

WORKING PAPER

Responding to Changing Households: Regulatory Challenges for Micro-Units and Accessory Dwelling Units

What Works Collaborative White Paper
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Introduction

The existing stock of rental housing falls significantly short of the need in many areas of the country, along at least two dimensions. The shortage of units that are affordable given the incomes of the population is one well-known problem. In addition, the sizes and configurations of available housing frequently do not match the specific needs of prospective tenants. The problems of affordability and suitability overlap, but are different. At all income levels, today's

⁺ This report is authored by the NYU Furman Center for Real Estate and Urban Policy. The research contained herein is part of the What Works Collaborative, which provides rapid response analysis and research to HUD to help inform the implementation of a forward-looking housing and urban policy agenda. A collaborative made up of researchers from the Brookings Institution's Metropolitan Policy Program, Harvard University's Joint Center for Housing Studies, and the New York University Furman Center for Real Estate and Urban Policy, and the Urban Institute's Center for Metropolitan Housing and Communities (the "Research Collaborative") conducts the research for this program. The Research Collaborative is supported by The Rockefeller Foundation, Surdna Foundation Inc., The Ford Foundation, and the John D. and Catherine T. MacArthur Foundation. The findings in this report are those of the authors alone, and do not necessarily reflect the opinions of the What Works Collaborative or The Rockefeller Foundation, Surdna Foundation, Inc., The Ford Foundation, or The John D. and Catherine T. MacArthur Foundation.

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households are much more diverse, and more fluid, in composition than the prototypical nuclear family of the 1950s. Household sizes have shrunk, people are waiting longer to marry and more are unmarried or divorced, more people are living alone, more people are sharing housing with unrelated individuals, and people are living longer. The misalignment between the nature of the stock and the needs of renter households has been exacerbated by land use regulations and building codes that have not kept pace with evolving housing demands.¹ Likely as a result, cities throughout the country have seen an increase in illegal housing units—units that do not conform to zoning or building codes and may not always provide safe living environments.² Further, many people are estimated to be living together who would prefer to live alone, and some people are paying to live alone in housing that is bigger than they would prefer.

In response to these and other concerns, a number of jurisdictions have revised their regulations to permit the development of more compact rental housing units, including both accessory dwelling units and micro-units. Accessory dwelling units (ADUs), which are often referred to as in-law units or secondary units, are self-contained units located on the property of a single-family home. These units may be attached to the primary residence, perhaps located in a basement or above a garage, or may be a separate structure, like a cottage. While ADUs are

¹In the words of one prominent affordable housing developer and advocate: “Of all the things that get in the way of better and more affordable housing options, the biggest obstacle may well be the tangle of building, zoning and occupancy regulations governing what can be built and how it can be used. Regulations dictating density, minimum room sizes, parking requirements and how many unrelated adults can live in a single unit clutter the housing landscape everywhere, directly shaping and limiting our housing choices.” Roseanne Haggerty, *You Can’t Build What People Want: Building Codes vs. Affordability*, ROOFLINES: THE SHELTERFORCE BLOG (Feb. 26, 2013), http://www.rooflines.org/3106/you_cant_build_what_people_want_building_codes_vs_affordability/; see also RODNEY L. COBB AND SCOTT DVORAK, AMERICAN PLANNING ASSOCIATION, ACCESSORY DWELLING UNITS: MODEL STATE ACT AND LOCAL ORDINANCE 4 (2000) (“Zoning ordinances that prohibit ADUs or make it extremely difficult for homeowners to create them are the principal obstacle to the wider availability of this housing option.”).

²A recent study in New York estimated that 114,000 such units were added citywide between 1990 and 2000. PRATT CENTER FOR COMMUNITY DEVELOPMENT AND COMMUNITY DEVELOPMENT CORPORATION, NEW YORK’S HOUSING UNDERGROUND: A REFUGE AND RESOURCE I (2008), available at <http://prattcenter.net/sites/default/files/publications/Housing%20Underground.pdf> [hereinafter PRATT CENTER]. This estimate is based on a comparison of the change in the number of units reported as available for occupancy in the 1990 and 2000 Census with the number of units that received Certificates of Occupancy during that period. *Id.* at 2. The Report concluded that more than half the housing produced during the decade was in the “housing underground.”

particularly suited to lower-density areas, multifamily buildings with “micro-units”—a number of small individual units within a single structure—may be more appropriate in denser communities. People disagree about the size below which an apartment qualifies as a micro-unit. For our purposes, micro-units are units that contain their own bathroom and a kitchen or kitchenette, but are significantly smaller than the standard studio in a given city. There is no accepted term for referring collectively to both micro-units and ADUs. Throughout this report we use the term “compact units” to refer to both when the distinctions between them are not important.

Developers and housing advocates champion both ADUs and micro-units as a means of allowing seniors to age in place, and otherwise responding to the changing household sizes and demographics, reducing sprawling development through urban infill,³ mitigating the environmental impact of larger developments, and providing housing affordable to a wider range of households. Developers in a variety of jurisdictions have shown interest in both kinds of units. New York, Boston, Seattle and San Francisco all are actively exploring whether to allow or promote micro-units. A range of communities also have made changes to permit or even actively encourage the construction of accessory dwelling units. Santa Cruz, California, for example, provides prospective ADU landlords with technical assistance, pre-approved designs, a low-interest loan program, and other resources.

³KAREN CHAPPLE AT AL., CENTER FOR COMMUNITY INNOVATION AT THE INSTITUTE OF URBAN AND REGIONAL DEVELOPMENT, YES IN MY BACKYARD: MOBILIZING THE MARKET FOR SECONDARY UNITS 1 (2011) [hereinafter CENTER FOR COMMUNITY INNOVATION] (“Secondary units are particularly well-suited as an infill strategy for low-density residential areas because they offer hidden density, housing units not readily apparent from the street—and relatively less objectionable to the neighbors.”).

Advocates have examined the demand for accessory dwelling units,⁴ produced guides to aid homeowners interested in developing such units⁵ and proposed model ordinances to enable the construction of these units.⁶ These efforts have been tailored to a single jurisdiction or a small number of neighboring jurisdictions, and have largely focused on accessory units,⁷ but not micro-units—which raise distinct regulatory issues. Given the overlapping purposes ascribed to these unit types, however, jurisdictions would benefit from considering both forms of new housing as they evaluate potential regulatory changes. No study, however, has comprehensively evaluated the feasibility of developing both types of compact housing units across a range of jurisdictions.

This White Paper fills two gaps in the discussion regarding compact units. First, we provide a detailed analysis of the regulatory and other challenges to developing both ADUs and micro-units, focusing on five cities: New York; Washington, D.C.; Austin; Denver; and Seattle. That analysis will be helpful not only to the specific jurisdictions we study, but also can serve as a model for those who want to catalogue regulations that might get in the way of the development of compact units in their own jurisdictions. Second, as more local governments permit or encourage compact units, researchers will need to evaluate how well the units built serve the goals proponents claim they will achieve. We identify the questions that researchers should address in such assessments.

⁴*Id.*; see also Jake Wegmann and Allison Nemirow, *Secondary Units and Urban Infill: A Literature Review* (Inst. of Urban & Reg'l Dev., Paper No. 2011-02, 2011) (2011) (providing a review of literature examining secondary units in relationship to urban infill as background for broader study of secondary units in East Bay, California).

⁵*ADU HomeOwner Packet*, A REGIONAL COALITION FOR HOUSING, <http://www.archhousing.org/current-residents/accessory-dwelling-unit.html> (last visited June 6, 2013).

⁶COBB AND DVORAK, *supra* note 1. The APA, on behalf of AARP's Public Policy Institute, developed a model state statute and local ordinance to aid interested parties in expanding the availability of ADUs.

⁷The Sightline Institute in Seattle, Washington has produced a table of ADU rules for 46 cities in the Northwest United States and Canada. Alan Durning, *ADUs and Don'ts*, SIGHTLINE DAILY (Mar. 15, 2013, 9:30 AM), <http://daily.sightline.org/2013/03/15/adus-and-donts/>.

New York University’s Furman Center for Real Estate and Urban Policy conducted the research presented in this report on behalf of the What Works Collaborative, a foundation-supported partnership of research organizations that, for the first several years of the Obama Administration, conducted research and analysis to help inform the implementation of an evidence-based housing and urban policy agenda. In conducting this research the Furman Center consulted with the Citizen’s Housing and Planning Council (CHPC), whose *Making Room* initiative exploring possibilities for using smaller units to expand housing options in New York City spurred greater attention to the issues across the country.⁸ We also consulted with a number of the other organizations across the nation that are doing pioneering work on smaller units.

In preparing this report we reviewed relevant literature on the topic, researched current efforts to develop compact housing throughout the United States, conducted a detailed analysis of relevant regulations in the five cities studied, and convened roundtable discussions in each city with housing developers, architects, city planners, legal experts, and elected officials to discuss regulatory and other challenges to developing these types of housing units. We selected five study cities, including those with considerable experience in the development of compact units as well as those just beginning to explore the issues. The five cities have diverse urban forms, are in different regions of the country, and have populations that differ in the characteristics associated with demand for micro-units and ADUs.

We begin in Part I by discussing how changing household composition is resulting in a mismatch between housing needs and the existing housing supply. Part II then reviews the

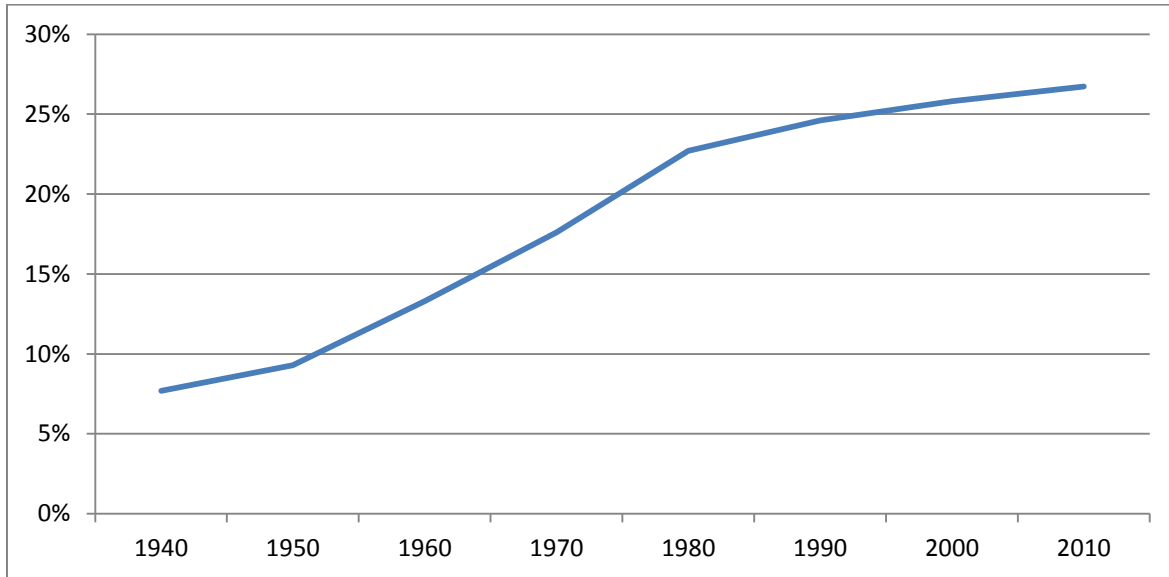
⁸For more information on Making Room see *Making Room*, CITIZENS HOUS. PLANNING COUNCIL, <http://www.chpcny.org/our-initiatives/making-room/> (last visited June 6, 2013). The Making Room initiative promotes a “new approach to housing policy that scrutinizes how households are really living and finds ways for the housing typologies in a city to better support these evolving needs.” The application of the Making Room approach in New York City led to the promotion of three types of housing: small, efficient studios (akin to what we term “micro-units” throughout this report, legal shared housing options for unrelated adults, and accessory dwelling units on a single-family property.

claimed benefits, as well as potential criticisms, of micro-units and ADUs. Part III surveys existing developments of these housing types throughout the United States, and explores how some local governments have sought to encourage them. Part IV reviews the status of micro-unit and ADU development in our study cities. It then draws upon our analysis of the regulations affecting micro-units and ADUs in each city and the findings from our roundtable discussions with stakeholders in these cities to highlight the key regulatory and other challenges to developing these units across the five cities. In Part V, we summarize our key findings, provide recommendations for jurisdictions interested in encouraging compact unit development, and suggest a future research agenda to evaluate compact units. Four appendices provide details about our analysis of accessibility laws, our research methodology (which other cities might adopt to study the potential demand for compact units in their jurisdiction), the data used, and our analysis of the regulations affecting micro-units and ADUs in each of our study cities.

Part I: The Need for New Forms of Housing: A Growing Mismatch Between Household Composition and Existing Housing Supply

Changing household compositions have rendered the existing housing stock inadequate for many households. Figure 1 depicts the dramatic rise nationally in the share of households consisting of one person. This trend is consistent across the United States: in every state but Utah, at least 21 percent of households were single adults.

Figure 1. Share of U.S. Households Consisting of One Person Living Alone, 1940-2010⁹



As figure 2 shows, in each of our study cities at least one-third of households consist of just one person and nearly half of all households in Washington, D.C. are single individuals. The share of single-person households grew in all of these cities between 2000 and 2011.¹⁰

Figure 2. One-Person Households as Share of All Households, 2011¹¹

	Austin	Denver	New York	Seattle	Washington, D.C.
One-person household as share of all households	34.5%	40.8%	32.6%	40.9%	45.2%

The rising number of single-person households is partly attributable to growth in the number of adults who do not live with a spouse or partner or roommate. While people who are

⁹United States Census Bureau, *1-Person Occupancy Rates*, http://www.census.gov/housing/census/data/livealone/livealone_rates.txt (last visited June 12, 2013) and U.S. Census Bureau, 2010 Census, H13: Household Size - Universe: Occupied housing units.

¹⁰Comparing 2000 Census data and the 2011 ACS data.

¹¹United States Census Bureau, 2011 American Community Survey 1-Year Estimates (2011), *available at* http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_B01003&prodType=table.

not married may be living with a partner or with a roommate, and people who are married may live apart from their spouse, the number of people who are single—not married—is the best proxy available for the number of people who do, or might wish to, live alone. One of every three adults in the United States was single as of the 1950 Census.¹² By the 2010 Census, the share of adults who were single had risen to 48 percent.¹³ In New York, Austin, and Denver approximately 57 percent of adults were single as of 2010.¹⁴ Fifty-nine percent of all adults in Seattle were single and 71 percent in Washington, D.C.¹⁵ In addition, over the past eleven years the number of marriages declined from 8.2 marriages per 1,000 individuals in the total population in 2000 to a rate of 6.8 marriages in 2011.¹⁶

Between 1965 and 2000, there was a consistent net migration of single, college-educated individuals between the ages of 25 to 39 into major metropolitan areas of over one million individuals.¹⁷ While single individuals were more likely to move into the principal city, a larger share of young, college-educated married couples moved to areas outside of principal cities.¹⁸ The metro areas in which the population of young, college-educated adults grew were often areas marked by out-migration among the total population.¹⁹ A recent article in *Planning: The Magazine of the American Planning Association* described the movement to cities of young individuals who are delaying marriage and have modest incomes as “a sociological trifecta.”²⁰ These individuals, although they live alone, often are very socially active, spending considerable

¹²United States Census Bureau, Census 1950.

¹³United States Census Bureau, Census 2010.

¹⁴*Id.*

¹⁵*Id.*

¹⁶ *National Marriage and Divorce Rate Trends*, CENTER FOR DISEASE CONTROL AND PREVENTION, http://www.cdc.gov/nchs/nvss/marriage_divorce_tables.htm (last visited June 13, 2013).

¹⁷Justyna Goworowska and Todd K. Gardner, *Historical Migration of the Young, Single, and College Educated: 1965 to 2000* 9 (U.S. Census Bureau, Population Div., Working Paper No. 94, 2012).

¹⁸*Id.*

¹⁹*Id.* at 12.

²⁰Mark Hinshaw and Brianna Holan, *Rooming House Redux: There's a market for small, simple housing for young adults*, PLANNING, Nov. 2011, at 16, 18.

time in public spaces in their local community.²¹ Developers have responded to the trend of young individuals spending more time in public spaces and are, in the words of an article discussing micro-units in Boston, “betting that young professionals will trade personal space for proximity to urban life.”²²

The growing share of adults who are single and living alone is driven not only by younger adults delaying marriage, but also by the growing number of older adults. The share of Americans over the age of 65 grew dramatically over the past few decades, from 7 percent in 1940 to 13 percent in 2010.²³ Over 40 million Americans were age 65 or older in 2010, which is more than quadruple the number in 1940.²⁴ Twenty-eight percent of individuals 65 or older lived alone as of 2010.²⁵ The total number of individuals over 65 years old, and the share of the population they made up, however, did not grow as dramatically in any of our study cities between 1970 and 2010 as in the United States as a whole, as depicted in figure 3.²⁶

²¹ERIC KLINENBERG, GOING SOLO: THE EXTRAORDINARY RISE AND SURPRISING APPEAL OF LIVING ALONE 18 (2012) (citing Duane Alwin, Philip Converse, and Steven Martin, *Living Arrangements and Social Integration*, 47 J. OF MARRIAGE AND THE FAMILY 319 (1988)).

²²Casey Ross, *Developer begins building micro housing in Seaport*, BOSTON GLOBE, July. 26, 2012, <http://www.boston.com/realestate/news/2012/07/27/developer-begins-build-micro-housing-seaport/WAQkqZkbnlNNBSmG1MdHmO/story.html>.

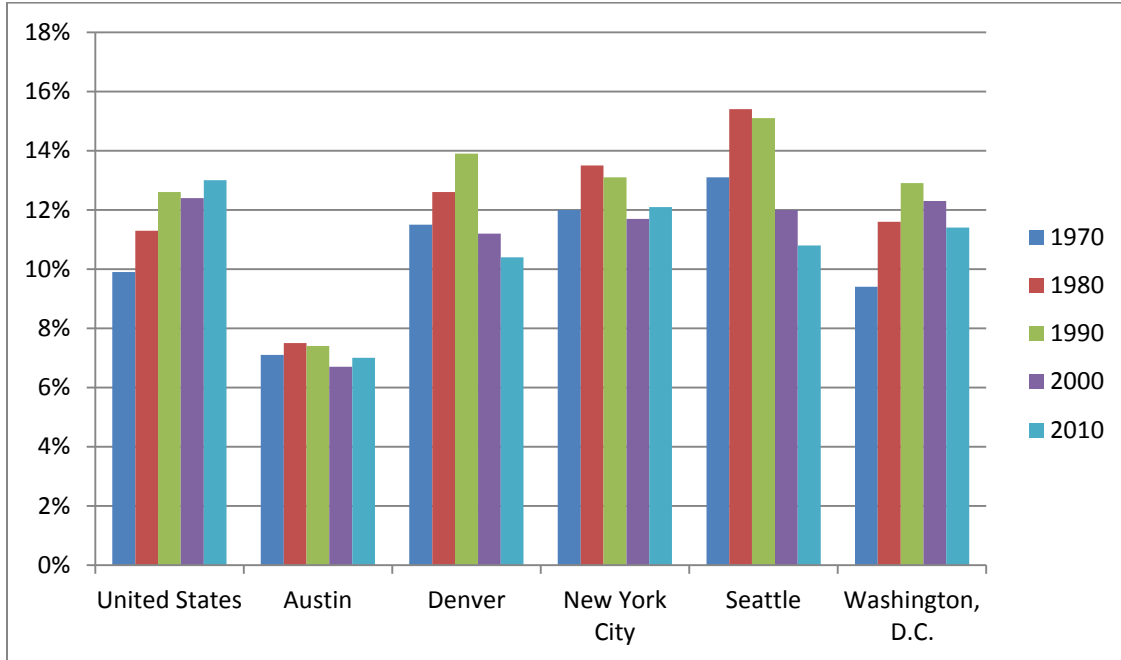
²³United States Census Bureau, Census 1940; Census 2010.

²⁴United States Census Bureau, Census 1940; Census 2010.

²⁵Ross, *supra* note 22; United States Census Bureau, 2006-2010 5-Year American Community Survey (2011), available at http://www2.census.gov/acs2010_5yr/summaryfile/ACS_2006-2010_SF_Tech_Doc.pdf.

²⁶United States Census Bureau, Census 1970; Census 2010; 2006-2010 5 Year ACS, *supra* note 16. In Austin the percentage of the population over 65 years of age stayed at 7 percent from 1970 to 2010, but the population grew from 17,866 in 1970 to 55,695 in 2010. New York City’s population over 65 also grew slightly from 952,637 in 1970 to 993,158 in 2010.

Figure 3. Percentage of Residents over 65 Years of Age, By City and Decade, 1970-2000²⁷

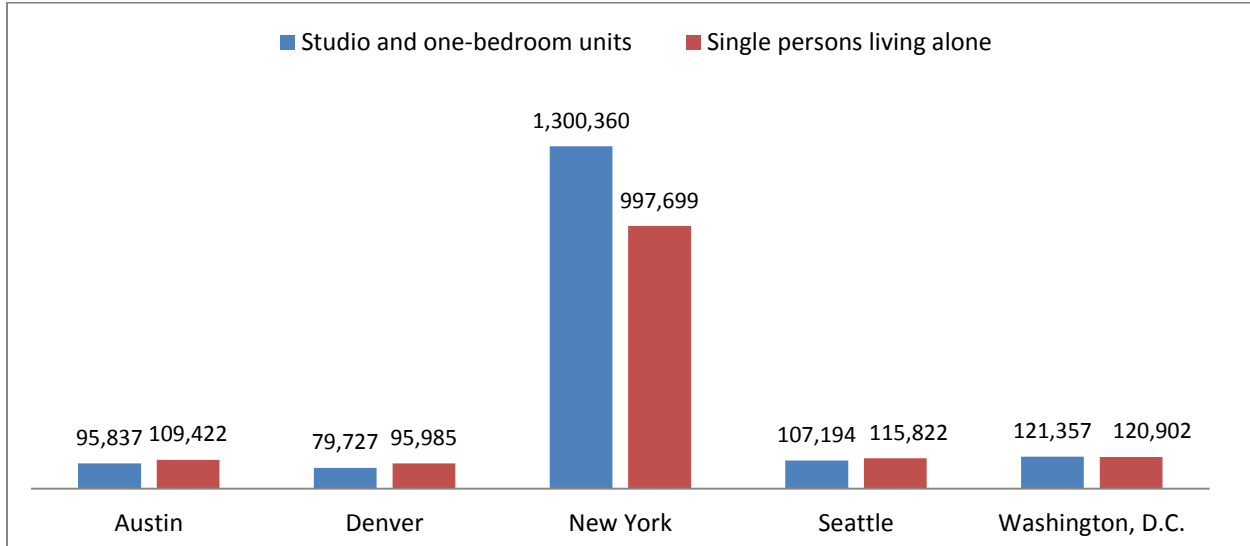


In many locales there is a substantial gap between the number of single-person households and the stock of studio and one-bedroom units.²⁸ As figure 4 shows, the number of single persons living alone exceeds or nearly matches the number of studio and one-bedroom units in each of our study cities.

²⁷United States Census Bureau, Census 1970 – Census 2010.

²⁸See COBB AND DVORAK, *supra* note 1, at 18 (“American families are growing in number but shrinking in size. People are living longer, more people are staying single longer, and married couples are having fewer children. The housing stock has not kept up with this change in family demographics.”).

Figure 4. Studio and One-Bedroom Units and Single Person Households by City, 2011²⁹



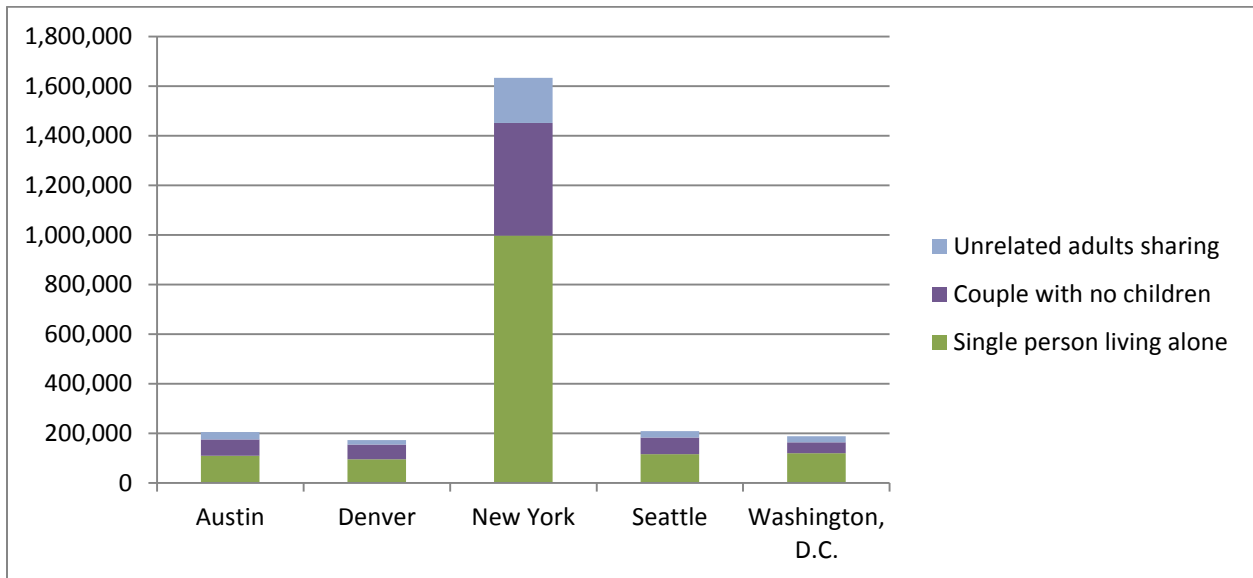
If we consider also the number of households consisting of couples with no children, who might prefer a studio or one-bedroom to a larger and likely more expensive two-bedroom unit, the total number of both these types of households exceeds the number of smaller units available. In addition, the substantial number of unrelated adults sharing a unit in each of these cities may also indicate hidden demand for studio and one-bedroom units. A market survey by a California-based multi-family developer found that 62 percent of respondents would prefer living alone, even at a higher cost, to living in a larger apartment with a roommate.³⁰ Figure 5 shows the cumulative number of single person households, households consisting of a couple with no children, and households consisting of unrelated adults sharing a unit in each of our study cities.

²⁹The housing unit counts come from the 2011 American Community Survey 1-Year Estimates, *supra* note 11. The numbers for each household type in figure 4 and figure 5 rely upon a methodology the Citizens Housing and Planning Council developed to analyze data from the American Community Survey’s Public Use Microdata Sample to better understand how household composition within a municipality might reveal “hidden demand” for compact units. The methodology categorizes households into six types that might reflect the demand for compact housing: (1) one person living alone, (2) a couple (married or unmarried), (3) a couple (married or unmarried) living with child(ren) all under 25, (4) a single person living with child(ren) all under 25, (5) shared unit with unrelated adults, and (6) shared unit with at least one additional adult relative. Citizens Housing Planning Council, ACS Puma Household Type Recode Methodology (Working document) (on file with Furman Center).

³⁰Jessica Fiur, *AMF Development Targets Millennials with California Micro Units*, MULTI-HOUSING NEWS ONLINE (Mar. 21, 2013), <http://www.multihousingnews.com/news/amf-development-targets-millennials-with-california-micro-units/1004076024.html> (citing survey AMF Development LLC, which is developing 400 square foot micro-units in Glendale, California).

In each of these cities the number of such households substantially exceeds the number of studio and one-bedroom units.

Figure 5. Select Household Types, by City



At the same time that households are becoming smaller and more people are living alone, another phenomenon is also changing the composition of households –the “revival of the multi-generational family household.”³¹ The share of the US population living in multigenerational households declined by more than half between 1940 and 1980, to a low point of 12.1 percent of the US population.³² But the share of all Americans living in multigenerational households³³ then increased to 15.1 percent in 2000, and 16.1 percent in 2008.³⁴ The total number of multi-generational households increased to 49 million as of 2008, up from 32 million in 1950.³⁵ This growth is attributed in part to the rising immigrant share of the population, because immigrants

³¹ PEW RESEARCH CENTER, SOCIAL & DEMOGRAPHIC TRENDS, THE RETURN OF THE MULTI-GENERATIONAL FAMILY HOUSEHOLD 1 (2010).

³²*Id.* at 1.

³³A “multi-generational family household” includes a household containing at least two adult generations (ages 25 and older) or a household containing grandparents and grandchildren, without parents. *Id.* at 2.

³⁴*Id.* at 22.

³⁵*Id.* at 4.

are more likely than native-born Americans to live in multi-generational households.³⁶ It also reflects an increase among all adults in the median age of first marriage.³⁷ The percentage of 24-34 year olds living a multi-generational household nearly doubled, from 11 percent in 1980 to 19.8 percent in 2008.³⁸ The growth in multi-generational households also is associated with the aging population. As of 2008, 19.6 percent of individuals 65 years old and older lived in a multi-generational household, compared with 16.8 percent of this age group in 1980.³⁹ Between 2000 and 2008 the share of adults over age 65 living in a nursing home declined from 5.7 percent to 4.9 percent, after remaining relatively steady between 1970 and 2000.⁴⁰

Some cities are expressly identifying the prevalence of these households as a reason for permitting ADUs.⁴¹ At the same time, the growing percentage of young adults remaining at home or moving back home and living in a multi-generational household –may reveal potential demand for more affordable micro-units.

Sidebar: Developer Perceptions of Changing Household Demand

According to some developers, the younger residents who constitute a growing share of the population in most cities often spend little time at home, instead choosing to spend their time in coffee shops, bars, parks, or working long hours.⁴² Developers accordingly are recognizing that changing demographics and the growth of a “singles society” are fueling demand for smaller

³⁶*Id.* at 5.

³⁷*Id.*.

³⁸*Id.* at 22.

³⁹This remains markedly lower than the 57.4 percent of older Americans who lived in such households in 1900.

⁴⁰*Id.* at 13.

⁴¹*See, e.g.*, Linda Farneth, *Amendment will allow Accessory Dwelling Units*, JOURNAL (King George, VA), (Dec. 11, 2012 11:31 AM), <http://www.journalpress.com/index.php/colonial-beach/beach-news/649-amendment-will-allow-accessory-dwelling-units> (discussing proposed ordinance in Colonial Beach, Virginia that would allow attached ADUs in part as response to “growing trend of multi-generational living within the same property”).

⁴² Mark Hinshaw and Brianna Holan, *Rooming House Redux: There’s a Market for Small, Simple Housing for Young Adults*, PLAN., Nov. 2011, at 18 (quoting Seattle developer Jim Potter describing lifestyle of tenants in small rental units he develops and manages).

housing units in vibrant neighborhoods.⁴³ As one developer explained, “[w]e think of the common space in our buildings and the streetscape outside as the living room for our residents.”⁴⁴

The locations of micro-unit developments in the cities we studied reflect this desire for access to high-amenity neighborhoods. More broadly, the cities we studied (with the exception of Austin) and those that have seen the most significant interest in micro-units specifically typically have high walkability, as Figure 6 reveals. Walk Scores are one measure of proximity to a range of amenities.

Figure 6. Walkability Ranking of Ten Largest U.S. Cities and Our Study Cities⁴⁵

Rank	City	Walk Score
1	New York	85.3
2	San Francisco	84.9
3	Boston	79.2
4	Chicago	74.3
5	Philadelphia	74.1
6	Seattle	73.7
7	Washington, D.C.	73.2
8	Miami	72.5
9	Minneapolis	69.3
10	Oakland	68.2
16	Denver	60.4

⁴³ Maria Dolan, *Are Apodments Ruining Seattle Neighborhoods?*, SEATTLE MAGAZINE, Nov. 2012, available at <http://www.seattlemag.com/article/are-apodments-ruining-seattle-neighborhoods> (quoting Seattle micro-unit developer Jim Potter of Kauri Investments).

⁴⁴ Casey Ross, *Developer Begins Building Micro Housing in Seaport*, BOSTON GLOBE, July 26, 2012, <http://www.boston.com/realestate/news/2012/07/27/developer-begins-build-micro-housing-seaport/WAOkqZkbnlNNBSmG1MdHmO/story.html>; see also Darcy Wintonyk and Lynda Steele, *A 226 Sq. Ft. Solution to Living Large in Vancouver*, CTV British Columbia, Aug. 17, 2012, <http://bc.ctvnews.ca/a-226-sq-ft-solution-to-living-large-in-vancouver-1.917039> (quoting Vancouver developer who declared that, for young micro-loft tenants, “[t]he city is your living room. The city is your dining room. You don't need to use your own resources to recreate all that when you can just step out your door and enjoy a park, a beach, a restaurant, a café.”); Amanda Wilson, *Micro-units at the Wharf Could be D.C.'s First*, DCMud (Oct. 15, 2012, 10:04 am), <http://dcmud.blogspot.com/2012/10/micro-units-at-wharf-could-be-dcs-first.html> (discussing micro-unit development in Washington, DC as relying on “a concept that sees “micro-units as launch pads for engagement with walkable, 24-hour urban offerings and symbols of freedom from suburban commutes”).

⁴⁵ Walk Score is available at <http://www.walkscore.com/rankings/>. According to its methodology description, “Walk Score uses a patent-pending system to measure the walkability of an address. The Walk Score algorithm awards points based on the distance to amenities in each category. Amenities within .25 miles receive maximum points and no points are awarded for amenities further than one mile.” Scores range from 1-100 and scores fall into a series of categories. A score above 70 indicates that “most errands can be accomplished on foot.”

In response to the multi-generational families, builders of new homes, including Lennar Corporation, PulteGroup, Ryland, and KB Homes, are increasingly providing more flexible layouts that often include accommodations for accessory dwelling units.⁴⁶ Lennar, based in Miami, Florida, is selling multi-generational homes in developments in southeast Florida. One model includes a separate suite of approximately 800 square feet, with its own kitchenette, garage, and a separate front entrance. Some of these accessory units are being placed in the same structure as the main house, while others are located above a detached garage.⁴⁷

II. Possible Effects of Compact Units

Supporters ascribe a number of benefits to both micro-units and ADUs, including providing more housing options (at a wider range of rents or prices) to different kinds of households, allowing older people to age in their existing communities or near their families, and reducing sprawl and the environmental costs of larger homes.⁴⁸ However, these units are not without their critics. Historically, small housing units in decrepit conditions motivated the introduction of housing standards aimed at protecting city residents' health and quality of life.⁴⁹

⁴⁶ Penelope Green, *Under One Roof, Building for Extended Families*, N.Y. TIMES, Nov. 29, 2012, at A1 (noting that thirty percent of Pulte customers request features that enable multigenerational living); see also Wendy Koch, *A House Divided Helps Pay the Bills: In-Law Suites Double as Rental*, USA TODAY, Aug. 18, 2011, at 1B (discussing "accelerating trend toward adding second units to homes, whether for extra cash or elder care"). According to the New York Times article, Lennar circumvented a zoning law that prohibits duplexes by ensuring that only one meter services houses, that the accessory unit only has a microwave convection oven, and that the accessory unit is not apparent from outside the house.

⁴⁷ Martha Brannigan, *Lennar Design Accommodates Multigenerational Families*, MIAMI HERALD, Jan. 25, 2013, http://www.miamiherald.com/2013/01/25/3199631_p2/lennar-design-accommodates-multigenerational.html.

⁴⁸ See, e.g. DELAWARE STATE HOUSING AUTHORITY, ACCESSORY DWELLING UNITS: A PRACTICAL OPTION TO PROMOTE AFFORDABILITY 4 (2010) (discussing benefits of ADUs including affordable housing provision, neighborhood stability, additional income for homeowners, and enabling provision of care to older individuals).

⁴⁹ Jerilyn Perine and Sarah Watson, "Making Room: Why Should We Care?" CITIZENS HOUS. PLANNING COUNCIL (Feb. 23, 2011), <http://www.chpcny.org/2011/02/making-room-why-should-we-care/> ("[E]arly reformers established

In New York City, single-room occupancy buildings—historically boarding houses for single young people, women coming to the city to work, and male immigrant workers—eventually fell into such disrepair that new construction of SROs was outlawed in 1954.⁵⁰ Some housing advocates have expressed fear that new micro-units “could create a slippery slope of allowing other exemptions on considerations like natural light and ceiling height.”⁵¹

There is little research examining the actual consequences of compact units. In this part we briefly review claims about the likely effects compact units will have on the housing market and on surrounding neighborhoods. We return to these issues in the final part of this paper, where we outline research needed to rigorously evaluate the effects of micro-units and ADUs.

A. The Effects of Micro-Units and ADUs on Affordability

Regulations limiting the supply of housing that meets local needs can affect housing prices. Our study cities are among the most expensive rental markets in the United States.

standards that reflected a set of values to improve health and safety in a 19th century housing stock, encourage families (who could afford it) to live in larger spaces, outlaw SROs and lodging houses, and discourage unrelated singles from living together.”).

⁵⁰It has been illegal to build SRO buildings in New York City since 1954 under Administrative Code Section 27-2077 (Local Law 24). In 1995 the city provided incentives to convert SRO buildings to other uses (J-51). However, in 1985 the city instituted a moratorium on the conversion or demolition of SRO buildings; in 1987 Local Law 9 made this permanent. Marti Weithman and Gerald Lebovits, *Single Room Occupancy Law in New York City*, 36 N.Y. REAL PROP. L. J. 3 (2008); *History of SROs and Homelessness in New York*, SUPPORTIVE HOUS. NETWORK OF N.Y., (June 28, 2012), <http://shnny.org/learn-more/history-of-upportive-housing/>.

⁵¹Carolyn Said, *Micro-apartments Next for S.F.*, S.F. CHRON., July 13, 2012, <http://www.sfgate.com/realestate/article/Micro-apartments-next-for-S-F-3706648.php> (“It’s disingenuous to say it creates affordable housing, it’s just that you get significantly less space,” said Sara Shortt, executive director of the Housing Rights Committee of San Francisco. “This doesn’t create affordable housing, it simply creates another lifestyle option.”); see also Casey Ross, *Housing-Starved Cities Seek Relief in Micro-Apartment*, BOSTON GLOBE, Mar. 26, 2013, <http://www.bostonglobe.com/business/2013/03/25/micro-apartments-tight-squeeze-but-livable/vDRdMnChgdhCdFormupnyN/story.html> (“But there is unease among public officials about allowing real estate developers to flood the market with such units, out of fear they will become the modern equivalent of 19th century tenements.”); Matt Chaban, *Micro-apartments Take One (small) Step Forward*, CRAIN’S N.Y. BUS., Apr. 9, 2013, available at http://www.crainnewyork.com/article/20130409/REAL_ESTATE/130409868 (citing critics of New York’s adAPT NYC project who “fear that, once developers win the right to build smaller units, that will become the norm, further starving space-constrained New Yorkers of living space”); Lee Romney, *San Francisco considers allowing nation’s tiniest micro-apartments*, L.A. TIMES, Sept. 24, 2013 <http://articles.latimes.com/2012/sep/24/local/la-me-micro-apartments-20120924> (“[S]ome critics [of San Francisco micro-units] worry that the swank model units getting kudos from officials might not be the norm. What’s to stop other developers, tenants’ rights advocates ask, from building grimmer versions, with low ceilings and poor light?”).

Further, the rent burdens in these cities have climbed dramatically in recent years. As Figure 7 shows, the share of renters in these cities spending more than 30 percent of their incomes on rent grew significantly over the last decade.

Figure 7. Percentage of Renters Who Spent More Than 30% of Their Income on Rent, 2000 and 2011

	New York	Seattle	Denver	Washington, D.C.	Austin	Chicago	Boston	San Francisco
2000 (Census)	40.7	39.5	38.6	35.2	41.7	37.9	40.2	35.8
2011 (ACS one-year)	54.5	48.7	49.2	49.3	50.9	54.9	53.8	45.2

Micro-units in many cities frequently rent at rather high rates per square foot, but at lower total monthly rent levels, than larger apartments. A micro-unit project in development in San Francisco will rent for \$5.91 to \$6.82 per square foot, for example, compared to an average price of \$4.21 per square foot for the average sized studio in the city.⁵² The higher per square foot rents have raised concerns that these smaller units may lead to increased rents in larger units.⁵³ Concerns also have been raised in some cities that micro-units will displace the existing SRO hotels that provide an affordable option for many individuals,⁵⁴ or will price affordable housing developers out of the market by driving up land costs.⁵⁵ In other locales there are concerns that small units might qualify for affordability incentives and serve to shift affordable housing

⁵²Said, *supra* note 51.

⁵³See Neal J. Riley, *S.F. Supervisors Back Micro-Apartments*, S.F. CHRON., Nov. 20, 2012, <http://www.sfgate.com/default/article/S-F-supervisors-back-micro-apartments-4055493.php> (quoting city supervisor who observed “If 220 square feet is going to rent for \$1,500, what does that do for the rest of the places in San Francisco?”).

⁵⁴Paul Hogarth, *Except for Undergrads, ‘Shoe-Box’ Apartments Wrong Fit for San Francisco*, BEYOND CHRON, (July 16, 2012), <http://www.beyondchron.org/news/index.php?itemid=10317> (noting criticism that micro-units will provide housing for students at expense of losing SRO buildings and truly affordable units).

⁵⁵Chase Niesner, “Developers seek to legalize tiny apartments in San Francisco, citing soaring rents,” S.F. PUB. PRESS, (July 6, 2012), <http://sfpublicpress.org/news/2012-07/developers-seek-to-legalize-tiny-apartments-in-san-francisco-citing-soaring-rents>.

assistance toward smaller units at the expense of housing that would serve larger households.⁵⁶

On the other hand, a few participants in our roundtable discussions noted that micro-units have the potential to reduce the demand among singles for shared 2-4 bedroom housing units, which could render those units more affordable to families with lower incomes.⁵⁷

Accessory dwelling units also have been touted as a more affordable housing option⁵⁸ and specifically as providing an opportunity for those with modest incomes to gain access to “more desirable single-family neighborhoods.”⁵⁹ Such neighborhoods may have few rental opportunities and housing prices may be too high for ownership to be a realistic option. ADU proponents also claim that these units can make housing more affordable for existing residents of a neighborhood, and “encourage better housing maintenance and neighborhood stability” by providing the owner of the primary home with income to maintain the property, sustain the

⁵⁶In the words of one City Councilmember in Santa Monica, current rent levels in the expensive coast city “sometimes mean that tiny SROs at market rate can qualify as affordable under existing law . . . We need to look at whether the affordability incentives we grant are appropriate for market-rate SROs, and whether we are getting too many tiny units and not enough affordable housing for working families.”

⁵⁷See OFFICE OF THE MANHATTAN BOROUGH PRESIDENT, *START-UP CITY: GROWING NEW YORK CITY’S ENTREPRENEURIAL ECOSYSTEM FOR ALL 25* (2012), available at <http://www.mbpo.org/uploads/StartupCity.pdf>, at 25 (“[I]n many New York City neighborhoods young individuals have long chosen to occupy large apartments, as the cost can be lower per-person when shared with multiple roommates. While these units in effect become micro-housing, the shared occupancy has the negative effect of removing larger units from the market. Large units are necessary for New York City to retain families who need multiple bedrooms and their continued loss has the potential to hurt New York City’s competitiveness on a regional level. Targeting construction of the micro-units to appropriate areas would not only increase the stock of affordable housing, but should increase the supply of available larger units.”).

⁵⁸See, e.g., *Accessory Dwelling Unit Development Program*, CITY OF SANTA CRUZ, <http://www.cityofsantacruz.com/index.aspx?page=1150> (last visited Mar. 21, 2013) (“With over 18,000 single family lots in the City of Santa Cruz, construction of ADUs provide an excellent opportunity to increase the amount of affordable rental housing in the community while providing homeowners with a chance to supplement mortgage payments, thus making their own housing more affordable.”); COBB AND DVORAK, *supra* note 1, at 6 (declaring ADUs to be a “cost-effective means of increasing the supply of affordable rental housing in a community”); CITY OF SEATTLE, SEATTLE PLANNING COMM. AND DEPT. OF PLANNING AND DEV., *A GUIDE TO BUILDING A BACKYARD COTTAGE 2* (2010), available at http://www.seattle.gov/dpd/static/Backyard%20Cottages%20Guide_web_LatestReleased_DPDS015822.pdf (“Although much of the attention given to Backyard Cottages revolves around their potential for increasing the supply of affordable housing opportunities, Backyard Cottages may also help to address other social issues, particularly those relating to housing options for the growing elderly population.”).

⁵⁹MUNICIPAL RESEARCH AND SERVICES CENTER OF WASHINGTON, *ACCESSORY DWELLING UNITS: ISSUES & OPTIONS 14* (1995) [hereinafter MRSC] (“Lower rents are possible primarily because ADUs do not require the development of new land and are cheaper to build than conventional rental units. Homeowners are also less likely to charge market rents because of their interest in getting and keeping good tenants.”).

mortgage, or pay increased taxes.⁶⁰ ADUs can enable seniors who own the primary home to age in place by providing a new income source or by making housing available for a caregiver.⁶¹ Relatedly, ADUs can enable a homeowner to provide affordable and independent housing to an elderly parent or a grown child.⁶²

There have been limited studies of the effects ADUs have on the affordability of housing. A widely-referenced study of Babylon, Long Island, which did not control for unit characteristics, concluded that secondary units rent on average for 35 percent less than non-secondary unit apartments.⁶³ The Center for Community Innovation’s analysis of Craigslist in the Bay Area found that secondary units rent at an average rate affordable to households earning 62% of Area Median Income (AMI),⁶⁴ while non-secondary units listed on Craigslist rent on average at a rate affordable to households at 68% of AMI. Given the idiosyncratic nature of ADUs and their

⁶⁰MRSC, *supra* note 59 **Error! Bookmark not defined.**, at 12; *see also* SAGE COMPUTING INC. FOR U.S. DEP’T OF HOUS. AND URBAN DEV., ACCESSORY DWELLING UNITS: CASE STUDY 2 (2008) [hereinafter HUD Report]. A newspaper report on a 437 square foot ADU in Seattle stated that the unit cost \$50,000 to construct and the owner planned to rent it for “at least \$900 a month” in order to help pay his mortgage. Keen, *supra* note 66.

⁶¹DELAWARE STATE HOUSING AUTHORITY, *supra* note 48, at 1 (noting “movement for aging in place” as one indicator of “the need for accessory dwelling units”). A survey of persons 50 and older conducted by AARP revealed that 36 percent of respondents would consider adding an ADU to their home if they needed assistance as they aged. COBB AND DVORAK, *supra* note 1.

⁶²AMERICAN PLANNING ASSOCIATION, PAS QUICKNOTES No. 19, ACCESSORY DWELLING UNITS 1 (2009). The California legislature’s 2003 law requiring local communities to allow ADUs through a ministerial process included a declaration that “Second units provide housing for family members, students, the elderly, in-home health care providers, the disabled, and others, at below market prices within existing neighborhoods. Homeowners who create second units benefit from added income, and an increased sense of security.” CAL. GOV. CODE § 65852.150. *See also* Darin Moriki, *Thornton Approves “Mother-in-law” Units*, OURTHORNTONNEWS.COM (Mar. 27, 2013), http://www.ourcoloradonews.com/thornton/news/thornton-approves-mother-in-law-units/article_b577875c-e75b-58bc-a332-6426d041633a.html (discussing proposal to allow attached ADUs in single-family detached homes in Thornton, Colorado and noting that city council member’s interest in ADUs was motivated by desire “to address the lack of affordable housing options for the city’s aging residents”); *see also* HUD Report, *supra* note 60; MRSC, *supra* note 59, at 9-14

⁶³CENTER FOR COMMUNITY INNOVATION, *supra* note 3, at 2 (citing T.K. Rudel, *Housing Change, Accessory Apartments, and Low Income Housing in Suburbs*, 36 PROF. GEOGRAPHER, no.2, 1984, 174-181). The Babylon study did not, however, consider unit characteristics such as square footage and number of bathrooms. CENTER FOR COMMUNITY INNOVATION, *supra* note 3 **Error! Bookmark not defined.**, at 16, n. 14.

⁶⁴*Id.* at 10. The analysis finds that 30% of the units would be affordable to households with incomes between 30% and 50% of AMI and 49% would be affordable to those with incomes between 50% and 80% of AMI. Few units, however, are affordable to Extremely Low-Income households (those earning less than 30% of AMI). *Id.* at 12.

unique location on single-family lots, however, it may be difficult to directly compare them to more traditional housing types.

B. The Effects of Micro-Units and ADUs on Energy Efficiency and Sprawl

Compact units may reduce energy consumption if residents choose them instead of living in a larger studio or one-bedroom apartment, because the cost of heating and cooling generally will scale with unit size. If the availability of compact units enables an individual to live in a more walkable area or one with better transit access, those units will also help reduce energy consumption by reducing dependency on private vehicles.⁶⁵ Proponents of ADUs champion their potential to reduce sprawl by allowing infill or additional incremental density in a city's core,⁶⁶ without significantly altering existing neighborhood character.⁶⁷ Opponents argue, however, that the additional density, while not increasing the size of buildings, does still affect neighborhood character. Concerns have been raised, for example, about the effects the additional density may have on street parking capacity. On the other hand, in some areas accessory dwelling units may make public transportation or car share options more viable by increasing density, and therefore support alternative transportation options for all households.

C. Other Potential Effects Micro-Units and ADUs May Have on Cities and Neighborhoods

⁶⁵ *Accessory Dwelling Unit Development Program*, *supra* note 58 (“[C]onstruction of ADUs promotes infill development and sustainable use patterns, resulting in transportation patterns which in turn reduce pollution.”).

⁶⁶ See Judy Keen, *Seattle's Backyard Cottages Make a Dent in Housing Need*, USA TODAY, May 26, 2010, http://usatoday30.usatoday.com/news/2010-05-25-cottages_N.htm; Keila Szpaller, *Missoula Council to Revisit Backyard Homes Throughout City*, THE MISSOLIAN, May 18, 2013, http://www.ravallirepublic.com/news/state-and-regional/article_f544fe2d-4dcc-5009-b0f2-da6e277ae82a.html;

⁶⁷ HUD Report, *supra* note 60, at 2.

Micro-units and ADUs have been championed as a means of attracting and retaining young professionals in expensive urban areas.⁶⁸ They also have been portrayed as beneficial for cities seeking to attract larger employers who are concerned about housing options for their employees.⁶⁹ Both micro-units and ADUs can add diversity to the stock of units in a local housing market, allowing the local market to better respond to demographic changes, and provide a range of housing options for different kinds of households and for people at different stages of the life-cycle. Buildings containing micro-units are frequently built with substantial common space, which can serve to foster relationships between neighbors that are important to the development of social capital. ADUs can allow multiple generations to live near each other, which again may build social capital.

Neighborhood opposition to micro-units has grown in some jurisdictions as the number of these developments has increased. In Seattle, where—at least until April 2013—micro-unit developers were able to build units without going through a design review or public hearing, the Capitol Hill Coalition, a resident group in a neighborhood with a number of micro-units, is advocating for a moratorium on the development of this housing.⁷⁰ Critics fear that micro-units will flood neighborhoods with “itinerant” and “sketchy” people, on the one hand, or with

⁶⁸See Casey Ross, *Growth of micro-units will be slow in Boston: Planners worried about standards*, BOSTON GLOBE, Mar. 27, 2013, <http://www.bostonglobe.com/business/2013/03/26/micro-units-will-slow-coming-boston/rR5RM6OBIJad203rgsdKk/story.html> (“Cities from San Francisco to Seattle to New York are exploring construction of apartments as small as 220 square feet to provide more housing for young professionals who are flocking to cities for jobs and the conveniences of urban living.”).

⁶⁹*Id.* (quoting pharmaceuticals executive who asserted during forum on micro-units in Boston that such units are needed to aid in attracting and retaining skilled young scientists).

⁷⁰*The Apodment and Micro-Housing Trend*, CAPITOL HILL COALITION, <http://293766.edicypages.com/apodment-and-micro-housing-trend> (last visited Apr. 11, 2013); see also Lindsay Cohen, *Seattle’s ‘micro-housing’ boom draws criticism, support*, KOMONEWS (Mar. 12, 2013), <http://www.komonews.com/news/local/Seattles-micro-housing-boom-draws-criticism-support-197695711.html> (noting that “critics argue the micro-housing trend is skirting city regulations -- and falling under the radar of neighbors -- due to a loophole in city law”); Dominic Holden, *Thinking Small: A Loophole for Really Affordable Housing*, THE STRANGER (June 4, 2009), <http://www.thestranger.com/seattle/thinking-small/Content?oid=1635067> (quoting neighbor of micro-unit development who feared increasing demand for limited parking and addition of more high-density construction).

gentrifiers, on the other.⁷¹ Similar fears have been expressed in New York.⁷² ADU critics contend that these units will adversely affect neighborhoods by increasing density and traffic and placing pressure on local resources.⁷³ Critics also worry that allowing backyard units would lead to middle-class flight from downtown neighborhoods and increased blight,⁷⁴ and others feared over-population by college students—in both the main house and the ADU.⁷⁵

⁷¹Claire Thompson, *Peace in a Pod: How Tiny Apartments Could Reshape the Big City*, GRIST (Dec. 13, 2012), <http://grist.org/cities/apodment-livin/> (quoting Seattle resident who lives near micro-housing building under construction). These same concerns regarding micro-unit concentration have surfaced in Santa Monica, California, where planning officials have voiced concern that a concentration of small units may lead to a transitory population, a lack of diverse tenants, and a less vibrant neighborhood. See Ashley Archibald, *Developer Files Plans for 150 More Units Downtown*, SANTA MONICA DAILY PRESS, Feb. 15, 2013, http://www.smdp.com/developer-files-plans-for-150-more-units-downtown/118301?doing_wp_cron=1362518307.0631809234619140625000 (noting objections of City Council and Planning Commission to concentration of units between 375 and 420 square feet in Downtown Santa Monica); *City Officials Eye Influx of Small Housing*, SANTA MONICA DAILY PRESS, Nov. 2, 2011, <http://www.smdp.com/city-officials-eye-influx-of-small-housing/79658> (reporting that presence of several hundred micro-units in development approval pipeline “has prompted discussion both at recent commission meetings and the City Council about the place of SROs and small studios in the overall housing mix in Santa Monica.”). Similar criticisms have also been lodged regarding micro-unit developments in San Francisco. Neal J. Riley, *S.F. Supervisors Back Micro-Apartments*, S.F. CHRON., Nov. 20, 2012, <http://www.sfgate.com/default/article/S-F-supervisors-back-micro-apartments-4055493.php> (quoting Director of San Francisco Tenants Union, who said, regarding micro-units, “If they become urban crash pads for high-tech employees, then we fear they could have a gentrifying effect on the neighborhoods as they get built.”).

⁷²Kim Velsey, *Kips Bay Residents Terrified that Micro-Units Will Flood Neighborhood with Yuppie Vagrants*, N.Y. OBSERVER (May 3, 2012), <http://observer.com/2013/05/kips-bay-residents-terrified-that-micro-units-will-flood-neighborhood-with-middle-class-loiterers/> (“No matter what anyone says, we’re worried that these are going to be SROs that are run as hotels,” Toni Carlina, the community board’s district manager, told the *Wall Street Journal*.”).

⁷³As a report by the APA concluded, “Public resistance to ADUs usually takes the form of a perceived concern that they might transform the character of the neighborhood, increase density, add to traffic, make parking on the street more difficult, increase school enrollment, and put additional pressure on fire and police service, parks, or water and wastewater.” AMERICAN PLANNING ASSOCIATION, *supra* note 1, at 1.

⁷⁴Will Huntsberry, *In Raleigh, A Push to Lift the Ban on Granny Flats*, INDY WEEK, Nov. 28, 2012, <http://www.indyweek.com/indyweek/in-raleigh-a-push-to-lift-the-ban-on-granny-flats/Content?oid=3201317>. A city councilor who supports allowing the ADUs depicted what he perceived as the source of opposition in these terms: “People envision these monstrous chicken coops in their backyards that hold recently released prisoners. I don’t see that as what typically happens on the ground.” See also Bob Geary, *Meeting tonight: The new Raleigh zoning code and the problem of accessory dwelling units*, INDY WEEK, Aug. 27, 2012, <http://www.indyweek.com/citizen/archives/2012/08/27/meeting-tonight-the-new-raleigh-zoning-code-and-the-problem-of-accessory-dwelling-units> (“But now picture this. Your neighbor builds an ADU, a honkin’ two-story pad behind his house; but wait, it gets better (worse): your neighbor doesn’t actually live in the house. No, he rents it out to four college students, and in the new “accessory dwelling unit,” four *more* college students are suddenly resident, and they’re living just a few feet from *your* house. Where you DO live.”) The proposal does not require that an owner live in either the main house or the ADU as such a requirement is barred by a recent judicial decision prohibiting owner-occupancy regulations throughout North Carolina. See *City of Wilmington v. Hill*, 657 S.E.2d. 670 (N.C. Ct. App. 2008). Supporters note that Raleigh already allows attached ADUs without owner occupancy and the fears expressed have not transpired. On February 12, 2013 the City Council voted 7 to 1 to reject allowing detached accessory dwelling units and to allow time for more research on the issue. In addition, the Council removed from a rewrite of the zoning code the option to have an attached accessory unit. Previously, such units

Part II: The State of Compact Unit Development in the United States

Both micro-units and accessory dwelling units have been developed in a range of cities. We discuss in Part III the development of these units in our five study cities. In this section we briefly discuss compact unit development in other U.S. cities. Our aim is not to provide a comprehensive overview of all ADU and micro-unit development in the United States, but instead to highlight a few representative efforts to develop these housing types.

could be up to 25 percent of a house's total square footage. A proposed rewrite would have limited this to 700 square feet and required external entrances to the unit. However, in light of the decision outlawing an owner occupancy requirement, the new zoning code, when adopted, will not allow the addition of new attached ADUs. Ariella Monti, *Raleigh Puts Backyard Cottages on Back Burner*, WRAL (Feb. 20, 2013), <http://www.wral.com/raleigh-puts-backyard-cottages-on-back-burner/12130427/>.

A. Cities with Micro-Unit Developments

In November 2012 the San Francisco Board of Supervisors approved a reduction of the minimum size for a residential unit to 220 square feet.⁷⁶ The legislation caps the initial number of these micro-units that can be developed at 375 and requires a review by the City Planning Department of the effect of the units after 325 have been developed.⁷⁷ One prominent Bay Area micro-unit developer, Panoramic Interests, developed a property with 23 apartments of 300 square feet each, using pre-fabricated units, in San Francisco's South of Market neighborhood.⁷⁸ Panoramic also plans to build a 160-unit building of micro-units.⁷⁹ Boston is allowing the development of micro-units within a limited area, the South Boston Innovation District, with a minimum size of 350 square feet.⁸⁰ Then-mayor Menino argued that these units, which are smaller than current regulations permit, will enable young professionals to remain in the city.⁸¹ Boston is limiting initial construction to about 195 units,⁸² and has asked Harvard University's Rappaport Institute to study the economic and social effects of the units⁸³ before deciding whether to allow additional development of micro-units. Vancouver, Canada has witnessed the

⁷⁶Neal J. Riley, *S.F. Supervisors Back Micro-Apartments*, S.F. CHRON., Nov. 20, 2012, <http://www.sfgate.com/default/article/S-F-supervisors-back-micro-apartments-4055493.php>.

⁷⁷*Id.*; see also Ross, *supra* note 51 (“Even in San Francisco, officials have for now decided to cap the number of market-priced micro-units at 375, mainly because of concerns the city is skewing housing policy to help young professionals at the expense of families.”).

⁷⁸Blanca Torres, *Sneak Peak of Panoramic Interests' Micro Apartments in San Francisco*, SAN FRANCISCO BUSINESS TIMES, (Nov, 27, 2012 2:19 PM), available at <http://www.bizjournals.com/sanfrancisco/blog/real-estate/2012/11/sneak-peek-of-micro-apartments.html?s>. The building's hard costs were approximately \$240 per square foot. *Id.*

⁷⁹Ross, *supra* note 44; Irvin Dawid, *San Francisco's 160-unit Micro-Apartment Building Seeks Approval*, PLANETIZEN (July 19, 2012 5:00 AM), <http://www.planetizen.com/node/57622>.

⁸⁰Ross, *supra* note 44.

⁸¹Casey Ross, *Menino Pushes Micro-Units to Lure Young to Waterfront*, BOSTON GLOBE, Dec. 13, 2011, <http://www.bostonglobe.com/business/2011/12/13/menino-pushes-micro-units-lure-young-waterfront/Qye00OdXNMV3DI5NESi50K/story.html>.

⁸²Ross, *supra* note 68.

⁸³*Id.*

development of “micro-lofts” of between 226 and 291 square feet.⁸⁴ A building with 30 of these units, renting for \$850 a month, was leased out immediately after completion.⁸⁵

A number of smaller cities are also exploring micro-unit development. Plans are underway in Worcester, Massachusetts to allow development of 60 “micro-loft” units in the mostly vacant upper floors of two Main Street buildings with ground floor commercial space. The units would be 300 square feet, the current minimum in the city, and “geared to graduate students and young urban professionals.”⁸⁶ The full-furnished units will each have space for up to two residents and will rent for approximately \$950, which includes daily cleaning services. In Providence, Rhode Island the nation’s first enclosed shopping mall, a National Historic Landmark built in 1828, is being converted into micro-apartments with small retail spaces on the ground floor.⁸⁷ Thirty-eight of the building’s 48 apartments will be between 225 and 450 square feet. Units, renting for \$550 a month, will be furnished and include full baths, but will not have stoves.

B. States and Cities that Encourage ADU Development

In 2000 the Public Policy Institute of the American Association of Retired Persons enlisted the American Planning Association to develop a model state act and local ordinance on accessory dwelling units to assist communities that wish to allow and encourage the development of

⁸⁴Adele Weder, *Living in 226 Square Feet on Vancouver’s East Side*, GLOBE AND MAIL (Feb. 9, 2012 12:43 PM), <http://www.theglobeandmail.com/life/home-and-garden/architecture/living-in-226-square-feet-on-vancouvers-east-side/article545555/>.

⁸⁵*Id.*

⁸⁶Nick Kotsopoulos, *Worcester Board Oks Micro-Loft Plans*, TELEGRAM & GAZETTE, Jan. 8, 2013, <http://www.telegram.com/article/20130108/NEWS/101089926/1116>; *see also* Minutes of the Proceedings of the Zoning Board of Appeals of the City of Worcester (Jan. 7, 2013), *available at* <http://www.worcesterma.gov/agendas-minutes/boards-commissions/zoning-board-of-appeals/2013/20130107.pdf>.

⁸⁷Lamar Anderson, *The New Mini-Mall: Tiny Apartments to Open in Nation’s Oldest Shopping Center*, ARCHITIZER (Feb. 20, 2013), http://www.architizer.com/en_us/blog/dyn/76759/micro-apartments-arcade-mall-providence/#.UTpx-BzU98F.

ADUs.⁸⁸ The report concluded that the most effective way to remove regulatory barriers to ADUs was through the adoption of both a state ADU act and local ADU ordinances.⁸⁹ The following subsections report on several state measures, as well as on local efforts to encourage ADUs.⁹⁰

1. Statewide Efforts to Encourage ADUs

A few states have passed legislation that requires or encourages local municipalities to accommodate accessory dwelling units.⁹¹ California is the only state that requires municipalities to allow accessory dwelling units to be built as-of-right.⁹² California's second-unit law mandates that local governments consider applications for accessory dwelling units through a ministerial process that cannot involve discretionary review or a public hearing.⁹³ The State of Washington's Housing Policy Act of 1993 requires counties and cities with populations over 20,000 to encourage development of ADUs in single-family zones.⁹⁴ On the other side of the country,

⁸⁸COBB AND DVORAK, *supra* note 1, at 5.

⁸⁹*Id.* at 13. See also Wendy Koch, *A House Divided Helps Pay the Bills: In-Law Suites Double as Rental*, USA TODAY, Aug. 18, 2011, at 1B (noting that many local ADU laws "are modeled after one advocated by the AARP and passed by Santa Cruz, Calif., in 2003 that prompted other cities in California and the Pacific Northwest to follow").

⁹⁰ Other cities that have adopted ADU measures are discussed in HUD Report, *supra* note 62

⁹¹ In addition, some states have encouraged their local governments to enact ADU ordinances. Delaware, for example, produced a report discussing the demand for ADUs, their potential benefits, neighborhood concerns, and how to draft an ordinance permitting accessory units. DELAWARE STATE HOUSING AUTHORITY, *supra* note 48.

⁹²Penelope Green, *Under One Roof, Building for Extended Families*, N.Y. TIMES, Nov. 29, 2012, at A1.

⁹³CAL. GOV. CODE § 65852.2; Memorandum from Cathy E. Creswell, Deputy Director, Division of Housing Policy Development, California Department of Housing and Community Development to Planning Directors and Interested Parties 4-5 (Aug. 6, 2003) ("In order for an application to be considered ministerially, the process must apply predictable, objective, fixed, quantifiable and clear standards. These standards must be administratively applied to the application and not subject to discretionary decision-making by a legislative body . . ."). See also Haya El Nasser, "Granny Flats" Finding a Home in Tight Market, USA Today, Jan. 1, 2004, http://usatoday30.usatoday.com/news/nation/2004-01-05-granny-flats_x.htm (California is leading the pack with a new law that effectively forces cities to relax zoning codes and make it easier to get building permits for such rental units. Cities can't ban granny flats, and homeowners no longer have to face angry neighbors at public hearings.").

⁹⁴WASH. REV. CODE. ANN. § 43.63A.215. The Municipal Research and Services Center (MRSC) of Washington, which wrote one of the earliest reports on ADU's -- MUN. RES. & SERVS. CTR. OF WASH., REPORT NO. 33, ACCESSORY DWELLING UNITS: ISSUES & OPTIONS 2 (1995) -- attributes the broad adoption of ADU ordinances in the state to the fact that ADUs can assist local jurisdictions in meeting the Growth Management Act goals of encouraging affordable housing and providing for a variety of housing types. *Accessory Dwelling Units in Plain English*, MUN. RES. & SERVS. CTR. OF WASH. (June 2010), <http://www.mrsc.org/subjects/planning/lu/accessory.aspx>.

Connecticut declared that ADUs qualify as “affordable housing” for purposes of the state’s affordable housing land use appeals procedure as long as the ADU is attached to the main house, legally-approved, and subject to a covenant requiring that it remains affordable for ten years.⁹⁵

2. Efforts in Cities to Encourage ADU Development

The City of Santa Cruz, California, which has made a substantial effort to encourage ADUs, allows for their development on lots of at least 5,000 square feet in designated residential zones.⁹⁶ The property owner must inhabit either the main house or the ADU. In addition, the city waives development fees if an ADU is made available to a low-income household.⁹⁷ As of 2008, the city had approved an average of 40 to 50 ADU permits each year.⁹⁸ Santa Cruz actively assists homeowners seeking to develop accessory units by providing technical assistance for homeowners seeking to develop an accessory unit, a wage subsidy program for builders who use graduates of a training program, and an ADU loan program.⁹⁹ The city’s ADU Plan Sets book and an ADU Manual assist homeowners in selecting plans, obtaining approval in an expedited fashion, and making their ADU architecturally compatible and legal.¹⁰⁰ Santa Cruz is one of the most expensive cities in the country¹⁰¹ and the city embraced ADUs as a means of increasing the supply of affordable housing, supplement homeowner’s mortgage payments, discourage the development of illegal ADUs, and promote sustainable infill development.¹⁰²

⁹⁵TIM IGLESIAS, U.S.F.L., RESEARCH PAPER NO. 2011-04, STATE AND LOCAL REGULATION OF PARTICULAR TYPES OF AFFORDABLE HOUSING 19 N. 103 (2011) (citing CONN. GEN. STAT. § 8-30g(k)).

⁹⁶HUD Report, *supra* note 60.

⁹⁷*Id.*, 4.

⁹⁸*Id.*

⁹⁹*Accessory Dwelling Unit Development Program*, *supra* note 58.

¹⁰⁰*Id.*

¹⁰¹HUD Report, *supra* note 60 (attributing high cost of housing to scenic location, proximity to San Francisco, presence of University of California campus, and limited amount of developable land within city’s greenbelt).

¹⁰²*Accessory Dwelling Unit Development Program*, *supra* note 58.

Vancouver, Canada adopted a “laneway” housing program in July 2009¹⁰³ that permits the construction of small detached units at the rear of a lot near a lane.¹⁰⁴ These detached units can be built in addition to a separate secondary unit within the main house and they may be rented to an unrelated individual.¹⁰⁵ Between 2009 and February 2013, over 800 permits were issued for laneway houses and 500 houses were built in the city’s single-family zones.¹⁰⁶ In February 2013 the city announced plans to amend the program to expand it to all residential zones, ensure the provision of on-site parking, and encourage more development of single-story laneway houses, in part through a faster permit process for such units.¹⁰⁷ The proposed changes were intended to remedy concerns regarding neighborhood impact and to encourage the development of units that would better serving aging residents. Vancouver published a “How-To Guide” to assist homeowners wishing to develop a laneway house by helping owners assess whether their lot is eligible for a laneway house and estimate the costs of developing a unit.¹⁰⁸

In addition, the Friends of San Diego Architecture held a design competition in 2005 for ADUs¹⁰⁹ and Seattle held a design competition for that city’s backyard cottages.¹¹⁰ Further, efforts to encourage ADU development are not confined to urban areas. For example, on Cape

¹⁰³ *Changes are Coming to the Laneway Housing Program*, CITY OF VANCOUVER, (Feb. 22, 2013), <http://vancouver.ca/news-calendar/changes-are-coming-to-the-laneway-housing-program.aspx>; see also *Laneway Houses*, CITY OF VANCOUVER, <http://vancouver.ca/home-property-development/laneway-houses-and-secondary-suites.aspx> (noting that the City of Vancouver also has available online monitoring updates on the implementation of the Laneway Houses program); *Laneway Housing Regulations*, CITY OF VANCOUVER, <http://vancouver.ca/files/cov/laneway-housing-regulations.pdf>.

¹⁰⁴ CITY OF VANCOUVER, *LANEWAY HOUSING HOW-TO GUIDE 5* (2011), <http://vancouver.ca/files/cov/laneway-housing-howto-guide.pdf>. The site must be a minimum of 32.8 feet wide. *Id.* at 10. The laneway house may extend up to 26 feet inward from the rear property line (and must be set back a minimum of two feet from the lane) and must also be separated by at least 16 feet from the main house. *Id.* at 11, 22. The footprint of the laneway house may not exceed the maximum area allowed for a garage on the lot. *Id.* at 21. The maximum floor area is determined by a multiple of the lot area, but may never exceed 750 square feet. *Id.* at 23. As for parking, “[w]hen a laneway house is added, a minimum of one onsite parking space must be provided on the lot, for use by any dwelling unit.” *Id.* at 25.

¹⁰⁵ *Id.* at 5.

¹⁰⁶ *Changes are Coming to the Laneway Housing Program*, *supra* note 103.

¹⁰⁷ *Id.*

¹⁰⁸ *Laneway Housing How-To Guide*, *supra* note 103.

¹⁰⁹ Friends of San Diego Architecture, *Competition Guidelines: Accessory Dwelling Units: Inspired Solutions*, JMR PROJECT (Oct. 9, 2004), <http://jmrproject.com/wp-content/uploads/2012/03/ADU-guidelines.pdf>.

¹¹⁰ Keen, *supra* note 66.

Cod, an environmentally sensitive area of New England along the Atlantic Ocean, the Town of Wellfleet introduced an accessory dwelling bylaw to encourage incremental infill.¹¹¹ The law allows for construction of an accessory dwelling unit on an existing single-family property, so long as adequate septic capacity exists. Homeowners must commit to renting the unit at an affordable rate and are given tax relief to encourage participation.¹¹²

Part III. Regulations Affecting the Development of Micro-units and ADUs

Several efforts have been undertaken to identify barriers to the development of compact units. The Sightline Institute in Seattle, Washington, in conjunction with the State of Oregon's Department of Environmental Quality, for example, assessed ADU rules for 46 cities in the Northwest United States and Canada.¹¹³ Their analysis found that off-street parking requirements, which exist in 36 of the 46 cities, remain a challenge even in cities that legalize ADUs, because installing an additional parking space will prove expensive or simply impossible for many lots.¹¹⁴ Caps on building size, when based on a percentage of the size of the primary dwelling, can stifle ADU development by preventing owners of smaller homes from being able to build a reasonably-sized ADU.¹¹⁵ The Sightline Institute also concluded that the requirement—in 30 of

¹¹¹ See HUD Report, *supra* note 60, at 5-6.

See *Site/Bylaw*, ADD-ON'13, <http://addon13.blogspot.com/p/downloadable-material-summary-of.html> (last visited June 10, 2013). The Town also co-sponsored a design competition. See ADD-ON'13, <http://addon13.blogspot.com> (last visited June 10, 2013).

¹¹³Durning, *supra* note 7. The study included the 30 most populous municipalities in the region as well as sixteen smaller cities in Oregon. It focused on seven legal issues: "How many ADUs are allowed per lot? How many additional off-street parking spaces does the city require for each ADU? Does the city mandate that the owner of an ADU live on the lot where it is located, either in the house or the ADU? How many people may live in an ADU, in its accompanying house, or in both combined . . . ? How big may ADUs be? In how much of the city may owners install ADUs? And must ADUs match the exterior design of the house they accompany?"). The table is available at *The ADU Gauntlet*, SIGHTLINE (Mar. 2013), <http://daily.sightline.org/files/downloads/2013/03/The-ADU-Gauntlet-Scores-for-Cascadian-Cities-March-2013.pdf>. The Oregon DEQ maintains a more detailed table of its own, with additional cities included, at *Accessory Dwelling Unit Zoning Code Matrix*, OR. DEP'T. OF ENV'T. QUALITY, <http://www.deq.state.or.us/lq/pubs/docs/sw/AccessoryDwellingUnitZoningCodeMatrix.xls> (last visited June 10, 2013).

¹¹⁴Durning, *supra* note 7.

¹¹⁵*Id.*

the 46 jurisdictions—of owner occupancy of either the primary or secondary unit can make it more difficult for homeowners to obtain financing for ADU construction.¹¹⁶ Banks may fear that, in the case of foreclosure, they will be prevented from renting out both units. Finally, the requirement that detached units match the design of the primary house can prove burdensome by requiring that each ADU be custom built, pushing up costs and preventing prefabrication.¹¹⁷

The Center for Community Innovation at the University of California at Berkeley’s Institute of Urban and Regional Development released a report in June 2012 concluding that while there is a substantial market for secondary units in five cities in the East Bay of the San Francisco Bay Area, regulations prevent homeowners from building them.¹¹⁸ The report made a series of recommendations for encouraging the development of secondary units: moving from a permit process to “as of right” development of secondary units, removing land use controls—such as minimum lot size—that limit the number of properties that can add a secondary unit, relaxing parking requirements and allowing a range of alternatives to providing parking, providing processes similar to those in Santa Cruz to encourage secondary unit development, establishing an amnesty program for existing units, and establishing a revolving loan fund to help finance development.¹¹⁹

Because those efforts to identify barriers to the development of compact units focused on California and the northwest, areas known both for the high cost of their real estate and their proclivity for strict land use regulation, the Furman Center sought to expand the analysis to a broader range of cities. We selected five cities – Austin, Denver, New York City, Seattle and

¹¹⁶*Id.*

¹¹⁷*Id.*

¹¹⁸CENTER FOR COMMUNITY INNOVATION, *supra* note 3 **Error! Bookmark not defined.**. The cities studied included Oakland, Berkeley, Albany, El Cerrito, and Richmond and the analysis focused on areas within one-half mile of five Bay Area Rapid Transit (BART) stations. Wegmann and Nemirow, *supra* note 4, at 1.

¹¹⁹*Id.* at 14-15.

Washington, D.C. -- where these units are either currently being developed or are under discussion. Our study cities range in density and urban form (from New York City, with over 27,000 people and 8,000 housing units per square mile to Austin, with approximately 2,600 people and 1,200 housing units per square mile¹²⁰), and in their regulatory structures. Each is marked by relatively high rent burdens, as of the 2011 American Community Survey, between 48 and 55 percent of renters in these cities spent more than 30 percent of their income on rent.¹²¹ This part begins with a discussion of the current status of compact unit development in these cities and then summarizes our findings about the barriers to ADUs and micro-units in each.

¹²⁰United States Census, Population, Housing Units, Area, and Density: 2010 - United States -- Places by State; and for Puerto Rico 2010 Summary File 1 (Table GCT-PH1).

¹²¹Furman Center calculation based on Selected Housing Characteristics, 2011 American Community Survey 1-Year Estimates (Table DP04).

A. The Current State of Compact Unit Development in Our Study Cities

I. Austin

No developer has yet provided market-rate micro-units in Austin. However, Foundation Communities, a non-profit provider of affordable and supportive housing, has converted several former hotels into small studios with kitchens and bathrooms. It is now developing Capital Studios, which will include 135 efficiency apartments renting for between \$400 and \$650 monthly, utilities included,¹²² to single adults earning less than \$27,000 a year, roughly half of area median income.¹²³

Single-family lots throughout Austin have added ADUs in recent years, as the zoning ordinance allows. Austin's Alley Flat Initiative has proposed creating additional ADUs through a new model, however, that involves placing pre-fabricated ADUs on the rear portions of single-family lots in East Austin.¹²⁴ The market-rate ground leases for the ADUs will generate income for homeowners facing rising property taxes while increasing the housing supply in established neighborhoods. In March 2013, the proposal was selected as a finalist for the Lowering the Cost of Housing Competition that Deutsche Bank and Enterprise Community Partners are sponsoring.¹²⁵

¹²²*New Development – Capital Studios*, FOUNDATION COMMUNITIES, <http://www.foundcom.org/news-and-events/capitalstudios/> (last visited June 10, 2013).

¹²³The project will be marketed to downtown workers who are priced out of existing housing. As of 2012, the average downtown rent in Austin was approximately \$2,031 a month. Sarah Coppola, *First Low-Income Housing Project in Decades Planned for Downtown*, AUSTIN AMERICAN-STATESMAN, Feb. 1, 2012, <http://www.statesman.com/news/news/local/first-low-income-housing-project-in-decades-plan-1/nRj98/>.

¹²⁴The Alley Flat Initiative is a joint collaboration between the Center for Sustainable Development (UTCSD), the Guadalupe Neighborhood Development Corporation (GNDC), and the Austin Community Design and Development Center (ACDDC). It advocates for the creation of sustainable and affordable housing, in the form of small, detached residential units that can be accessed via the city's extensive network of alleyways. *Vision*, ALLEY FLAT INITIATIVE, <http://www.thealleyflatinitiative.org/vision> (last visited Apr. 16, 2013).

¹²⁵See Upstate, *Four Finalists Announced for Lowering the Cost Competition*, LOWERING THE COST OF HOUSING COMPETITION, (Mar. 11, 2013), <http://loweringcost.com/uncategorized/four-finalists-announced-for-lowering-the-cost-competition/>. The Furman Center is serving as a consultant for this application.

2. *Denver*

In early 2013, the Denver Architectural League held a micro-unit design competition for an eight-unit complex,¹²⁶ but as of the summer of 2013, no micro-units had yet been developed in Denver. There is a growing emphasis on transit-oriented development throughout the city,¹²⁷ and these efforts have led to increased density near transit stations and are “having a recognizable impact on Denver’s land use and urban form.”¹²⁸ Given the pattern of micro-unit developments in other cities, these transit-rich areas may be inviting locations for micro-unit development in Denver.

In the Stapleton neighborhood of Denver, a redevelopment of the former city airport, the developer gave homeowners the option to add a legal detached ADU when constructing a new home. Over the past ten years approximately 250-500 ADUs were built within a neighborhood of approximately 5,000 homes.¹²⁹ The new form-based zoning code Denver adopted in June 2010¹³⁰ allows detached accessory dwelling units in some zones.¹³¹

¹²⁶*Micro Housing Ideas Competition*, AIA COLORADO (May 9, 2013 9:00 AM), <http://www.aiacolorado.org/EventDetail.aspx?EventId=767>; see also *Announcing: The Micro House Ideas Competition*, DENVER ARCHITECTURAL LEAGUE, <https://sites.google.com/site/microhousingcompetition/> (last visited May 2, 2013) (providing competition details).

¹²⁷Eric Jaffe, *After Decades of Sprawl, Density Comes to Denver*, ATLANTIC CITIES (Mar. 26, 2013), <http://www.theatlanticcities.com/commute/2013/03/after-decades-sprawl-density-comes-denver/5088/>.

¹²⁸Keith A. Ratner and Andrew R. Goetz, *The reshaping of land use and urban form in Denver through transit-oriented development*, 30 CITIES 31, 45 (2013) (“Early evidence indicates that the scope of transit-oriented development in Denver is considerable, resulting in nearly 18,000 residential dwelling units, 5.3 million square feet of retail space, 5.4 million square feet of office space, and 6.2 million square feet of medical space within one-half mile of existing or planned transit stations from 1997 to 2010.”).

¹²⁹Email from Heidi Majerik, Director of Development at Forest City Stapleton (Feb. 17, 2013) (on file at Furman Center). An ADU costs between \$60,000 and \$80,000 as an added option at construction of a home and they average 600 square feet in size.

¹³⁰See *Denver Zoning Code*, CITY OF DENVER, CMTY PLANNING & DEV., <http://www.denvergov.org/cpd/CommunityPlanningandDevelopment/Zoning/DenverZoningCode/tabid/432507/Default.aspx> (last visited May 2, 2013).

¹³¹The City also produced a guide for those interested in developing such units. See *Project Guide for Detached Dwelling Units*, CITY OF DENVER, DEV. SERVS., <http://www.denvergov.org/developmentservices/DevelopmentServices/HomeProjects/BuildingExpandingaHome/AccessoryDwellingUnits/tabid/441525/Default.aspx> (last visited May 2, 2013). A few developers in Denver specialize in ADUs. See *About Us*, SIDEKICK HOMES BY KEPHART LIVING, <http://www.kephartliving.com/About.aspx> (last visited May 2, 2013) (“We are a design and consulting firm dedicated to the support and resurgence of the Accessory

3. *New York City*

In 2012, New York City’s “adAPT NYC” program requested proposals to design, construct, and operate a micro-unit building on a city-owned site in Manhattan.¹³² The city’s ownership of the site enabled it to override certain zoning regulations—including minimum unit size and maximum density—to allow the development, which the city intended to test the market for compact apartments and to reveal regulatory changes that might be necessary to allow similar developments on privately-owned land.¹³³ The city received 33 applications from developers, the largest response to a request for proposals (RFP) ever received by the city’s Department of Housing Preservation & Development for a housing project.¹³⁴ Interest in the program has led city officials to begin looking for other city-owned sites appropriate for potential micro-unit developments and to announce plans for future RFPs.¹³⁵

The winning proposal, which will be developed by Monadnock Development, nARCHITECTS, and the Actors Fund Housing Development Corporation, will have 55 pre-built modular units of between 250 and 370 square feet each.¹³⁶ The design includes substantial common space and complies with local, state, and federal housing regulations, including accessibility requirements. In addition to having units smaller than the current minimum of 400 square feet, the building will exceed the count of 38 units currently allowed on the lot and will

Dwelling Unit (ADU) as a key component of sustainable communities. We design green, affordable and beautiful backyard cottages that blend harmoniously with existing architectural elements and neighborhood character.”). *In Denver’s Villa Park, A Granny Cottage Steps from FasTrack’s New West Line*, DENVER TOMORROW (Jan. 13, 2012), <http://denvertomorrow.com/blog/2012/01/13/in-denver%E2%80%99s-villa-park-a-granny-cottage-steps-from-fastracks-new-west-line/>.

¹³²Press Release, New York City Department of Housing Preservation and Development, adAPT NYC Request for Proposals (July 9, 2012), *available at* <http://www.nyc.gov/cgi-bin/misc/pfprinter.cgi?action=print&sitename=OM&p=1370897657000>.

¹³³*Id.* at 4.

¹³⁴Press Release, New York City Department of Housing Preservation & Development, Mayor Bloomberg Announces Winner of adAPT NYC Competition to Develop Innovative Micro-Unit Apartment Housing Model (Jan. 22, 2013) [hereinafter Mayor Bloomberg Announces].

¹³⁵Stephen Jacob Smith, *More Micro-Apartments! City Seeking Developers for New Sites*, N.Y. OBSERVER (Apr. 4, 2013), <http://observer.com/2013/04/new-micro-apartment-rfps-announced-at-chpc-luncheon/>.

¹³⁶Mayor Bloomberg Announces, *supra* note 134.

exceed existing restrictions on lot coverage and required setbacks.¹³⁷ Forty percent of the units are to be classed as “affordable,” with rents between \$940 and \$1,800 per month.¹³⁸ The market-rate units may rent for around \$2,000 to \$2,100 per month.¹³⁹

There is also some interest in accessory dwelling units in New York City, spurred in part by studies indicating that a significant number of illegal units have been created in basements or by subdividing units. It is, of course, difficult to ascertain the number of such units,¹⁴⁰ but a recent study estimated that 114,000 new illegal units were added citywide between 1990 and 2000 alone.¹⁴¹ New York City’s Mayor and City Council President announced an initiative in 2011 to address the safety concerns posed by some of these illegal units.¹⁴² A variety of low-income housing groups are calling for the city to institute a process for legalizing existing accessory dwelling units,¹⁴³ suggesting that ADUs be added as a new category within zoning, building, and housing codes, and that a process be put in place to allow a waiver for certain non-

¹³⁷*Id.*

¹³⁸Smith, *supra* note 135.

¹³⁹Sara Polsky, *Planning for the Even Tinier Apartments of NYC’s Future*, CURBED (Apr. 19, 2013), http://ny.curbed.com/archives/2013/04/19/planning_for_the_even_tinier_apartments_of_nycs_future.php.

¹⁴⁰Researchers have noted the difficulties in measuring the stock of legal, as well as illegal, accessory dwelling units, as many jurisdictions do not track permits for the development of these units. Wegmann and Nemirow, *supra* note 4, at 2.

¹⁴¹PRATT CENTER, *supra* note 2, at 1. This estimate is based on a comparison of the change in the number of units reported available for occupancy in the 1990 and 2000 Census with the number of units that received Certificates of Occupancy during that period. *Id.* at 2. The Report concluded that more than half the housing produced during the decade was in the housing underground. *See also* CHHAYA CMTY. DEV. CORP. AND CITIZENS HOUS. & PLANNING COUNCIL, *ILLEGAL DWELLING UNITS: A POTENTIAL SOURCE OF AFFORDABLE HOUSING IN NEW YORK* (2008), available at http://www.chhayacdc.org/pdf/Chhaya_reportHPD.pdf (analyzing prevalence of illegal units in Jackson Heights and in Briarwood/Jamaica sections of Queens and assessing potential for legalizing existing units). For an earlier news story on illegal subdivisions in Queens see Frank Bruni and Deborah Sontag, *Behind a Suburban Façade in Queens, A Teeming, Angry Urban Arithmetic*, N.Y. TIMES, Oct. 8, 1996, <http://www.nytimes.com/1996/10/08/nyregion/behind-a-suburban-facade-in-queens-a-teeming-angry-urban-arithmetic.html?pagewanted=all&src=pm>.

¹⁴²Press Release 193-11, City of New York, “Mayor Bloomberg and Speaker Quinn Announce New Approach to Target Most Dangerous Illegally Converted Apartments,” (June 11, 2011), <http://www.nyc.gov/cgi-bin/misc/pfprinter.cgi?action=print&sitename=OM&p=1370899392000>.

¹⁴³Nick Moroni, *Illegal Solution for More Housing?*, CRAIN’S N.Y. BUS., Feb. 17, 2013, http://www.crainsnewyork.com/article/20130217/REAL_ESTATE/302179985; *see also* ANDREW L. KOLLACH, OFFICE OF THE MANHATTAN BOROUGH PRESIDENT, *START-UP CITY: GROWING NEW YORK CITY’S ENTREPRENEURIAL ECOSYSTEM FOR ALL 26* (2012), available at <http://www.mbpo.org/uploads/StartupCity.pdf> (noting reports on prevalence of illegal subdivided units and arguing in favor of a new process for legalizing these apartments, along the lines of efforts in Santa Cruz, California).

compliant aspects of such housing, if the Department of Buildings inspects and finds the unit to be safe and habitable.¹⁴⁴ Thus far, however, the City Council has not considered the proposal.

4. *Seattle*

Of our study cities, Seattle, Washington has seen the most significant development of both micro-units and ADUs. Micro-unit development has been extensive, and controversial, in recent years.¹⁴⁵ Until 2013, creative developers used what critics term a “loophole” in city regulations to develop these units. Seattle’s regulations allow up to eight unrelated residents per unit,¹⁴⁶ while housing with nine or more individuals in a unit is classified as “congregate housing” and subject to a public review process.¹⁴⁷ Developers accordingly built buildings with multiple “suites” that contained eight separately-leased small apartments, with a private bathroom and kitchenette, but one shared full kitchen.¹⁴⁸ In Seattle’s Lowrise District, where a number of micro-unit buildings have been developed, mandatory Design Review is triggered if more than eight dwelling units are developed.¹⁴⁹ But because each “suite” was considered one “unit,” developers were able to avoid design or environmental review by including no more than seven

¹⁴⁴*Id.* at 26-27.

¹⁴⁵See Maria Dolan, *Are Apodments Ruining Seattle Neighborhoods?*, SEATTLE MAGAZINE, Nov. 2012, available at <http://www.seattlemag.com/article/are-apodments-ruining-seattle-neighborhoods>.

¹⁴⁶SEATTLE MUN. CODE § 22.204.070 “F”.

¹⁴⁷See Holden, *supra* note 70 (discussing code regulations governing congregate housing).

¹⁴⁸Hinshaw and Holan, *supra* note 20, at 18-19 (describing apartments developed by Kauri Investments as rooming houses). Development regulations in Seattle use kitchens, and not sleeping rooms, for the unit count. Lynn Thompson, *Critics of Micro-apartments Calling for a Moratorium*, SEATTLE TIMES, Apr. 23, 2013, http://seattletimes.com/html/localnews/2020845443_apodmentscitycouncilxml.html. The configuration met minimum unit size requirements and kitchen requirements. See SEATTLE MUN. CODE § 22.206.050(A); MUN. § 22.206.050(C); and MUN. § 22.206.020(C).

¹⁴⁹See CITY OF SEATTLE DEPARTMENT OF PLANNING AND DEVELOPMENT, DPD TIP NO. 238, DESIGN REVIEW: GENERAL INFORMATION, APPLICATION INSTRUCTIONS, AND SUBMITTAL REQUIREMENTS (2011), available at <http://www.seattle.gov/DPD/Publications/CAM/cam238.pdf>. Mandatory environmental review is triggered within Urban Centers, Urban Villages, and Station Area Overlays in Lowrise Districts where growth targets have not been exceeded if 200 units are developed. If growth targets have been exceeded in one of these districts, then mandatory environmental review is triggered if 20 units are developed. Outside Urban Centers, Urban Villages, and Station Area Overlays in Lowrise Districts the mandatory environmental review is triggered if 4 to 8 units are developed. See CITY OF SEATTLE DEPARTMENT OF PLANNING AND DEVELOPMENT, DPD TIP NO. 208, WHEN ENVIRONMENTAL REVIEW IS REQUIRED IN SEATTLE (2012), available at <http://www.seattle.gov/DPD/Publications/CAM/cam208.pdf>.

“suites” in a development. At the same time, developers counted each separate sleeping area as a unit when applying to the city’s Office of Housing for tax-exemptions.¹⁵⁰ The Office of Housing announced in March 2013 that it would no longer allow developers to use different unit counts to serve different purposes, a change that should make it more difficult to develop micro-units.¹⁵¹

One form of micro-units, the highly-publicized aPodments developed by Calhoun Properties and Kauri Investments,¹⁵² can be rented on leases as short as three months, for around \$595 a month, including utilities, internet, and furnishings.¹⁵³ The units have been almost fully leased on the day a new development opens.¹⁵⁴ Nearly fifty buildings of micro-units have been built over the past few years, with some containing as many as 64 units.¹⁵⁵ Some champion the micro-units as a form of “smart growth,” but others argue that they constitute an “upzon[ing] without any process” and fail to adequately spread increased density citywide.¹⁵⁶ A coalition of community groups has demanded stricter regulations or a moratorium on micro-unit development.¹⁵⁷

With respect to ADUs, Seattle’s comprehensive plan expressly endorses the development of both attached and detached ADUs “as alternative means of accommodating residential growth and providing affordable housing options.”¹⁵⁸ The city has allowed internal ADUs since 1994

¹⁵⁰ Thompson, *supra* note 148.

¹⁵¹ *Id.*

¹⁵² See CALHOUN PROPERTIES, <http://apodment.com/> (last visited Apr. 11, 2013).

¹⁵³ Thompson, *supra* note 71.

¹⁵⁴ Hinshaw and Holan, *supra* note 20, at 19 (noting waiting lists for Kauri Investment’s next three projects).

¹⁵⁵ Thompson, *supra* note 148.

¹⁵⁶ Dolan, *supra* note 145.

¹⁵⁷ *Apodment and Micro-Housing Trend, supra* 70.

¹⁵⁸ CITY OF SEATTLE, DEP’T. OF PLANNING & DEV., A PLAN FOR MANAGING GROWTH 2004-2024: CITY OF SEATTLE COMPREHENSIVE PLAN 4.6 (2005).

and detached units since 2009.¹⁵⁹ The city receives approximately 50 applications for units each year.¹⁶⁰

The legislation authorizing backyard cottages (the term used for detached ADUs) requires an annual report documenting ADU permit activity, the distribution of new units, and the design of these units.¹⁶¹ The 2011 report revealed that most units were: converted from detached garages with alley access; “pretty evenly spread through-out the city;” had very minimal aesthetic effects on their surroundings, and have generated few complaints.¹⁶² The units developed in 2010 averaged 540 square feet, and ranged in size from 224 to 800 square feet.¹⁶³ Although not a significant source of housing, participants in our Seattle roundtable viewed ADUs as providing an important opportunity for individuals to find more affordable options in desirable single-family neighborhoods to which they did not otherwise have access.

¹⁵⁹Seattle initially allowed backyard cottages only in southeast Seattle, south of Interstate 90 and east of Interstate 5, pursuant to City Ordinance 122190, passed in August 2006. CITY OF SEATTLE, DEP'T. OF PLANNING & DEV., BACKYARD COTTAGES ANNUAL REPORT 4 (2011) [hereinafter Backyard Cottages]. The Department of Planning and Development (DPD) conducted an analysis of the backyard cottages in southeast Seattle, which included a neighborhood survey in November 2008, which yielded mainly positive reactions to the cottages. *Id.* at 7. This analysis led DPD to propose allowing cottages throughout the city's single-family zones. *Id.* at 4. The city rejected a proposed cap of 50 detached ADUs per year and organized a design competition to help encourage the development of reasonably-priced ADUs. Keen, *supra* note 66; *see also* Koch, *supra* note 46.

¹⁶⁰Backyard Cottages, *supra* note 159, at 5 (noting “57 cottages permitted during the review period”). Seattle produces a guide for homeowners who wish to develop an ADU. CITY OF SEATTLE, DEP'T. OF PLANNING & DEV., A GUIDE TO BUILDING A BACKYARD COTTAGE (2010) (discussing rules governing backyard cottages, design and site planning considerations, working with a contractor, obtaining permits and financing, and renting cottage). Seattle's Department of Planning and Development also has issued a Client Assistance Memo outlining the requirements and process for developing a detached ADU. City of Seattle, Department of Planning & Development, Client Assistance Memo 116B (May 12, 2011).

¹⁶¹Backyard Cottages, *supra* note 159, at 5.

¹⁶²*Id.* at 6.

¹⁶³*Id.* at 7. The report provided summary information for 55 cottages permitted between December 4, 2009 and January 3, 2011.

5. *Washington, D.C*

Washington, D.C. is in the midst of a multi-year revision of its zoning code¹⁶⁴ that includes provisions for accessory dwelling units¹⁶⁵ in order to respond to trends in household size, allow individuals to age in place, provide additional income to owners of the primary units, and give small households more housing options.¹⁶⁶ ADUs are also being championed as a way to enable existing buildings to serve the same total population levels even as household sizes shrink.¹⁶⁷ If enacted, the revised code will allow one accessory dwelling unit on each lot in the city's residential zones,¹⁶⁸ and allow both internal and detached ADUs (in existing accessory buildings only) to be built as of right.¹⁶⁹ It will require owner occupancy of either the ADU or the principal dwelling unit,¹⁷⁰ and require a special exception for ADUs proposed in a new or expanded accessory building.¹⁷¹ The accessory dwelling unit provisions have proven to be among the most controversial elements of the proposed revisions.¹⁷² Simultaneously, the zoning

¹⁶⁴See ZONING DC, <http://zoningdc.org> (last visited Feb. 2, 2014) (discussing details of zoning update). The text of the most recent draft of the new code (September 9, 2013) is available at *Draft Proposed Text & Background Documents*, DC ZONING UPDATE, <http://www.dczoningupdate.org/documentcenter.asp?area=dcz> (last visited Feb. 2, 2014).

¹⁶⁵See Mike DeBonis, *D.C. Zoning Revamp Stokes Residents' Fears about Changing City*, WASH. POST, Dec. 1, 2012, http://articles.washingtonpost.com/2012-12-01/local/35585194_1_neighborhoods-penny-arcade-city-officials-and-advocates (describing opposition to rezoning and planning director's response that changes are "modest"); see also *Myth v. Fact: Accessory Dwelling Units*, ZONING DC (Nov. 27, 2012), <http://zoningdc.org/2012/11/27/myth-vs-fact-accessory-dwelling-units/>. These changes are in Chapter 16 of Subtitle D of the draft revised zoning code, which is available at Zoning Resolution Revised Draft Text of September 9, 2013, Subtitle D, Chapter 16, (Sept. 9, 2013), [hereinafter ZRR Draft Text].

¹⁶⁶*Myth v. Fact: Accessory Dwelling Units*, *supra* note 165.

¹⁶⁷See David Alpert, *D.C. Looks to its Past to Fix its Zoning Code*, ATLANTIC CITIES (Feb. 11, 2012), <http://www.theatlanticcities.com/neighborhoods/2012/02/how-dc-used-past-fix-its-zoning-code/1206/> (discussing release of draft of first third of zoning code, including provisions regarding accessory dwelling units); see also David Alpert, *What's in the Zoning Update: Accessory Dwellings*, GREATER GREATER WASHINGTON (Dec. 7, 2012 12:57 PM), <http://greatergreaterwashington.org/post/17006/whats-in-the-zoning-update-accessory-dwellings/> (discussing accessory dwelling unit regulations in draft of new zoning code).

¹⁶⁸ZRR Draft Text, *supra* note 165, at § 1606.1.

¹⁶⁹*Id.* at §§ 1606.2.

¹⁷⁰*Id.* at § 1606.4.

¹⁷¹*Id.*; see also *Myth v. Fact: Accessory Dwelling Units*, *supra* note 165.

¹⁷²Abigail Zenner, *Mendelson Grills Accessory Dwelling Opponents*, GREATER GREATER WASHINGTON (Mar. 18, 2013, 12:21 PM), <http://greatergreaterwashington.org/post/18091/mendelson-grills-accessory-dwelling-opponents/> (discussing DC Council's hearing on zoning update and noting resident complaints regarding threat of ADUs to neighborhood character).

changes would permit increased development of residential units on the city's alley lots, allowing construction of a one-family dwelling on an alley lot, so long as the lot is on an alley that is 24 feet or more in width.¹⁷³ As for micro-units, Hoffman-Madison Waterfront has planned a development in southwest DC that will include units of between 330 and 380 square feet.¹⁷⁴

B. Regulatory Obstacles to Micro-Unit Development

Local regulations specifying a minimum unit size, along with parking requirements for new developments, provide the most direct and significant challenges for micro-unit development. However, a number of other regulations—governing factors such as lot coverage, building height, setbacks, and interior space requirements—can affect the physical and financial feasibility of a micro-unit development. The relevance of these other regulations will depend upon the particular design proposed and particular site on which it will be developed. To determine how these other regulations might affect a specific development, we refer readers to Appendix E, which includes spreadsheets summarizing our detailed research on the range of regulations in each city that might affect the development of compact units. In this section, we highlight the key challenges for micro-unit development common to our five study cities gleaned from our regulatory research and roundtable discussions.

1. Minimum Unit Size

Micro-unit development is governed in the first instance by the minimum unit size permitted in a jurisdiction. Of the cities we studied, Washington, D.C., Denver, and Austin follow the International Building Code's definition of minimum unit size, and accordingly require at least 220 square feet for an efficiency unit with two occupants and an additional 100 square feet

¹⁷³ZRR Draft Text, *supra* note 165, at § 1608.

¹⁷⁴Amanda Wilson, *Micro-units at the Wharf Could be D.C.'s First*, DCMUD (Oct. 15, 2012, 10:04 am), <http://dcmud.blogspot.com/2012/10/micro-units-at-wharf-could-be-dcs-first.html>.

for each additional occupant.¹⁷⁵ Seattle’s regulations governing minimum unit size are more complicated. Seattle’s building code specifies a minimum unit size of 220 square feet,¹⁷⁶ but a 2004 “Director’s Rule” from the Department of Planning and Development allows “small efficiency dwelling units” smaller than 220 square feet “if other amenities are also provided.”¹⁷⁷ Under the rule an efficiency unit “shall have a living room of at least 150 new square feet of floor area,” which shall not include the floor area “occupied by bathrooms, cabinets, appliances, structural features, and any closets.”¹⁷⁸

New York City is an outlier—its zoning resolution requires units to be at least 400 square feet in most areas of the city,¹⁷⁹ which dramatically reduces the feasibility of micro-unit development.¹⁸⁰ However, as noted, the city has waived this minimum on certain city owned land for its adAPT NYC program, and will be evaluating that program with an eye to possibly allowing smaller units more widely.

¹⁷⁵See INT’L BLDG. CODE § 1208.4 (2012). Generally, specific kitchen requirements imposed by the study cities are minimal. The International Building Code requires kitchens in efficiency apartments to provide only a sink, cooking appliance and refrigerator as well as 30 inches of clear working space in front of these features. The International Building Code has similarly minimal standards for required bathroom facilities.

¹⁷⁶Seattle’s Building Code requires that at least one room in a dwelling unit must have at least 120 square feet of floor area, but requires that an efficiency dwelling unit that includes a kitchen and bathroom must have at least 220 square feet of floor area. SEATTLE BLDG. CODE §§ 1208.3, 1208.4 (2009). The Seattle Municipal Code has its own requirements for the minimum floor area of rooms used “for both cooking and living or both living and sleeping quarters,” which must be at least 130 square feet if used by only one occupant. SEATTLE MUN. CODE § 22.206.020(C). This does not, however, include the square footage of a bathroom as “[e]very dwelling unit shall contain a toilet, a lavatory, and a bathtub or shower *in a separate room or rooms* which shall be accessible from inside the dwelling unit.” SEATTLE BLDG. CODE § 1208.4(4) (emphasis added).

¹⁷⁷City of Seattle Dep’t of Planning and Dev., Director’s Rule 6-2004 (Nov. 22, 2004), *available at* <http://www.seattle.gov/dpd/codes/dr/DR2004-6.pdf>.

¹⁷⁸*Id.* The code identifies the required components of a dwelling unit’s bathroom and kitchen, but not their minimum size. SEATTLE MUN. CODE § 22.206.050. However, these regulations do not dictate the size of the separately leased units within Seattle’s aPodments as the “dwelling unit,” for purposes of code compliance is the suite containing eight separately leased individual units. Hence, for these units, the minimum size would be seventy square feet, although these units are typically larger. *Id.* § 22.206.020(C) (“Every room used for sleeping purposes, including an SRO unit, shall have not less than seventy (70) square feet of floor area.”).

¹⁷⁹NEW YORK, N.Y. ZONING RESOLUTION § 28-21 (2001).

¹⁸⁰New York also has a slightly higher minimum “least dimension” for a room. See NEW YORK, N.Y. BLDG. CODE § 1208.1 (2008) (“Habitable spaces, other than a kitchen, shall not be less than 8 feet (2438 mm) in any plan dimension” with certain exceptions); *see also* N.Y. MULT. DWELL. LAW § 31(2)(d) (McKinney). The other four cities use the least dimension in the International Building Code, which is seven feet. See INT’L BLDG. CODE § 1208.1 (2012).

2. *Required Off-Street Parking*

Parking requirements can significantly increase per-unit construction costs and threaten the viability of a micro-unit project.¹⁸¹ Denver,¹⁸² New York City,¹⁸³ and Seattle,¹⁸⁴ all include some districts without any minimum required parking. Outside those districts, Austin requires one space per unit, but in denser districts, the requirement can be reduced to spaces for 60 percent of units.¹⁸⁵ Washington, D.C.'s requirements range from one spot per dwelling unit to one spot for every four dwelling units in denser districts.¹⁸⁶ New York City's requirements range from one space per unit in the lowest density districts to between 40 and 85 spaces per 100 units in the higher density districts.¹⁸⁷ Seattle waives parking requirements based upon proximity to frequent transit service.¹⁸⁸

According to some architects who participated in our roundtables, parking requirements are a challenge for multi-family development generally and may prove to be a significant challenge for the development of micro-units. Others, however, took the view that the low requirements in higher-density districts are unlikely to stymie development. Figure 8 depicts the parking requirements in the least restrictive districts of each of our study cities.

¹⁸¹See generally roundtable meetings in Seattle, Denver, Austin, and Washington, D.C. Hinshaw and Holan, *supra* note 20, at 18 (describing parking requirements as “chief culprit” in zoning ordinances that stifled development of inexpensive housing).

¹⁸²Denver’s “core”, “theatre” and “civic” districts, which cover most of the city’s downtown, do not impose any parking requirements. DENVER, COLO. ZONING CODE § 8.3.1.5(B)(1) (“There shall be no minimum off-street parking requirement for any use in the D-C or D-TD or D-CV Zone Districts.”); *id.* § 8.9.1.1 (2010).

¹⁸³New York City waives parking requirements in its Manhattan Core districts, which contain most residential development south of 110th Street on the West Side of Manhattan and south of 96th Street on the East Side of Manhattan. See FURMAN CTR. FOR REAL ESTATE & URBAN POLICY, SEARCHING FOR THE RIGHT SPOT: MINIMUM PARKING REQUIREMENTS AND HOUSING AFFORDABILITY IN NEW YORK CITY 4 (2012) (citing Residential Development, NEW YORK, N.Y. ZONING RESOLUTION §13-12. (2011)). It also waives the requirements in most areas of Long Island City, Queens. *Id.*

¹⁸⁴Seattle imposes no parking requirement on multi-family units located in an Urban Center or Station Area Overlay or if the units are in an Urban Village and within 1,320 feet of a street with frequent transit service. Seattle Mun. Code § 23.54.015 (tbl. B). In general Seattle requires one off-street space per unit in multi-family residential districts. *Id.*

¹⁸⁵AUSTIN, TEX. CITY CODE § 25-6-472(A).

¹⁸⁶D.C. MUN. REGS. tit. 11, § 2101.

¹⁸⁷FURMAN CTR, *supra* note 1823.

¹⁸⁸Seattle Mun. Code § 23.54.015 (tbl. B).

Figure 8. Least-Restrictive Minimum Parking Requirements, by City

<i>Unit of Measurement</i>	<i>Denver, CO^b</i>	<i>Austin, TX^c</i>	<i>Washington, D.C.</i>	<i>Seattle, WA^b</i>	<i>New York City, NY^b</i>
Parking Space per Unit(s) ^a	0 spaces per unit	3 spaces per 5 units	1 space per 4 units	0 spaces per unit	0 spaces per unit

^a Percentages provided for densest districts where micro-unit development is most likely.

^b As noted above, Denver, Seattle and New York all have districts within the city that are not subject to any parking requirements.

^c In Austin the Central Business District (CBD) and the Downtown Mixed Use (DMU) and certain Public (P) zoning districts have no requirement for off-street parking.

3. *Maximum Number of Dwelling Units on a Lot*

Regulations that limit the number of units allowed on a lot may create additional challenges for micro-unit development. In New York City the number of dwelling units on a lot is limited to the maximum residential floor area permitted on the lot divided by a factor specific to the zoning district in which the lot is located.¹⁸⁹ In the city’s densest districts, R6 through R10, this factor ranges from 680 to 790.¹⁹⁰ Austin, Texas also limits the number of units permitted on a site: the city’s densest residential district (MF-5) requires a minimum site area of 800 square feet for an efficiency unit and 1,000 square feet for a one-bedroom unit.¹⁹¹ The other cities we studied do not expressly limit the number of units permitted on a lot.¹⁹²

4. *Recreation Space*

Participants in a number of our roundtables suggested that ample common and recreation space must be provided in a micro-unit building to make up for the small size of individual units.

¹⁸⁹NEW YORK, N.Y. ZONING RESOLUTION § 23-22 (2001).

¹⁹⁰ *Id.*

¹⁹¹AUSTIN, TEX. CITY CODE § 25-2-563.

¹⁹²Although Washington, D.C. does not generally limit the number of units per lot, there is an exception for existing structures in R-4 districts that are converted to apartment houses. Such conversions must have a minimum of 900 square feet of lot area for each dwelling unit. D.C. MUN. REGS. TIT. 11, § 401.

Seattle requires developments to have amenity space (private or common) equal to 25 percent of the lot area in low rise zones,¹⁹³ and five percent of the total gross floor area in medium rise and high rise zones.¹⁹⁴ Denver requires 30 square feet of open space on the ground, roof, or balconies, for each dwelling unit in multi-family structures in certain downtown districts.¹⁹⁵ In New York City, indoor or outdoor recreation space equal to 2.8 percent of the total floor area is required in the densest districts.¹⁹⁶ Those requirements apply to all multi-family developments, not just micro-units; cities may decide to impose more substantial requirements on micro-unit buildings.

C. Regulatory Obstacles to ADU Development

Our analysis considered all three forms of accessory dwelling units: internal, attached, and detached ADUs. *Internal ADUs* are built within part of an existing structure, such as an attic or basement. *Attached ADUs* are built as an addition to the primary structure. The line between internal and attached ADUs is often blurry and many jurisdictions do not distinguish between the two. *Detached ADUs* are physically separated from the primary dwelling but located on the same lot, such as backyard cottage or a unit above a garage.

New York City does not permit any type of accessory dwelling unit. Austin allows “accessory apartments,” but these units must be located within a principal structure and occupied by at least one person who is disabled or over 60 years old.¹⁹⁷ Austin allows ADUs without any occupancy restriction—which the city’s code terms “secondary apartment special uses”—but

¹⁹³SEATTLE MUN. CODE § 23.45.522(A)-(D); *id.* § 23.49.010(B); INT’L BLDG. CODE § 1208.4.3 (2009); SEATTLE BLDG. CODE § 1208.4(3).

¹⁹⁴SEATTLE MUN. CODE § 23.45.522(C). No more than fifty percent of this amenity area may be enclosed, and the enclosed portion must be a common space. *Id.* § 23.45.522(D).

¹⁹⁵DENVER, COLO. ZONING CODE § 8.3.1.4 (D-C and D-TD districts); § 8.7.1.3 (D-AS district) (2010)

¹⁹⁶NEW YORK, N.Y. ZONING RESOLUTION § 28-31 (2001). This requirement applies to R8, R9 and R10 districts. In R6 and R7 districts the recreation area must equal 3.3 percent of total floor area. *Id.*

¹⁹⁷*Id.* § 25-2-901 (“An accessory apartment is a separate dwelling unit that is contained within the principal structure of a single-family residence, and that is occupied by at least one person who is 60 years of age or older or physically disabled.”).

they must be “contained in a structure other than the principal structure,” and therefore cannot be internal or attached ADUs.¹⁹⁸ Our analysis of Austin focuses on these secondary apartments. Denver, Seattle, and Washington D.C. permit internal or attached ADUs with some limitations,¹⁹⁹ and Denver and Seattle allow detached ADUs.²⁰⁰ Washington, D.C. also permits detached ADUs, but only if they qualify as a permitted nonconforming use,²⁰¹ are occupied by domestic employees,²⁰² or are developed on a qualifying alley lot.²⁰³ However, as discussed earlier, pending revisions to the Washington, D.C. zoning code may allow more ADU development.²⁰⁴

Figure 9 shows the types of ADUs permitted in Austin, Denver, New York, Seattle, and Washington, D.C.

Figure 9. ADUs Permitted, by Type and City

<i>Type of ADU</i>	<i>Austin, TX</i>	<i>Denver, CO</i>	<i>New York, NY</i>	<i>Washington, D.C.</i>	<i>Seattle, WA</i>
Internal Unit	Limited ^a	Yes	No	Yes	Yes
Attached Unit	No	Yes	No	Yes	Yes

¹⁹⁸AUSTIN, TEX. CITY CODE § 25-2-774(C)(1). However the ADU “may be connected to the principal structure by a covered walkway.” *Id.* § 25-2-774(C)(3).

¹⁹⁹D.C. MUN. REGS. tit. 11, § 202.10 (allowing accessory units to be added “within an existing one-family detached dwelling” as a special exception requiring approval by the Board of Zoning Adjustment and subject to certain requirements); DENVER, COLO. ZONING CODE § 11.12.7 (2010) (defining an attached ADU as “[a]n accessory dwelling unit that is connected to or an integrated part of the same structure housing the primary single unit dwelling (for example, an attached accessory dwelling unit may be located in the basement level of a structure also housing a single-unit dwelling use)”; SEATTLE MUN. CODE § 23.44.041 (limiting attached ADUs to 1,000 square feet); *see also* CITY OF SEATTLE DEPARTMENT OF PLANNING AND DEVELOPMENT, DPD TIP NO. 116A, ESTABLISHING AN ATTACHED ACCESSORY DWELLING UNIT (May 12, 2011), *available at* <http://www.seattle.gov/DPD/Publications/CAM/cam116a.pdf> [hereinafter DPD TIP NO. 116A].

²⁰⁰Denver’s form based code imposes different restrictions on detached ADUs depending on the zoning district in which they are located. *See* DENVER, COLO. ZONING CODE § 11.8.2.1(B)(3) (2010) (declaring that “ADUs established in a detached accessory structure shall comply with the Detached ADU Building form standards in the applicable Zone District”); *Id.* § 12.10.4 (2010) (regulating detached accessory dwelling units on carriage lots); AUSTIN, TEX. CITY CODE § 25-2-774(C)(1) (regulating detached second dwelling units); SEATTLE MUN. CODE § 23.44.041 (B)(1) (outlining development standards for detached accessory dwelling units).

²⁰¹D.C. MUN. REGS. tit. 11, §§ 2000.4 (permitting continuation of nonconforming uses that lawfully existed on May 12, 1958).

²⁰²*Id.* tit. 11, § 2500.5 (allowing for living quarters of domestic employees to be located in second story of accessory private garage).

²⁰³*Id.* tit. 11, § 2507 (governing dwellings on alley lots).

²⁰⁴See *supra* note 168.

Detached Unit	Yes	Yes	No	Very Limited ^b	Yes
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^a Allowed only if occupied by at least one individual who is over 60 years old or disabled.

^b Detached units are only permitted to the extent that they qualify as a pre-existing nonconforming use, are occupied by domestic employees, or are developed on a qualifying alley lot.

Because each of our study cities other than New York City permits ADUs in one form or another, the primary limits on ADU development are the restrictions that determine whether a lot is eligible to add an ADU. Additionally, as with micro-units, parking requirements are frequently an impediment.

1. Lot-Level Regulations

Regulations that affect whether a homeowner can build an accessory dwelling unit on a given lot include minimum lot sizes (for a lot to be eligible to add an ADU), limits on how much of the lot can be covered with structures, and regulations governing the ADU's relationship to the primary unit on the lot. These restrictions limit both the number of lots that are eligible sites for an ADU and the size of a unit.

Each of our study cities that allows ADUs imposes a minimum lot size for development of ADUs. Austin has the most restrictive minimum lot size, of 7,000 square feet.²⁰⁵ However, individual neighborhood planning associations may adopt a secondary unit special use infill option into their neighborhood plans that reduces the minimum required lot size to 5,750 square feet.²⁰⁶ As of October 2012, the secondary apartment infill option had been adopted neighborhood-wide in 12 of the 50 approved plans and in parts of the neighborhood planning

²⁰⁵ AUSTIN, TEX. CITY CODE § 25-2-774(B). This applies to lots zones SF-3 and SF-5 through MF-6.

²⁰⁶ AUSTIN, TEX. CITY CODE §§ 25-2-1461 – 25-2-1463; *see also* CITY OF AUSTIN, SPECIAL INFILL OPTIONS AND DESIGN TOOLS 8-9, *available at* ftp://ftp.ci.austin.tx.us/npzd/Austingo/infill_tools.pdf (discussing secondary apartment special use); *see generally* CENTER FOR SUSTAINABLE DEVELOPMENT AT THE ALLEY FLAT INITIATIVE, TOPICS IN SUSTAINABLE DEVELOPMENT 2008 REPORT 22 (Steve A. Moore and Sergio Palleroni, eds., 2008), *available at* <http://soa.utexas.edu/files/csd/AFI.pdf>.

area in seven plans.²⁰⁷ In Denver, lots must be at least 3,000 square feet, and in some districts at least 10,000 square feet, in order to add an ADU.²⁰⁸ Denver roundtable participants noted that ADU development is sometimes nearly impossible in neighborhoods with small lot sizes.²⁰⁹ Seattle has the least restrictive minimum lot requirements: it imposes no minimum for attached and internal ADUs, and allows detached ADUs on lots of 4,000 square feet or larger.²¹⁰ Washington, D.C. allows internal accessory apartments by special permit, on single-family detached lots that are—depending on the residential district—at least 4,000, 5,000, or 7,500 square feet.²¹¹ The main house also must have at least 2,000 square feet of gross floor area, without including garage space.²¹²

Lots that satisfy minimum size requirements still may not be able to add an attached or detached ADU if doing so would result in the structures exceeding the maximum permitted lot coverage. In Austin, built structures may not cover more than 40 percent of a lot and the combination of structures and any other impervious surfaces may not exceed 45 percent of the lot.²¹³ Roundtable participants noted that the impervious surface cap and the parking requirements work together to severely restrict the development ADUs in Austin. Lots in Austin with ADUs require four parking spaces—two for the primary dwelling and two for the ADU. A lot that currently has no off-street parking (because the primary dwelling was built before the

²⁰⁷ CITY OF AUSTIN, *supra* note 206, at 18-20, 22. A map of the neighborhoods that have adopted the Secondary Apartment Infill Tool, as of January 18, 2013, is available at ftp://ftp.ci.austin.tx.us/npzd/Austingo/neighborhood_orsubdistrict_wide_infill.pdf.

²⁰⁸ See *Summary of Zone Districts*, CITY OF DENVER, <http://www.denvergov.org/Portals/646/documents/Zoning/Summary%20of%20Zone%20Districts.pdf> (last visited June 10, 2013).

²⁰⁹ Denver roundtable participants noted that it is unclear whether the small lots or the minimum lot size are problematic as both ADUs and small lot sizes are mechanisms for increasing density. This may just be, in the words of one participant, a “collision of two good ideas.”

²¹⁰ SEATTLE MUN. CODE § 23.44.041 Table B (a)-(c).

²¹¹ D.C. MUN. REGS. tit. 11, § 202.10 (requiring minimum lot area of 7,500 square feet in zone R-1-A; 5,000 square feet in zone R-1-B; and 4,000 square feet in zone R-2 or R-3). ADUs are permitted as a special exception under sec. 3104.

²¹² *Id.*

²¹³ AUSTIN, TEX. CITY CODE § 25-2-774(D)-(E).

parking requirements were imposed) must add four spaces before adding an ADU. Any parking space, regardless of the type of surface, is considered impervious cover. Therefore, homeowners required to add three parking spaces may find it difficult to do so without exceeding the impervious surface cap. Austin allows neighborhoods to adopt an ordinance that would permit up to 50 percent impermeable cover if an ADU is affordable, but no neighborhoods have done so.²¹⁴

Denver's lot coverage regulations differ by context²¹⁵ and zoning district, but in all districts the city exempts the lesser of 50 percent of the area occupied by the ADU or 500 square feet from the total maximum building coverage on a lot, as long as the ADU is fifteen feet from the primary dwelling and at least 80 percent of the ground floor of the ADU is used for parking.²¹⁶ In Seattle, the maximum lot coverage, for both principal and accessory structures, is 1,000 square feet plus 15 percent of the lot area if a lot is less than 5,000 square feet,²¹⁷ or 35 percent of the lot area for lots larger than 5,000 square feet. In addition, in Seattle a detached ADU—along with any other accessory structures added to a lot (such as a garage)—may not cover more than 40 percent of the lot's rear yard.²¹⁸ Lot coverage maximums do not exist in Washington, D.C.

Some cities regulate ADU development based upon a proposed accessory unit's relationship to the primary dwelling. These limitations may affect the permissible size of an ADU or its positioning on the lot. ADUs in low-rise, multi-family districts of Seattle may not exceed 40 percent of the gross floor area in residential use on the lot.²¹⁹ Similarly, in Washington,

²¹⁴*The Green Alley Initiative*, CITY OF AUSTIN, TEX., OFFICE OF SUSTAINABILITY, <http://austintexas.gov/department/green-alley-initiative> (last visited June, 12, 2013).

²¹⁵The Denver Zoning Code divides the city into six neighborhood contexts and a number of special contexts. These contexts are further divided into zone districts.

²¹⁶DENVER, COLO. ZONING CODE §§ 4.3.4.5, 5.3.4.5, 6.3.4.5 (2010) (listing provisions for Urban Edge Neighborhood Context, Urban Neighborhood Context, and General Urban Neighborhood Context respectively).

²¹⁷SEATTLE MUN. CODE § 23.44.010(D).

²¹⁸*Id.* § 23.44.041 tbl. B (e).

²¹⁹SEATTLE MUN. CODE § 23.45.545 (I)(3).

D.C., which allows only internal ADUs within an existing structure, the maximum gross floor area of an ADU may not exceed 25 percent of the total floor area of the structure.²²⁰

Austin, Denver, and Seattle restrict the location of an ADU on the lot. Seattle generally requires the ADU to meet the rear yard setback requirement, but reduces the setback or allows setback waivers where a lot abuts an alley.²²¹ Austin also requires 15 feet between the primary dwelling and a detached ADU²²² and Seattle requires five feet.²²³ Roundtable participants in Austin indicated that the minimum separation requirements, combined with the lot coverage and impermeable surface limits, significantly reduce the number of lots eligible for ADUs as-of-right. Denver requires that ADUs be located on the rear 35 percent of the lot.²²⁴ Denver does not require a minimum separation between the ADU and the primary residence, but where there is a separation of at least 15 feet, the city reduces the amount of an ADU's area that is counted toward lot coverage limits.²²⁵

²²⁰D.C. MUN. REGS. tit. 11, § 202.10.

²²¹SEATTLE MUN. CODE § 23.44.041 Table B (i); AUSTIN, TEX. CITY CODE § 25-2-492(D).

²²²AUSTIN, TEX. CITY CODE §25-2-774(C)(2).

²²³SEATTLE MUN. CODE § 23.44.041 Table B (I).

²²⁴DENVER, COLO. ZONING CODE §§ 3.3.4.5, 4.3.4.5, 5.3.4.5, 6.3.4.5 (2010).

²²⁵*See supra* note 216 and accompanying text.

2. *Unit Size Restrictions*

The minimum unit sizes discussed above in relation to micro-units also apply to ADUs. In addition, Denver requires that ADUs in single-unit zoned districts have a minimum of 200 square feet of floor area per occupant of the ADU.²²⁶ Denver’s restrictions likely prove unproblematic for ADU development, however, because ADUs are generally built in lower-density neighborhoods where the market typically demands larger units.

The limits on maximum ADU size, therefore, tend to be more constraining. For example, in Austin, ADUs must be no more than 850 square feet, with no more than 550 square feet on a second floor.²²⁷ Denver imposes a unit size limit based on the lot area: on lots smaller than 6,000 square feet, ADUs may not exceed 650 square feet; on lots between 6,000 square feet and 7,000 square feet, ADUs may not exceed 864 square feet; and on lots greater than 7,000 square feet, ADUs may not exceed 1,000 square feet.²²⁸ In Seattle, ADUs in single-family districts cannot exceed 1,000 square feet, if attached, or 800 square feet, if detached.²²⁹ In multi-family, low-rise districts, Seattle both restricts ADUs to 40 percent of total residential gross floor area on the lot, and caps their size at 650 square feet of total floor area.²³⁰ Washington, D.C. only limits the size of ADUs—which must be formed through internal conversion—by setting a maximum percentage (25 percent) of the gross floor area of a house.²³¹

²²⁶Denver requires, in all single-unit zoned districts, that “[i]n order to avoid overcrowding of the accessory dwelling unit, the Accessory Dwelling Unit use shall contain a minimum of 200 square feet of gross floor area per occupant.” DENVER, COLO. ZONING CODE § 11.8.2.2 (5).

²²⁷AUSTIN, TEX. CITY CODE § 25-2-774(C)(7).

²²⁸DENVER, COLO. ZONING CODE § 11.8.2 (2010).

²²⁹SEATTLE MUN. CODE § 23.44.041 Table A (a) and FN 1.

²³⁰*Id.* § 23.45.545 (1)(3).

²³¹D.C. MUN. REGS. tit. 11, § 202.10.

3. *Parking*

Parking requirements frequently pose a challenge for homeowners seeking to develop accessory dwelling units.²³² Austin requires two spaces for a detached ADU.²³³ Denver does not impose any additional parking requirements on lots that add an accessory dwelling unit. Seattle requires one space per ADU in single-family housing districts, but permits that space to be in tandem with, rather than along-side, another required space.²³⁴ It eliminates this parking requirement if the accessory unit is developed in an Urban Village or Urban Center, if the ADU is within a low-rise multi-family district,²³⁵ or if the applicant can prove that parking is infeasible or that a recent parking study demonstrates on-street parking capacity.²³⁶ Washington D.C. does not require the addition of a new parking space if a homeowner converts a portion of an existing single-family detached home into an internal ADU.²³⁷

²³²Indeed, a report analyzing regulations governing ADUs in five Bay Area communities identified parking requirements as among the most challenging regulations facing homeowners who seek to develop an ADU. CENTER FOR COMMUNITY INNOVATION, *supra* note 3, at 8 (“Our zoning analysis showed—and planning officials confirmed—that parking requirements in the East Bay cities we studied are one of the most common regulatory barriers to approval of accessory dwelling units on single family lots.”). Concerns regarding parking have long plagued attempts to encourage ADU development. In the 1980s a San Francisco foundation sought to encourage homeowners in five jurisdictions to develop ADUs. Onerous local regulations frequently caused homeowners to leave the program, with parking requirements a particular concern. Wegmann and Nemirow, *supra* note 4, at 9 (citing SAN FRANCISCO DEVELOPMENT FUND SMALL SOLUTIONS: SECOND UNITS AS AFFORDABLE HOUSING (1988)). In survey responses, homeowners who had attempted to add a secondary unit but were unsuccessful most frequently identified “an inability to provide the required number of off-street parking spaces” as the reason they failed. CENTER FOR COMMUNITY INNOVATION, *supra* note 3 **Error! Bookmark not defined.**, at 7.

²³³AUSTIN, TEX. CITY CODE § 25-6-472(A) and Appendix A. An internal “accessory apartment,” which must be occupied by a disabled individual or an individual over 60 years old, must have 1 space if it is an efficiency unit and 1.5 spaces if it is a single-bedroom unit. *Id.*

²³⁴SEATTLE MUN. CODE § 23.44.041 (A)(5); *Id.* § 23.45.545 (I)(7); *see also* City of Seattle, Department, A Guide to Building a Backyard Cottage, at 10 (discussing parking requirement). Tandem parking, which allows for vehicles to be parked in a line, rather than side by side, is often easier to provide.

²³⁵SEATTLE MUN. CODE § 23.44.041 (A)(5); *Id.* § 23.45.545 (I)(7).

²³⁶*Id.* § 23.44.041 (A)(5)(a)-(b); *see also* City of Seattle Department of Planning and Development, Client Assistance Memo 117, Parking Waivers for Accessory Dwelling Units (May 12, 2011), *available at* <http://www.seattle.gov/dclu/Publications/cam/cam117.pdf>.

²³⁷*See* D.C. MUN. REGS. tit. 11, § 202.10. More generally, Washington, D.C. requires between one parking space per unit and one space for every two units. *Id.* tit. 11, § 2101.

4. *Occupancy Restrictions*

Denver,²³⁸ Seattle,²³⁹ and Washington, D.C.²⁴⁰ all require owner occupancy of either the ADU or the primary dwelling unit. In Denver, roundtable participants posited that this restriction aims to promote community stability and property maintenance. Some participants, however, contended that the rule is arbitrary because the zoning code does not prevent an owner from renting their primary unit when there is no ADU on the lot or from building a duplex and renting both units. Participants in the Seattle discussion suggested that jurisdictions might require owner-occupancy as a substitute for more detailed regulations of ADUs – the owner-occupier serves as a check on ADU design, construction, and operation that alleviates the need for further regulations.²⁴¹

²³⁸DENVER, COLO. ZONING CODE § 11.8.2.2(3) (2010) (“The owner of the zone lot on which an Accessory Dwelling Unit use is maintained shall occupy either the primary dwelling unit or the ADU as the owner’s legal and permanent residence. For purposes of this provision, ‘the owner’s legal and permanent residence’ shall mean a property owner who makes his or her legal residence at the site, as evidenced by voter registration, vehicle registration, or similar means.”).

²³⁹SEATTLE MUN. CODE § 23.44.041 (C)(1) (“An owner with at least a 50 percent interest in the property must occupy either the principal dwelling unit or the accessory dwelling unit for six or more months of each calendar year as the owner’s permanent residence. The Director may waive this requirement for up to three years if a letter is submitted that provides evidence to the Director showing good cause why the requirement for owner occupancy should be waived. Good cause may include job dislocation, sabbatical leave, education, or illness.”). Seattle also states that the owner if “unable or unwilling” to fulfill these requirements must “remove those features of the accessory dwelling unit that make it a dwelling unit.” *Id.* at (C)(2). The property owner must also record a covenant that agrees to restrict use of the principal unit and the ADU to the requirements of the zoning code. *Id.* at (C)(3).

²⁴⁰D.C. MUN. REGS. tit. 11, § 202.10(f) (“Either the principal dwelling or accessory apartment unit must be owner-occupied”).

²⁴¹The APA’s 2000 report on ADUs discussed an ADU program in Daly City, California, which included an owner-occupancy requirement. It similarly noted that local officials believed this requirement played a critical role in preventing nuisances as owners living on the premises would not tolerate a nuisance that a tenant might otherwise create. COBB AND DVORAK, *supra* note 1, at 10.

5. *Procedural Requirements*

Building review and permitting procedures can pose significant hurdles for homeowners seeking to develop an ADU. In particular, high permit costs can prove an obstacle or can prevent a homeowner from legalizing an existing unit.²⁴² In Austin ADUs can be built on site as of right and are exempted from site plan review.²⁴³ In Denver an accessory dwelling unit must undergo Zoning Permit Review,²⁴⁴ which does not require notice to neighbors or a public hearing. Seattle provides a special application process for homeowners seeking to add an ADU.²⁴⁵ In Washington, D.C., ADUs currently may be added within an existing single-family home in R-1, R-2, and R-3 zones through internal conversion of existing space, but this requires a special exception.²⁴⁶ The process includes notice to neighbors, followed by a public hearing.²⁴⁷ Roundtable participants in D.C. noted that these procedures often expose potential ADU projects to community opposition. Nevertheless, most applications have been approved.

²⁴² Phone conversation with Kevin Casey of New Avenues on August 28th, 2012. Portland, Oregon previously charged between \$10,000 and \$20,000 for an ADU Permit. For a three year period starting in 2011, however, Portland waived this fee as an incentive to promote their development. *Resolution No. 36766 - ADU System Development Charge Waiver*, CITY OF PORTLAND, PORTLAND CITY COUNCIL, (Mar. 3 2010), https://docs.google.com/file/d/1Oi1wCZVP0mRC5n_yMJdZpQz8WpaolO_Vkm98xttnaHQOVTL4gB-3zySy1Is6/edit?hl=en_US. The waiver was extended for another three years in 2012. See *Portland Extends Waiver of SDCs on Accessory Dwelling Units* (Dec. 5, 2012), available at <http://accessorydwellings.org/2012/12/05/portland-extends-waiver-of-sdcs-on-accessory-dwelling-units/>.

²⁴³ AUSTIN, TEX. CITY CODE § 25-5-2 (B)(1). ADUs still must go through residential plan review.

²⁴⁴ See, e.g., DENVER, COLO. ZONING CODE §§ 3.4.3.3-3.4.4 (2010) (indicating uses subject to Zoning Permit Review). This process is outlined in Section 12.4.1 of the Zoning Code.

²⁴⁵ See DPD TIP NO. 116A, *supra* note 199; CITY OF SEATTLE DEPARTMENT OF PLANNING AND DEVELOPMENT, DPD TIP NO. 116B, ESTABLISHING A BACKYARD COTTAGE (DETACHED ACCESSORY UNIT) (May 12, 2011), available at <http://www.seattle.gov/DPD/Publications/CAM/cam116b.pdf>.

²⁴⁶ D.C. MUN. REGS. tit. 11, § 202.10. Section 3104 allows the Board of Zoning Adjustment to grant a special exception when it “will be in harmony with the general purpose and intent of the Zoning Regulations and Zoning Maps and will not tend to affect adversely, the use of neighboring property in accordance with the Zoning Regulations and Zoning Maps” *Id.* tit. 11, § 3104.1. Homeowners in the city’s R-1 district only are also allowed to place an ADU as of right above their garage, but only for occupancy by a “domestic employee.” *Id.* tit. 11, § 2500.5.

²⁴⁷ The procedural rules governing applications for a special exception are outlined in D.C. MUN. REGS. tit. 11, § 3113; see also *id.* tit. 11, § 3117.2 (“A public hearing, even if expedited under § 3116.1, shall be held on each appeal or application.”). In addition, a fee of \$325 must be paid for the special exception application and a building permit is required. *Id.* at tit. 11, § 3180.1(b)(12); *Id.* tit. 12, § 105A.

Many cities, including those studied, have a substantial number of properties with ADUs that are not properly permitted.²⁴⁸ Some owners may have converted their basement or garage attic into a rentable unit without knowing that such conversion required the city’s review and approval; others simply ignored the law. Washington, D.C. has a process through which a homeowner may legalize an internal ADU, and has declared amnesty periods to allow owners to bring existing illegal units into compliance without penalty.²⁴⁹ In addition, the city’s Homeowner’s Center assists homeowners with code compliance and permitting. Other cities have also instituted amnesty programs for illegal ADUs.²⁵⁰

D. Non-Regulatory Obstacles to Compact Unit Development

The Furman Center’s discussions with city officials, architects, developers, affordable housing advocates, attorneys, and others revealed a range of non-regulatory challenges for compact unit development. We briefly discuss a number of these issues below, but further study is necessary to determine the extent to which each impedes development in different cities. Most notably, micro-units and ADUs both face financing challenges and neighborhood opposition. Micro-units are also constrained by concerns regarding infrastructure capacity and general uneasiness –from many constituencies—regarding a relatively untested product.

²⁴⁸See, e.g., Martin John Brown, *People in Portland Want and Build ADUs-With or Without Permits*, ARCHITECTURAL THERAPY (Oct. 13, 2009), <http://architecturaltherapy.files.wordpress.com/2009/10/portland-adus-permitted-and-not-2009-10-13.pdf> (discussing study of MLS listings that estimated that only 38% of ADUs in Portland are actually permitted).

²⁴⁹Marin County, California offered a “Second Unit Amnesty Program” in 2007. *Second Unit Amnesty Program*, CNTY. OF MARIN, http://www.co.marin.ca.us/comdev/comdev/CURRENT/second_unit_amnesty.cfm (last updated Jan. 26, 2012).

²⁵⁰The town of Barnstable, Massachusetts made the provision of affordable housing a requirement for an illegal unit’s legalization. HUD Report, *supra* note 60, at 5.

1. Financing and Construction Costs

A number of roundtable participants asserted that micro-units face problems obtaining traditional financing because of the lack of comparable properties. Banks may not value micro-unit buildings as highly as their larger-unit multi-family counterparts until the market demand for smaller units is clearly established. In Seattle, where the micro-units constructed have been successfully marketed and leased, developers have obtained funding primarily from community banks. This funding, however, is frequently based on the developer's reputation and prior success and not necessarily on an objective evaluation of the micro-unit model.

Parking issues can compound the financing challenges for micro-unit development because some lenders may require parking, even if regulations do not, and because the requirements drive up construction costs and thereby make it difficult for developers to price units attractively to non-car owners. In Austin, a new downtown development of smaller affordable units was able to obtain parking waivers from the city.²⁵¹ As noted, developers in Seattle have focused micro-unit development in areas without a parking requirement.²⁵² In Washington, D.C., some developers have built *more* parking than regulatory minimums require, which roundtable participants asserted may be a response to pressure from their sources of financing, rather than market demand.

Similarly, limited financing options can render it difficult for a homeowner to build an ADU, even when regulations permit it. Lenders typically will not consider the rental income expected from an accessory dwelling unit when providing financing for the unit's

²⁵¹ The Foundation Communities' development, called Capital Studios, will include 135 efficiency apartments that will rent for between \$400 and \$650 monthly, utilities included. *New Development – Capital Studios*, *supra* note 122. The units will be funded in part through the sale of affordable housing tax credits and rented to single adults earning less than \$27,000 a year, roughly half of area median income. The project will be marketed to downtown workers who are priced out of existing housing. As of 2012, the average downtown rent in Austin was approximately \$2,031 a month. Coppola, *supra* note 123.

²⁵² See *supra* note 184.

construction.²⁵³ The resistance among banks may be a result of appraisers' tendency to under-appraise these units because of (1) their unfamiliarity with ADU models, (2) lack of market data demonstrating increased property value due to ADUs, (3) fear of litigation resulting from an over-appraisal, and (4) unwillingness to consider income-based valuations.²⁵⁴ In Seattle, roundtable participants reported that ADUs are valued as an additional bedroom rather than as an income-producing separate unit.

Construction costs also create challenges for potential ADU developers. According to architects who participated in our roundtables, ADUs can often be 1.5 to 2 times more expensive per square foot to construct than a single-family house because the fixed costs of a kitchen, bathroom, and mechanical systems are spread over a smaller total square footage. A number of roundtable participants agreed that, because of the high fixed costs, most detached ADUs are not likely to pay for themselves and often will not make economic sense for homeowners looking at them primarily as an income source.²⁵⁵ This can encourage homeowners to instead develop an ADU within the existing structure or as an addition, which *may* be economical depending on the type of construction and the local rental market.²⁵⁶ Of course, homeowners may also develop ADUs for non-financial reasons, such as providing housing for a relative.

²⁵³ See CENTER FOR COMMUNITY INNOVATION, *supra* note 3, at 5 (“Typically, homeowners building a secondary unit obtain a refinance-cashout or a home equity loan. In both cases, the homebuyer must qualify on the strength of her current income, and cannot factor in rental income from the new secondary unit. Further study is needed to determine how the mortgage market might be reformed to accommodate demand for secondary units.”); Martin John Brown and Taylor Witkins, *Understanding and Appraising Properties with Accessory Dwelling Units*, APPRAISAL J. (Fall 2012) (“[L]oan originators and appraisers . . . struggle with topics such as HUD’s distinction between a ‘secondary unit’ and an ADU, and whether the income from rent can be included in qualifying the borrower for lending.”).

²⁵⁴ It is also suggested that by maintaining an owner-occupancy requirement, the development community has been excluded from the ADU market which may explain the commercial real estate market and lending community’s unfamiliarity with the potential financial benefits. See generally Brown and Watkins, *supra* note 253 (discussing how rarity of ADUs contributes to “spectacular variations in appraised values”).

²⁵⁵ Contrary to this claim, an article on the appraisal of ADUs asserts that “[t]he potential to create legitimate income from rent is a crucial, and nearly defining, part of the ADU concept.” Brown and Witkins, *supra* note 253.

²⁵⁶ Roundtable participants generally agreed that prefabricated construction and units near universities are the most likely to recoup the initial investment through rental income.

2. *Non-Financial Concerns*

a. **Neighborhood Opposition**

Seattle, the only city studied that already has extensive micro-unit development, has seen significant neighborhood opposition to micro-units. The opposition stems, at least in part, from concerns that a significant number of micro-units will change the character of a neighborhood.²⁵⁷ Further, because Seattle does not have a parking requirement in many districts where micro-unit development is being considered, neighbors have voiced concerns that higher density development will bring fierce competition for on-street parking spaces.²⁵⁸ Those fears have led to calls for either a moratorium on micro-unit development until further study reveals the effects such units have on their neighborhoods, or a cap on the total number of units in a neighborhood.²⁵⁹ In response, some council members have called for a review of the rules governing micro-units.²⁶⁰

In addition to this neighborhood opposition, individuals in Seattle question whether the micro-units are a realistic solution for affordable housing needs. At \$500 - \$700 per month, the rental prices are not low enough to provide housing for the single, low-income populations in need.

²⁵⁷The Transportation Committee of the City Council held a public meeting on micro-units in April 2013 to hear neighborhood comments and suggestions Transportation Committee Micro-Housing Brown Bag, Apr. 18, 2013, 11:30 a.m. – 1:30 p.m.

²⁵⁸Proponents respond that the targeted residents do not own private vehicles and will instead rely on public transit. Jim Potter, of Kauri Investments, “claims only about 10 percent of his tenants typically have cars.” Dolan, *supra* note 145. One micro-unit resident said that the dedicated spots at her development are never filled and observed that for many young urban residents, “the cost of owning and operating a car is more prohibitive than the lack of parking.” Thompson, *supra* note 63.

²⁵⁹Thompson, *supra* note 148.

²⁶⁰See Nick Licata, Op-Ed., *City Needs Better Rules for Micro Housing*, SEATTLE DAILY J. OF COM. (Apr. 22, 2013), <http://www.djc.com/news/op/12052145.html> (“I believe the Council is doing the right thing by reviewing the rules and regulations that govern the permitting of micro-housing. I expect that our work will be completed in the next months, which should result in dramatically altering the process for permitting micro-units and for regulating the size of the units.”). The Seattle Times endorsed this effort, encouraging “policymakers to take a breath and consider the impact of micro-housing.” Editorial, *Seattle Should Impose Controls on “aPodments” and Conduct Larger Housing Review*, SEATTLE TIMES, Apr. 29, 2013.

According to roundtable participants, there has been no such opposition to the accessory dwelling units developed in recent years in Seattle (although far fewer legal ADUs than micro-units have been developed). In Austin there is some neighborhood opposition to detached ADUs from existing homeowners worried about the effects of increased density or concerned that ADUs will cause gentrification that will price them out of the neighborhood.²⁶¹

b. Lack of Market Demand (Perceived or Real)

In some of our study cities, roundtable participants questioned whether there is a sufficient demand for micro-units designed exclusively for single adults. In Austin and Washington, D.C. participants emphasized that there are a growing number of families living in the city and expressed concern that compact units do not serve this critical housing need and might direct attention away from other housing needs. One participant noted that these units do not provide the flexibility needed to serve changing household compositions, unlike three bedroom or larger apartments, which could serve a family or multiple singles. However, at least one developer of micro-units has designed its buildings to allow changes in unit configuration to accommodating changing household sizes.²⁶² In addition, some participants argued that compact units attractive to single young professionals might reduce the demand for two or three bedroom apartment shares among this population, potentially reducing the cost of these larger apartments for families.

²⁶¹Austin Meeting. Participants noted that in some neighborhoods duplexes can be built on previously single-family lots. These duplexes, which are often significantly larger than the combination of a single-family home and an ADU would be, are often mistaken by area residents as ADUs. This confusion serves to increase opposition to ADUs.

²⁶²AMF Development, LLC, which is developing micro-units in Southern California through its “Young Urban Communities” projects is designing the micro-units to allow for reconfiguration into one and two-bedroom units. Press Release, AMF Development, LLC, AMF Development Unveils Micro One-Bedroom Units for Southern California (Mar. 20. 2013) (on file with author).

Roundtable participants in Washington, D.C. debated the extent of the “hidden” market demand for micro-units. While the presence of illegal basement conversions may point to latent demand, developers are not taking advantage of the current minimum unit size of 220 square feet; the smallest studios are approximately 380 square feet. Roundtable attendees did note that newly constructed units in the city have grown smaller by about 20 percent in recent years.

Sidebar: Overview of Design and Construction Requirements under Accessibility Laws²⁶³

It is beyond the scope of this White Paper to analyze how applicable federal, state, or local accessibility laws for individuals with disabilities would affect the design and construction of compact units. Whether and which accessibility laws apply will depend upon a number of factors, including the ownership of a development, the sources of funding, whether the development includes a place of public accommodation, the number of units, and whether the building contains an elevator. These laws will typically not apply to accessory dwelling units built on single-family properties. However, because these units may be built for older individuals, architects often design them to have universal design features that render them more accessible.

Although the specific technical requirements of these laws differ, the Fair Housing Act, Americans with Disabilities Act and 2009 International Building Code focus largely on the following issues:

1. Accessible routes to connect accessible units to building entrances, transportation, parking, public streets, and other accessible spaces²⁶⁴
2. Accessible entrances and usable doorways in public and common use areas²⁶⁵
3. Accessible and usable public and common use areas²⁶⁶
4. Accessible routes of at least 36” within any dwelling spaces, and requirements for level changes, slope, and thresholds²⁶⁷
5. Light switches, electrical outlets, thermostats, and other environmental controls located in an accessible location²⁶⁸
6. Accessible kitchen work space and clearance between countertops, appliances and walls²⁶⁹

²⁶³The authors thank Jesse Meshkov, NYU Law '06, for her excellent work researching and drafting this section and the related appendix. A more detailed discussion of these accessibility laws can be found in Appendix D.

²⁶⁴See DEP'T OF HOUS. AND URBAN DEV., FAIR HOUSING ACT DESIGN MANUAL pt. II ch. 1 (1998) [hereinafter F.H.A. Manual]; 36 C.F.R. § 1191, app. B 206.2, app. D 809.2; INT'L BLDG. CODE § 1104 and s1107.4; INT'L CODE COUNCIL, AMERICAN NATIONAL STANDARD § 402, ch. 10 (2004).

²⁶⁵See F.H.A. Manual, *supra* note 264, at pt. II, chs. 1, 3; 36 C.F.R. § 1191, app. B 206, app. D 404; INT'L BLDG. CODE § 1105; INT'L CODE COUNCIL, AMERICAN NATIONAL STANDARD § 404, ch. 10 (2004).

²⁶⁶See F.H.A. Manual, *supra* note 264, at pt. II, ch. 2; INT'L BLDG. CODE § 1107.3.

²⁶⁷See F.H.A. Manual, *supra* note 264, at pt. II, ch. 4; 36 C.F.R. § 1191, app. D 809; INT'L BLDG. CODE § 1107; INT'L CODE COUNCIL, AMERICAN NATIONAL STANDARD chs. 4, 10 (2004).

²⁶⁸See F.H.A. Manual, *supra* note 264, at pt. II, ch. 5; INT'L CODE COUNCIL, AMERICAN NATIONAL STANDARD ch. 10 (2004).

²⁶⁹See F.H.A. Manual, *supra* note 264, at pt. II, ch. 7; 36 C.F.R. § 1191, app. D 804; INT'L CODE COUNCIL, AMERICAN NATIONAL STANDARD ch. 10 (2004).

7. Accessible bathrooms, with walls reinforced for grab bars clearance for door swing and appliances, and requirements for appliances and fixtures²⁷⁰
8. Requirements for accessible parking spaces and an accessible route from parking to accessible units²⁷¹

Part IV. Conclusion and Future Research Questions

A. Summary of Key Findings and Recommendations

Our review of prior reports and articles on compact units, our regulatory analysis, and our roundtable discussions revealed several key themes. First, regulations in these cities may stifle both micro-unit and ADU developments. With the exception of New York City, where the minimum unit size is 400 square feet, the minimum permitted unit size in the cities we studied—the 220 square feet minimum in the model international building code—is not a significant impediment, but other regulations are. Density regulations that limit the number of units allowed per lot, as in New York, can render it impossible to add enough units to make a micro-unit development profitable, and should be reconsidered in light of shrinking household sizes. Parking requirements can substantially limit the viability of both forms of compact housing. These requirements drive up the costs of developing micro-units and make it impossible for some homeowners to fit an ADU on their lot. Cities that wish to enable or encourage greater development of both forms of compact units should concentrate on reducing parking requirements. One option would be to reduce parking requirements based on a development’s proximity to transit access, the neighborhood Walk Score, or some other relevant metric.

Height and setback regulations may create difficulties for developers seeking to build cost-effective micro-units. These regulations may generate architectural challenges, such as de-

²⁷⁰See F.H.A. Manual, *supra* note 264, at pt. II, chs. 6, 7; 36 C.F.R. § 1191, app. D 603-610, 809.4; INT’L CODE COUNCIL, AMERICAN NATIONAL STANDARD ch. 10 (2004).

²⁷¹See F.H.A. Manual, *supra* note 264, at pt. II, ch. 2; 36 C.F.R. § 1191, app. B 208, Table 208.2, app. D 502; INT’L CODE COUNCIL, AMERICAN NATIONAL STANDARD (2004). s502.

signing micro-unit building layouts that provide sufficient light and air to all units. Municipalities interested in encouraging the development of compact units will need to further analyze these potential effects and weigh the benefits of less-expensive development against the ends served by these regulations. In addition, regulations that only allow ADUs on lots of a certain size or that require an ADU be no larger than a certain percentage of the primary unit can either substantially reduce the number of lots that could add an ADU or permit only ADUs that would be too small to make development worthwhile.

Second, the inability to rely upon future rental income for the appraisal and financing of an ADU can create challenges for homeowners. Owner-occupancy requirements also can make it difficult for homeowners to obtain financing for the construction of ADUs.²⁷² Lenders may fear that, if they foreclose on the property, they will be unable to rent both the primary residence and the ADU. Roundtable participants noted that in some cities both units of a duplex developed on a site may be rented, but if a primary residence and ADU are placed on a similar site, one must be occupied by the property owner. Jurisdictions should study whether owner-occupancy requirements serve their intended goals and whether other regulations might serve the same purposes, but more easily allow ADU development.

Third, more research is necessary to evaluate the effect of ADUs on their neighborhoods. The existing research is sparse, but suggests that ADUs have less of an effect on neighborhoods than critics expect. A survey in the Bay Area found that 62 percent of respondents who did not

²⁷²At least one large city with substantial ADU development, Portland, Oregon, does not require owner-occupancy of either unit on a property with an ADU. City of Portland, Bureau of Development Services, “Notice of a Type II Decision on a Proposal in Your Neighborhood, Case File No. LU 08-156155 AD,” (Oct. 12, 2008) 5 available at <http://www.portlandonline.com/bds/index.cfm?a=214639&c=49783>; see also Martin John Brown and Taylor Watkins, *Understanding and Appraising Properties with Accessory Dwelling Units*, *The Appraisal Journal* (Fall 2012) (“Portland . . . has a relatively high number of permitted ADUs, and allows both primary and accessory units to be rented.”).

themselves have a secondary unit reported at least one unit on their block.²⁷³ Two-thirds of this group reported no negative impact from the ADU(s). Those who did report a negative impact most frequently mentioned increased on-street parking congestion. Jurisdictions that relatively freely allow the development of ADUs typically have seen rather modest and incremental development. In Santa Cruz and Seattle approximately 40-50 permits are granted annually for ADUs and there has been little neighborhood opposition. As one roundtable participant suggested, cities can draw upon these experiences in crafting a campaign to disprove the “parade of horrors” that some fear ADUs will bring in their wake.

Fourth, amnesty programs can encourage homeowners to legalize units by waiving fines for a set period of time or granting leeway on minor code violations that are impractical for existing units to remedy but that do not present safety concerns. A roundtable participant in Seattle noted that there have been some successful amnesty programs in smaller cities, but that individuals often do not see the value in legalization, because it will impose costs for updating electricity and making other changes to bring the unit up to code. However, a legalized ADU—depending on the appraisal process—may add economic value by increasing a unit’s resale value.²⁷⁴ Efforts to encourage the legalization of existing units might be strengthened through a campaign to provide information regarding the benefits of a legal unit or by waiving penalties or restrictions on certain non-complying features that do not raise health or safety concerns. Such waivers might be coupled with a requirement that units be rented to individuals at certain income levels for a specified period of time.

²⁷³ Center for Community Innovation at the Institute of Urban and Regional Development, *Yes in My Backyard: Mobilizing the Market for Secondary Units* (2011), at 7.

²⁷⁴ An article in *The Appraisal Journal* concludes that “ADUs have legitimate income potential, and when income is the basis for valuation, perceptions of the value of these properties can change substantially.” Martin John Brown and Taylor Watkins, *Understanding and Appraising Properties with Accessory Dwelling Units*, *APPRAISAL J.* (Fall 2012).

Fifth, a number of roundtable participants emphasized that ADUs, particularly those that are not added within an existing structure, can prove costly for a homeowner. Homeowners will often be unable to pay off the costs of development through the rent charged to a prospective tenant (of course, there may be non-monetary reasons that adding an ADU would still be worthwhile for the household). A jurisdiction that seeks to encourage ADU development therefore should evaluate whether regulations allow for them to be developed in a cost-effective manner. Jurisdictions might also consider establishing a revolving loan fund or some other form of financing assistance. If the development of ADUs is seen as means of allowing older homeowners to remain in place, communities should consider the contribution this might make to a neighborhood as well as the potential for saving the community the costs of providing care through nursing homes or other services. These costs might offset the cost of a limited subsidy for ADU development.

B. Areas for Future Research

The development of more significant numbers of micro-units and accessory dwelling units in cities will enable empirical study of their effects on housing affordability, neighborhood character, the energy consumption of residents, and the cities in which they are located. Potential research questions include:

1. Micro-units

- a. **Affordability/Land Prices**
 - How do the rental prices for micro-units compare to rents paid for studio apartments, shared housing, or illegal units in similar locations?
 - What effects do micro-units have on land prices?
 - What effects do micro-unit developments have on the demand for 2-4 bedroom units by groups of single adults?

- What effects do micro-unit developments have on the demolition and conversion of existing SROs?
- b. Neighborhood
- How do micro-units affect mass transit and car share usage?
 - How do micro-units affect retail sales in the types of businesses that develop in the neighborhood?
 - What effects do micro-units have on the demographic composition of neighborhoods in which they are developed?
 - What effects do micro-units have on complaints that might be related to increases in density (crime, noise, parking)?
- c. Energy Consumption
- Do micro-unit residents use or own cars less than they did prior to moving into their new unit?
 - How does the energy use per person in a micro-unit differ from other housing types or from what the same number of individuals would use in a shared unit?
- d. City-wide effects
- Do the demographics of in- or out-migrants from the city change following the introduction of micro-units?
 - Does the availability of micro-units have a positive effect on cities trying to attract larger employers concerned about residential opportunities for employees?

2. *Accessory Dwelling Units*

- a. Affordability/Land Prices
- How do the rental prices for ADUs compare to rents paid for studio apartments, shared housing, or illegal units in similar locations?
 - What effects do ADUs have on house and land prices in areas where they are allowed or in subdivisions—such as the Stapleton neighborhood in Denver—where they are an option at construction?
 - Do requirements that ADU design and appearance match that of the primary dwelling on a property affect construction costs or the potential for pre-fabrication of units?
- b. Neighborhood
- How do ADUs affect mass transit and car share usage?
 - What effects do ADUs have on the demographic composition of neighborhoods in which they are developed?

- What effects do ADUs have on complaints that might be related to increases in density (crime, noise, parking)?
- c. Energy Consumption
- How does the energy use per person in an ADU compare to energy use in other housing types?
- d. Other
- In neighborhoods that allow ADUs, do senior citizens remain in their homes longer than comparable individuals in neighborhoods that do not allow ADUs?
 - How satisfied are the owners of ADUs and the tenants of ADUs with their living arrangement?
 - What are actual construction costs for various types of ADUs?
 - Given costs and expected rents, can ADUs return a profit for homeowners?
 - How are most ADUs financed?
 - To what extent does the exclusion of potential rental income impede ADU financing?
 - What obstacles, if any, do appraisals pose for financing?

More generally, the increasing mismatch between housing needs and the size and configuration of rental units, and the accompanying demand for ADUs and micro-units, suggests that a great deal of additional work is needed about both the legalization of existing illegal units, and about models for developing a new types of housing for single adults. While many cities worked hard to eliminate single room occupancy hotels that were a blight on their neighborhoods, recent years have shown the need for livable, safe, and affordable units for single adults that do not detract from the neighborhood. While articulating the full scope of that research agenda is beyond the scope of this project, our work on compact units makes clear that developing models for bringing existing substandard illegal units into the mainstream housing market, and developing models for new units, is critical.

C. Conclusion

A recently released report by the Bipartisan Housing Commission identified local restrictions on the development of accessory apartments as regulatory barriers that “increase the cost of housing and inhibit the development of new affordable rental housing.”²⁷⁵ A similar assertion might be made with regards to micro-units. Zoning regulations, building and housing codes, and other municipal ordinances serve important interests. However, as building technologies and the urban environment change, cities must be willing to carefully evaluate these regulations and consider the potential they have to prevent or limit ADUs or micro-units, and thereby potentially drive up housing costs, reduce housing options for new households, encourage sprawl, and exclude new residents.

Municipalities that seek to encourage the development of innovative forms of housing should consider micro-units and ADUs in conjunction. Although often considered in isolation, both unit types have the potential to further urban infill goals, provide housing more appropriate for changing household compositions, reduce individual energy consumption, and deliver new sources of affordable housing. While not a panacea, with careful analysis and implementation these more compact housing units can prove to be an important element of future housing policy in a range of cities.

²⁷⁵ BIPARTISAN POLICY CTR., ECON. POLICY PROGRAM, HOUS. COMM’N, HOUSING AMERICA’S FUTURE: NEW DIRECTIONS FOR NATIONAL POLICY 84 (2013).

Appendices

- A. Participants in Furman Center Roundtables on Compact Housing Units
- B. Regulatory Research Methodology
- C. Demographic Research Methodology and Data Sources
- D. Spreadsheets Summarizing Regulatory Research for Each City (separate documents)

Appendix A. Participants in Furman Center Roundtables on Compact Housing Units

Seattle, Washington

Alexander Mackie	Perkins Coie
Carl Colson	Independent Architect
Emory Baldwin	FabCab
Arthur Sullivan	ARCH—A Regional Coalition for Housing
Sally Clark	Seattle City Council
Brianna Holan	LMN Architects
Gary Danklefsen	Kauri Investments
Mike Podowski	Seattle Department of Planning & Development
Steve O'Connor	Runstad Center for Real Estate Studies
John Infranca	Furman Center for Real Estate & Urban Policy
Ben Gross	Furman Center for Real Estate & Urban Policy
JT Cooke	Perkins Coie
Sue Enger	Municipal Research Services Center

Austin, Texas

Steven Moore	University of Texas School of Architecture
Michael Gatto	Austin Community Design and Development Center
Sam Gelfand	Austin Community Design and Development Center
Steven Yarak	Ibex Strategies
JoEllen Smith	DMA Companies
Erica Leak	Austin Planning and Development Review Department
Heather Way	University of Texas School of Law
Tommy Tucker	Catellus Development
Mallory Owen	University of Texas School of Law
Tiye Felix	University of Texas School of Law
Josiah Madar	Furman Center for Real Estate & Urban Policy
John Infranca	Furman Center for Real Estate & Urban Policy

Denver, Colorado

Ed Ziegler	Sturm College of Law, University of Denver
Tina Axelrad	Denver Department of City Planning
Susan Daggett	Rocky Mountain Land Use Institute
Niccolo Casewit	Environmental Productions
Lisa Bingham	Rocky Mountain Land Use Institute
Daniel Piatkowski	College of Architecture and Planning, Colorado-Denver
Matt Hoffman	Enterprise Community Partners, Inc
Melinda Pollack	Enterprise Community Partners, Inc
Don Elliot	Clarion Associates
Josiah Madar	Furman Center for Real Estate & Urban Policy
John Infranca	Furman Center for Real Estate & Urban Policy

Washington, D.C.

Tom Lenar	R2L: Architects
Kim Elliot	DC Office of Planning
George Rothman	Manna, Inc.
Rabbiah Sabbakhan	DC Dept. of Consumer and Regulatory Affairs
Nicholas Majett	DC Dept. of Consumer and Regulatory Affairs
Matt LeGrant	DC Dept. of Consumer and Regulatory Affairs
Matt Hoffman	Enterprise Community Partners, Inc
Art Rodgers	DC Office of Planning
Sarah Watson	Citizen's Housing and Planning Council
John Infranca	Furman Center for Real Estate & Urban Policy
Ben Gross	Furman Center for Real Estate & Urban Policy

Other individuals consulted

Kevin Casey	New Avenue Homes
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The following people provided critical assistance in preparing for, and convening the roundtables:

Research

Molly Wolfe
Daniel Barron
Stephen Ballentine
Rebecca Disbrow
Stephen Flug
Jesse Meshkov
Roman Pazuniak

Data

Moneeza Maredia
Conor Muldoon

Planning

Sara Williams

Draft Comments

Heather Way
Don Elliott
Michael Gatto
Susan Thering

Meeting Space

Perkins Coie Seattle Office
Rocky Mountain Land Use Institute
Austin Community Design and Development Center
Urban Institute

Appendix B. Regulatory Research Methodology

Our research focused on documenting and evaluating existing regulations – including zoning, building codes, housing occupancy codes, permitting procedures, and the land use and building approval process – that might affect the development of both micro-units and accessory dwelling units. We first identified a list of the specific regulatory questions and issues to study in each city. Our team then assembled spreadsheets that briefly summarize and cite the relevant regulations.

Our research team first identified the location of all relevant regulations, using the websites for the city government, the Westlaw and Lexis-Nexis legal databases, law libraries, and third-party websites that provide access to relevant regulations. For resources that were searchable they searched for relevant key words to identify where the regulation or regulations addressing a specific issue could be found. They next carefully reviewed all of the relevant sections of each code to look for additional provisions relevant to the already identified questions and issues or other factors that might affect development of compact units.

Appendix C. Demographics Research Methodology and Data Sources

This appendix outlines specific indicators and data sources we consulted in selecting our study cities. These data sources may be useful to other jurisdictions studying the potential for compact units.

Data regarding the cost and availability of housing as well as household size and composition were used to determine the need for affordable housing and the extent to which the study cities contained household types most likely to consider living in a compact unit. Demographic data was drawn primarily from the U.S. Census Bureau’s Decennial Census and American Community Survey. Most information was readily obtained through summary tables including the General Housing Characteristics, General Population and Housing Characteristics, Selected Housing Characteristics, and Selected Social Characteristics. All ACS data was obtained from the most recent 1-year estimates, which are recommended for large population groups and when currency is important. This data can be accessed through American Fact Finder on the U.S. Census website, accessible at: www.factfinder2.census.gov.

Cost and Availability of Housing

Cities with high housing costs, low vacancy rates, and residents who are severely rent-burdened are more likely to see demand for more compact housing units that rent at lower rates than other available housing. ADUs also may be desirable in cities with a high percentage of homeowners who are struggling to make house payments or who spend a high percentage of their income on housing costs. We considered data including the rental vacancy rate, the Cost of Housing Index, the percentage of renters and homeowners who are rent burdened (spending more than 30% of their income on housing costs), and the number of housing units added to the market in relation to population growth.

Household Sizes and Types

Household size and type, as well as the size of exiting units relative to the household size, can indicate a locality's potential receptiveness to compact units. Depending on where they are located and how they are designed, compact units may be most attractive to specific age groups and household types. A city with a high percentage of single-person households or non-related, non-partner adults sharing units may be more receptive to micro-units. Accessory dwelling units, which are typically roomier than micro-units, are often targeted at senior citizens seeking proximity to adult children or care-givers.

Accordingly, we examined indicators that included the percentage of the population aged 20-34 and over 65, the percentage of households that are single or married without children, and the percentage of total households that are made up of unrelated non-partner adults sharing a unit.

Resident Lifestyle

The occupations and lifestyle habits of residents can provide insight into the potential demand for micro-units and ADUs. Existing micro-units are being developed in dense, transit-rich areas, often where parking is not available. As such, the availability and use of alternative transportation and the percentage of the population that currently lacks access to a vehicle may aid in estimating the potential market for micro-units that do not include parking.

Indicators Considered

We analyzed the following data when preparing the analysis in Part I of this report.

Cost and Availability of Housing

Population Size:

Population

U.S. Census Bureau, 2010 Census: Profile of General Population and Housing Characteristics: 2010 Demographic Profile Data

Population Change 2000-2010

U.S. Census Bureau, 2010 Census: Profile of General Population and Housing Characteristics: 2010 Demographic Profile Data
= ((Population 2010 – Population 2000) / Population 2000)

Number of Households

2011 ACS 1 year estimates - Selected Social Characteristics in the US

Number of Total Housing Units in the City

SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Housing Unit Increase, 2000-2011

((Number of Total Housing Units, 2011) – (Number of Total Housing Units, 2000)) / (Number of Total Housing Units 2000)

Number of Housing Units by Tenure:

Number of Total Housing Units in the City

SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year ((Number of Total Housing Units, 2010) – (Number of Total Housing Units, 2000)) / (Number of Total Housing Units 2000)

Percent of Housing Units Renter Occupied
SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Percent of Housing Units Owner Occupied
SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Number of Housing Units by Vacancy Rate:

Rental Vacancy Rate 2010
SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Rental Vacancy Rate 2000
U.S. Census Bureau, Census 2000 Summary File 1

Percent in Same Residence 1 Year Earlier
Calculation; PERCENT OF PEOPLE 1 YEAR AND OVER WHO LIVED IN A DIFFERENT HOUSE IN EITHER THE U.S. OR PUERTO RICO 1 YEAR AGO - State -- Place and (in selected states) County Subdivision, 2011 ACS 1-year estimates

Cost of Housing:

Cost of Housing Index (ACCRA)
2012 Statistical Abstract: The National Data Book - Cost of Living Index-- selected Urban areas (from ACCRA)

Median House Value
SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Median House Value in 2000
U.S. Census Bureau, 2000 American Community Survey 1-Year Estimates, Selected Housing Characteristics

House Value Increase 2000-2010
 $((\text{Median House Value, 2010}) - (\text{Median House Value, 2000})) / (\text{Median House Value 2000})$

Median Gross Rent
SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Median Gross Rent 2000
U.S. Census Bureau, 2000 American Community Survey 1-Year Estimates, Selected Housing Characteristics

Median Gross Rent Increase 2000-2010
 $((\text{Median Gross Rent, 2010}) - (\text{Median Gross Rent, 2000})) / (\text{Median Gross Rent 2000})$

Rent Burden:

Percent of Renters Who Spent More than 25% of their Income on Housing
Calculation; SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Percent of Renters Who Spent More than 35% of their Income on Housing
SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Percent of Renters Who Spent More than 35% of their Income on Housing 2000
2000 Census Summary File 3: Profile of Selected Housing Characteristics: Gross Rent as a Percentage of Household income in 1999: 35% or More

Increase in Percentage of Renters Spending More than 35% on Housing, 2000-2010
((Percentage of Renters Spending More than 35% on Housing, 2010) – (Percentage of Renters Spending More than 35% on Housing, 2000)) / (Percentage of Renters Spending More than 35% on Housing, 2000)

Percent of Owners with Mortgages Who Spent More than 30% of their Income on Housing

Calculation; SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Percent of Owners Without Mortgages Who Spent More than 30% of their Income on Housing

Calculation; SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Percent of Renters Who Spent More than 30% on Housing

Calculation; SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Income & Poverty:

Median Household Income in 2010

SELECTED ECONOMIC CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Percent with Income Below \$15,000

SELECTED ECONOMIC CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Percent of the Population Below the Poverty Level

POVERTY STATUS IN THE PAST 12 MONTHS 2011 American Community Survey 1-Year Estimates

Age and Size of Housing Stock:

Percent of Housing Stock Built After 1990

SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Percent of Housing Stock that are Single-Unit Structures

Calculation; UNITS IN STRUCTURE 2011 ACS 1-Year Estimates

Percent of Housing Stock with 10+ Units

SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Median # of Rooms / Unit

SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates Percent of Housing Stock with No Bedroom

SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates Percent of Housing Stock with 1 Bedrooms

SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates

Household Sizes and Types

Number & Size of Households:

Number of Households

2011 ACS 1 year estimates - Selected Social Characteristics in the US

Average Household Size

2011 ACS 1 year estimates - Selected Social Characteristics in the US

Average Household Size in 2000

2000 Census Demographic Profile Data

Average Family Size

2011 ACS 1 year estimates - Selected Social Characteristics in the US

Households Makeup:

Percent of Households Made Up of the Householder Living Alone

SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES 2011
American Community Survey
1-Year Estimates

Percent of Households Made Up of the Householder Living Alone, 2000

U.S. Census Bureau, 2000 Census: Profile of General Population and Housing
Characteristics: 2000, 2010 Demographic Profile Data

Percent of Households Made Up of the Householder Living Alone, 1990

U.S. Census Bureau, 2010 Census: Profile of General Population and Housing
Characteristics: 1990, 1990 Demographic Profile Data

Increase in Percentage of Households Made Up of Householder Living Alone, 2000-2010

$((\text{Percentage of Households Made Up of Householder Living Alone, 2010}) -$
 $(\text{Percentage of Households Made Up of Householder Living Alone, 2000})) /$
 $(\text{Percentage of Households Made Up of Householder Living Alone, 2000})$

Percent of Households Made up of Nuclear Families (“Husband-Wife Family”)

SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES 2011
American Community Survey 1-Year Estimates: Family Households: Husband-
Wife Family: With Own Children Under 18 Years

Percent of Households Made up of a Married Couple Without Children

SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES 2011
American Community Survey 1-Year Estimates: Family Households: Husband-
Wife Family

SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES 2011
American Community Survey 1-Year Estimates: Family Households: Husband-
Wife Family: With Own Children Under 18 Years

$= (\text{Husband-Wife Family}) - (\text{With Own Children Under 18})$

Percent of Households Made Up of Unrelated, Non-Partner, Adults Sharing

Calculation; SELECTED SOCIAL CHARACTERISTICS IN THE UNITED
STATES 2011 American Community Survey 1-Year Estimates: Relationship: In
Households: Nonrelatives - Nonrelatives: Unmarried partner = $(\text{Nonrelatives}) -$
 $(\text{Nonrelatives: Unmarried Partner})$

Percent of the Population Made Up of College Students Not in University Housing

U.S. Census Bureau, 2010 Census - Group Quarters Population by Sex, Age, and
Type of Group Quarters: 2010

Percent of Households Made Up of a Single Parent

Calculation; SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES 2011 American Community Survey 1-Year Estimates: Male householder, no wife present, family with own children under 18 and female householder, no husband present, family with own children under 18

Resident Lifestyles

Resident Age:

Median Resident Age

ACS DEMOGRAPHIC AND HOUSING ESTIMATES 2011 American Community Survey 1-Year Estimates: Estimate; SEX AND AGE - Median age (years)

Percent of Population 20-34

ACS DEMOGRAPHIC AND HOUSING ESTIMATES 2011 American Community Survey 1-Year Estimates: Percent; SEX AND AGE - 20 to 34 years

Percent of Population Over 65

ACS DEMOGRAPHIC AND HOUSING ESTIMATES 2011 American Community Survey 1-Year Estimates: Percent; SEX AND AGE - 65 years and over

Working From Home:

Percent of the Population Who Work From Home 2010

SELECTED ECONOMIC CHARACTERISTICS 2011 American Community Survey 1-Year Estimates: Percent; COMMUTING TO WORK - Worked at home

Percent of the Population Who Work From Home 2000

U.S. Census Bureau, 2000 American Community Survey 1 Year Estimates

Commuting:

Percent of the Population with No Vehicle Available

SELECTED HOUSING CHARACTERISTICS 2011 American Community Survey 1-Year Estimates: Percent; VEHICLES AVAILABLE - No vehicles available

Percent of the Population Who Drive to Work Alone

SELECTED ECONOMIC CHARACTERISTICS 2011 American Community Survey 1-Year Estimates: Percent; COMMUTING TO WORK - Car, truck, or van -- drove alone

Percent of the Population Who Commute By Transit, Carpool, Bike, or Walk

Calculation; SELECTED ECONOMIC CHARACTERISTICS 2011 American Community Survey 1-Year Estimates: Sum of Percent; COMMUTING TO WORK - Car, truck, or van -- carpooled, Percent; COMMUTING TO WORK - Public transportation (excluding taxicab), Percent; COMMUTING TO WORK - Walked

Percent of the Population Who Commute By Transit, Carpool, Bike, or Walk 2000

U.S. Census Bureau, 2000 American Community Survey 1 Year Estimates