48%	2.36%	0.11%	985	199,538
Asian (Non-Hisp.)	21.13%	1.42%	0.00%	68	13,186
Hispanic of Any Race	15.97%	2.50%	0.00%	149	24,850
Immigration Status of Householder					
Native, US Citizen	23.99%	2.48%	0.06%	3,100	600,743
Foreign-Born, US Citizen	17.05%	1.96%	0.00%	123	14,757
Foreign-Born, Non-US Citizen	30.72%	2.23%	0.00%	73	12,707
Education					
Non-High School Graduate	25.48%	3.83%	0.20%	316	59,698
High School Graduate	28.87%	3.37%	0.06%	851	165,243
Some College, No Bachelor's	25.96%	2.89%	0.07%	1,096	207,491
Bachelor's and Above	17.31%	0.84%	0.00%	1,033	195,775
Income Limits					
Very Low Income	27.94%	4.79%	0.21%	882	176,588
Low Income	21.46%	3.82%	0.00%	623	108,658
Moderate Income	24.90%	1.00%	0.00%	609	117,588
Higher Income	21.60%	0.77%	0.00%	1,182	225,373
Low Income	21.46%	3.82%	0.00%	623	108,658
HUD-Assisted Households	38.33%	12.36%	0.30%	200	34,773
Very Low-Income Renters	30.36%	6.68%	0.20%	534	110,197
Worst Case Needs	38.83%	11.15%	0.45%	61	24,803