A resurgence in urban living?

Trends in residential location patterns of young and older adults since 2000

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Abstract

After decades of suburban-led metropolitan growth, some have heralded a resurgence of urban living in the U.S., particularly among young adults. So are Americans really turning their backs on suburbs in favor of more urban lifestyles? If so, what is the scope and scale of this urban resurgence? To answer these questions, we develop a typology of seven neighborhood types to analyze the residential location patterns of young and older U.S. adults from 2000 to 2011-15. Census and national travel survey data reveal that, rather than abandoning suburbs *en masse*, suburban population growth continues to far outpace that in urban neighborhoods. Although young adults are more likely than older adults to live in urban neighborhoods, recent urban population growth is neither associated with suburban decline, nor being led by young adults. So while planners can celebrate the revival of many urban neighborhoods in the 2000s, the era of suburban expansion appears far from over, at least in the U.S. Significant recent population growth in the newest, least dense suburban neighborhoods suggests that greenfield development remains the primary means to increase American housing supply. Shifting this metropolitan growth from the suburban fringe would likely require substantially expanding housing supply in already built-up areas, and bringing urban amenities and sustainability improvements to established inner-ring suburbs.

Keywords

Urban living, young adults, residential location

Changes in residential location patterns across diverse urban and suburban neighborhoods

For much of the second half of the 20th century, urban planners both facilitated the growth and expansion of suburbs, and lamented the concurrent erosion of population and economic fortunes of central cities. But recent years have witnessed a reversal of fortune for many United States central cities, some of which have been growing faster than their suburbs for the first time since the 1920s (Frey, 2014) . Some observers assert that these trends can be explained—at least in part—by a "Back-to-the-City Movement," led by young adults drawn to cosmopolitan metropolitan areas (Baum-Snow & Hartley, 2016; Cortright, 2014; Couture & Handbury, 2015; Moos, 2016). Others acknowledge the urban resurgence (Belden Russonello & Stewart, 2011, 2013; Nielsen, 2014; Rockefeller Foundation & Transportation for America, 2014), but are skeptical that young adults are abandoning suburbs for urban living (Cox, 2014; Kolko, 2016b; Myers, 2016).

To shed light on this question of urban versus suburban living and preferences, particularly among young adults, we developed a unique, fine-grained typology of United States neighborhoods based on land use and transportation system characteristics to examine where people live and how this is changing over time. We first examine differences in the residential location patterns of young and older adults and then turn to changes in residential population across neighborhood types between 2000 and 2011-15, looking for evidence of a young adult-led back-to-the-city movement.

We find that after many decades of post-World-War II urban decline, the population of both young and older adults in urban neighborhoods increased between 2000 and 2011-15. Despite this urbanization trend, however, we find no evidence that either young or older adults have abandoned suburban neighborhoods for urban living. Young adults were indeed more

likely than older adults to live in urban neighborhoods. But between 2000 and 2011-15 both the total number and the growth of young and older adults living in suburban neighborhoods far exceeded those living in urban neighborhoods. Finally, we find that the differences in the urban versus suburban residential location patterns of young and older adults diminished over time, suggesting that youth are not leading a return to urban living.

Given that suburban growth still predominates metropolitan development, planners and public officials in the U.S. cannot count on an urban revival to relieve them of the many challenges posed by sprawling suburban development. That the largest share of population growth since 2000 is in the newest, lowest density, and most far-flung suburban neighborhoods suggests that such greenfield developments—the bane of many environmentalists—remain the primary means by which U.S. cities increase housing supply (Urban Land Institute, 2016). Shifting from this still-predominant develop-on-the-metropolitan-fringe model will likely require both a breakthrough in constraints on expanding housing supply in already built-up areas, as well as planning to bring urban amenities and sustainability improvements to established and mix-use suburbs (Annenberg & Kung, 2018; Jackson, 2016; Mills, 2005).

Following this introduction, we review research on explanations for recent changes in residential location and conclude with a discussion of the residential location of young adults. We then present our research methods and findings, and conclude by analyzing their implications for policy, planning, and practice.

Evidence of a resurgence in city living

Despite early and ongoing attention to urban revitalization and residential moves from suburbs to central cities (Laska & Spain, 1980; South & Crowder, 1997), research shows that residential location patterns were largely consistent from the late 1940s into the 1990s – with

lower density suburbs expanding rapidly, often at the expense of denser central cities (Glaeser & Shapiro, 2003; Kasarda, Appold, Sweeney, & Sieff, 1997). However, a resurgence of city living in the 2000s marked a dramatic turnaround after decades of post-World War II decline (Baum-Snow & Hartley, 2016; Couture & Handbury, 2015; Ehrenhalt, 2013; Glaeser & Gottlieb, 2006; Glaeser & Shapiro, 2003). While this urban renaissance is not universal, most large U.S. central cities recently added residents, and in some major metropolitan areas central-city population growth outpaced that of the suburbs (Frey, 2014, 2016). Concurrent with these larger trends is evidence of gentrification in central-city neighborhoods, typically measured as increases in the income, education, and/or housing costs in previously low-income, urban neighborhoods (Ellen & Ding, 2016; Maciag, 2015). Some observers attribute this urban resurgence to waxing disenchantment with suburban living, particularly among young adults (Nielsen, 2014); others argue that central-city revitalization is not evidence that suburbs or suburban growth are passé – even among youth (Couture & Handbury, 2015; Kolko, 2016a, 2016b; Landis, 2017).

Explanations for a resurgence in city living are varied, but are generally of four types: (1) the benefits of accessibility, (2) changing household demographics, (3) shifts in the composition of the population, and (4) a decline in social problems traditionally associated with central cities. We briefly discuss each of these factors and use them as the framework to examine whether young adults are leading a return to urban living. While isolating the independent effect of each is a challenge, their collective effect helps to explain current population dynamics and the extent to which urban area population growth might be expected to continue.

In the early part of the 20th century, academics described the spatial structure of cities as a function of the relationship between land use and distance from the central business district (Burgess, 1925; Hoyt, 1939). In this model, the demand for better, high-quality housing by

higher-income households pushed them away from both expensive central business and industrial districts and neighborhoods with aging, multi-family housing stock in favor of newer neighborhoods with larger housing units on the urban periphery. This classical urban location theory predicts that residents make residential location decisions based on the relative costs of land and travel to central-city jobs (Alonso, 1964). Suburbanization, therefore, can be explained by the preference of higher-income households for more land, the relative costs of which are cheaper in the urban periphery (Abler, Adams, & Gould, 1971).

Scholars generally agree that the growth in the number and size of central cities is due in large part to the *accessibility advantages* of dense, highly-agglomerated places (Glaeser, 2008). Some central cities have experienced significant changes in industrial structure, including an increase in knowledge-intensive industries that rely on personal interaction and the ready flow of information, both of which are facilitated in dense urban areas (Glaeser & Gottlieb, 2006). In terms of residential location, economic theory predicts that higher-income households will move into cities if the accessibility benefits of central-city living outweigh those of suburban living. There is increasing evidence that this is the case, at least for high-skilled workers attracted to the growing concentration of high-wage employment opportunities in cities such as Austin, Boston, San Francisco, and Seattle (Florida, 2009; Storper & Scott, 2009). Moreover, the advantages of agglomeration extend to consumption and, in particular, the presence, variety, and quality of consumer amenities (e.g. live performances, museums, diverse restaurants, etc.) in dense urban areas with the large markets to support them (Clark, Lloyd, Wong, & Jain, 2002; Glaeser & Gottlieb, 2006; Glaeser, Kolko, & Saiz, 2001; Lee, 2010).

Second, changing household *demographic* characteristics may contribute to shifts in residential location patterns. Starting as early as the 1960s and continuing today, there has been

a decrease in the percentage of married couples with children and a corresponding increase in both cohabiting couples and one-person households (Jacobsen, Mather, & Dupuis, 2012). Moreover, when they do occur, marriage and the average onset of childbearing take place later in life than previously (Fry, 2012, 2013; Furstenberg, Jr., 2010; Hymowitz, Carroll, Wilcox, & Kaye, 2013). Both of these trends potentially increase the number of households living in central-city neighborhoods, where land prices are high but much higher residential densities enable affordable rental housing and opportunities to forgo, or at least reduce, automobile ownership and use.

Third, a shift in the *composition* of the population may result in more central-city households absent any other economic or demographic change. As Figure 1 shows, certain population groups are more likely than others to live in urban areas. For example, recent immigrants are almost twice as likely to live in central-city neighborhoods compared to all adults. Many immigrants arrive in the United States through a process of chain migration in which prospective migrants learn about opportunities and receive aid from friends and relatives already living in the United States (Choldin, 1973). As part of this process, immigrants—particularly recent immigrants—tend to settle in ethnic neighborhoods where social networks of friends and relatives can aid them in the adjustment process (Logan, Zhang, & Alba, 2002). Depending on the magnitude, increased immigration may boost the central-city population even as more established immigrant households suburbanize (R. Sampson, 2017). Similarly, the Great Recession increased the number of individuals living in poverty who, like immigrants, are more likely to live in central cities. From 2000 to 2010, the number of families in poverty grew by 10.7 million and remains significantly higher today than in 2000 (U.S. Census Bureau, 2017).

[Figure 1 here]

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Finally, these trends coupled with other factors have helped to reduce some of the *social problems* traditionally associated with urban living and, in so doing, have made many central-city neighborhoods more attractive places to live. For example, there is a strong relationship between the presence of immigrants and lower crime rates, all things equal, since recent immigrants tend to commit fewer crimes than more established residents (Glaeser & Gottlieb, 2006; MacDonald, Hipp, & Gill, 2013; R. Sampson, 2017; R. J. Sampson, 2008). Rail transit investments and associated transit-oriented developments may create more attractive urban communities where residents can readily access both high-quality urban housing and opportunities to travel by means other than driving. Many of these transit-oriented developments have successfully encouraged an influx of new, higher-income residents to rail-adjacent neighborhoods, but in the process have raised concerns about gentrification and displacement (Grube-Cavers & Patterson, 2015; Kahn, 2007; Pollack, Bluestone, & Billingham, 2010).

As Figure 1 shows, young adults are one of the population groups more likely than older adults to live in central cities, a pattern that has endured over time. Young adults are more likely than older adults to live in smaller households and to be renters, characteristics congruent with the existing U.S. central-city housing stock. Many observers, however, now argue that youth are *increasingly likely* to live in cities (Gallagher, 2013; Nielsen, 2014), which portends that continued and growing preferences for urban living will persist. Many of the explanations reviewed above help to explain why this might be the case.

For example, the growth of knowledge industries rests largely on the human capital of its workforce and, in particular, the skills and creativity needed to develop new products and services (Moretti, 2012). Indeed, some cities attract a disproportionate share of young college-educated workers who find employment in these sectors and benefit from the knowledge

spillovers that take place in high-skill cities (Diamond, 2016; Glaeser, 1998; Peri, 2002). For example, Chen and Rosenthal (2008) find that young adults (20- to 35-year olds) are drawn to locations that also tend to be attractive to business; this is especially true for highly-educated workers. Moreover, while life cycle factors—such as getting married and having children—have long been found to prompt moves out of the city and into suburbs with larger homes, fenced yards, quiet streets, and good schools (South & Crowder, 1997), patterns today are changing. Young adults are taking longer to attain these and related markers of adulthood (Furstenberg, Jr., 2010; Settersten, Jr. & Ray, 2010). They are also taking longer to establish footholds in the labor market (Myers, 2016; Sum, Khatiwada, Trubskyy, & Ross, 2014), which again may prolong stays in urban neighborhoods. Finally, the young adult cohort grew during the 1990s and 2000s, a compositional change that contributed to an increase in the central-city population (Myers, 2016; Myers & Lee, 2016).

Young adults—living alone or as part of childless couples—have been an ongoing focus within the larger body of research on central-city living and gentrification (Bourne, 1993; Marcuse, 1985; Slater, 2004; Spain, 1992; Wulff & Lobo, 2009). With respect to recent trends, Moos (2016) finds an increase over time in the association between high-density living and the presence of young adults in Canadian metropolitan areas. Both Couture and Hanberry (2015) and Baum-Snow and Hartley (2016) show a growth in neighborhoods surrounding central business districts, spurred by the influx of young, college-educated professionals. These studies suggest that changing residential location patterns are motivated largely by a growing preference for consumption amenities, such as access to specialized retail, entertainment, and services, which for higher-income households can offset the negative effects of expensive urban home prices.

Most of the research cited here relies on simple, crude characterizations of urban and suburban neighborhoods, typically relying on United States Census data on urban and suburban counties (Henderson, 2015; Sturtevant & Jung, 2011), downtowns and downtown-adjacent neighborhoods only (Baum-Snow & Hartley, 2016; Couture & Handbury, 2015), or analyses of residential population densities without regard to land use mix or transportation system characteristics (Kolko, 2016b). But such characterizations tell us little about the neighborhood qualities – mixed-use, amenity-rich walkable neighborhoods with good transit service – thought by planners to attract young adults to urban living. For example, large portions of the "central city" of Los Angeles are comprised of quintessentially suburban developments in the far reaches of the San Fernando Valley, while much of "suburban" Santa Monica and West Hollywood are comprised of densely developed, mixed-use, walkable, transit-rich neighborhoods. As such, it is not always clear what is being measured and distinguished in studies that cannot meaningfully account for these differences (Forsyth, 2012) (redacted).

To address this weakness in the literature and gain a clearer picture of the kinds of neighborhoods that are gaining and losing residents, we characterized nearly every census tract in the United States based on a wide array of built environment and transportation system characteristics, and then analyzed residential patterns in them to paint a much clearer picture of young adult back-to-the-city-and-away-from-the-suburbs movement hypothesized in the literature reviewed above. It is to this analysis we now turn.

Understanding changes in residential location patterns

Our analysis is comprised of two parts: (1) an examination of the residential location patterns of young and older adults with a high degree of spatial granularity; and (2) an assessment of the evidence for the resurgence in city living since 2000 focusing on the role of

young adults in the residential location patterns. Our neighborhood-level analyses are built on census-tract-level data drawn from three sources: the 2000 Decennial United States Census, the 2011-15 5-Year American Community Survey, and the Environmental Protection Agency (EPA) Smart Location Database (Ramsey & Bell, 2014). Our analysis also draws on microdata from the 2001 and 2009 National Household Travel Surveys, which allow us to control for individual and household characteristics—beyond age—associated with residential location.[i]

Neighborhood types

Characteristics of the built environment can be described in terms of a variety of measures, perhaps most popularly summarized by Cervero and Kockleman (1997) who identified 3 Ds – density, diversity, and design. Ewing and Cervero (2010) subsequently added two Ds to this list – destination accessibility and distance to transit – the latter of which is a partial measure of transportation network connectivity. These five D variables are broadly defined and scholars have measured and applied them in different ways. Rather than consider each of these characteristics separately, however, household location decision-makers are likely influenced by how their confluence creates the overall attractiveness of a place.

To capture and systematically differentiate the character and diversity of U.S. neighborhoods with respect to their built form and transportation system characteristics, we use nationally-available census-tract-level data to develop a typology of American neighborhoods. In doing so, we draw inspiration from other comprehensive efforts to characterize neighborhoods (Hanlon, Vicino, & Short, 2006; Lin & Long, 2008; Mikelbank, 2011; Sarzynski, Galster, & Stack, 2014b, 2014a), like Sarzynski, Galster, and Stack (2014a, 2014b) focusing on the physical characteristics of neighborhoods. Unlike some of these other typologies, however, we purposely exclude data on the socioeconomic characteristics of residents to minimize endogeneity, since

our subsequent analysis focuses on these characteristics. To include residents in our neighborhood typology would greatly complicate our interpretation of cause and effect. Figure 2 presents a schematic of our methodology. Like Song and Knapp (2007) and Shay and Khattak (2007), we employ factor and then cluster analyses sequentially. We began with an initial set of 20 variables characterizing the built environment and transportation system characteristics of each census tract.[ii] Then, using the "psych package" from R for statistical analysis (Revelle, 2014), we used factor analysis to combine our large set of variables into five overarching factors, which reflected the degree to which a neighborhood is densely developed ("Density" in Figure 2), contains a mix of housing and commercial activity ("Diversity"), has a newer or older housing stock ("Established"), the level of resident turnover ("Transient"), and the jobs accessible via the road and public transit networks ("Accessible").

[Figure 2 here]

Given these five factors, we then conducted cluster analysis with the "fastcluster package" in R (Mullner, 2013), using standardized factor scores for each census tract. Based on multiple stopping criteria (the Ball-Hall index, the Det_Ratio index, and the Ksq_DetW index) (Desgraupes, 2014), we determined that seven neighborhood type clusters were optimal. We then had research team members and a half-dozen colleagues from around the United States view maps of the seven neighborhood types in cities with which they were familiar and describe the characteristics they associated with each of the neighborhood types. The results of this exercise were remarkably consistent, enabling us to characterize three types of urban neighborhoods (*Mixed-use*, *Old Urban*, and *Urban Residential*), three types of suburban neighborhoods (*Established Suburbs*, *Patchwork Suburban*, and *New Developments*), plus one *Rural* neighborhood type.

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Table 1 describes our seven neighborhood types in order of generalized geographic

location from the city center to the suburban fringe. The data in the third column show that there

is substantial variation in the distribution of census tracts across neighborhood types. Only four

percent of U.S. census tracts are classified as "Old Urban" neighborhoods, which are the places

with the highest residential densities, accessibility to employment, and very high public transit

service levels. These neighborhoods are highly concentrated in a small number of larger

metropolitan areas (MSAs). Ninety-four percent of all Old Urban neighborhoods are located in

just ten MSAs; the New York MSA alone accounts for half of them.

The three urban neighborhood types together account for just 25% of all United States

census tracts, while the three suburban neighborhood types account for more than half (55%). In

fact, the most prevalent of the seven neighborhood types are *New Development* suburbs, which

are most likely to be located on the sprawling suburban fringe.

[Table 1 here]

Because these neighborhood types reflect only built-form, tenure, and transportation

system characteristics, and not residential demographics, we use them as a canvas on which to

analyze the individuals who live in them (Redacted). Moreover, as we note above, this nuanced

set of neighborhood types allow us to move beyond simple central city and suburban

dichotomies, particularly important given the changing urban structure of metropolitan areas.

Data to examine the residential location patterns of young and older adults

With our neighborhood types in hand, we use census-tract level data from the recent

American Community Survey (2011-15 ACS) to examine the residential location of working-age

adults (20-64), young adults (20-34), and older adults (35-64) by neighborhood type.[iii] We then

draw on microdata from the 2009 National Household Travel Survey (NHTS) to assess whether

differences in the residential location of working-age and young adults remain controlling for other determinants of residential location; the census-tract identifier allowed us to match each individual to the neighborhood type in which they live. Using these data, we estimate a multinomial logistic regression model with neighborhood type as the dependent variable. The key explanatory variable of interest is age group (20-34 or 35-64). We also control for other factors that the literature suggests can influence household residential location, including resources (educational attainment and natural log of household income), household size, number of household workers, the presence of children under 18, and race/ethnicity.

Quantifying changes in residential location patterns

We use the 2000 Census and the 2011-15 ACS to analyze absolute and relative change in the number of older and younger adults living in different neighborhood types. This approach does not directly measure residential moves (across neighborhoods as well as due to international migration); nor does it incorporate mortality rates, but serves as a proxy for the net effects of residential location decisions over this time period. We again couple this aggregate analysis with NHTS microdata, this time drawing on data from both the 2001 and 2009 NHTS surveys to examine changes in residential location during the 2000s, controlling for other factors. We are particularly interested in the interaction between age and year, which allows us to measure of whether the differences in urban living rates between our two (young and older adult) age groups has widened or narrowed over time.

The advantages of our approach are: (1) it allows us to examine residential location by age across a fine-grained set of urban and suburban neighborhood types, (2) we use both census and travel survey data to test the robustness of our aggregate analysis based on census data, and (3) the microdata we use include the characteristics of households, which allow us to examine

whether any age differences in residential patterns we observe are robust, or largely accounted for by the various control variables in our models.

There are, of course, limitations to our analysis. First, we do not examine moves or movers directly, but focus instead on the outcomes of residential location choices as reflected in changes in residential location patterns over time. Second, the 2009 national travel survey was conducted during a severe economic recession, which could cause us to miss more recent trends – for example, at least one scholar has suggested that the central-city resurgence in the United States has picked up steam since 2010 (Frey, 2016).

The residential locations of young and older adults

Most American adults live in the suburbs, regardless of age (Figure 3). This should come as no surprise to anyone who has spent any time in American metropolitan areas or has examined Table 1 above, which shows that most United States census tracts are suburban in character. However, Figure 3 also shows that young adults are more likely than older adults to live in urban neighborhoods—*Mixed-use*, *Old Urban*, and *Urban Residential*—a difference that persists even after controlling for an array of other individual and household characteristics. Most urban dwellers, young and older, live in *Urban Residential* neighborhoods, which host fewer mixed uses and jobs than the *Mixed-use* and *Old Urban* neighborhoods, and which combined are home to less than 10% of all adults.

[Figure 3 here]

Younger and older adults tend to vary from one another in ways beyond age, which may help to explain why young adults are more likely to live in urban areas. First, young adults are less likely than older adults to identify as White or report higher levels of educational attainment, 32 percent of young adults hold a bachelor's degree compared to 39 percent of older adults.[iv] In

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addition, young adults' median annual incomes ($52,500) are lower than older adults ($62,500).

Younger and older adults also tend to have different access to household transportation

resources. Although young adults have the same median number of household vehicles (2) as

older adults, and the vast majority of young adult households have access to cars, 6.2 percent of

young adults own no vehicles compared to 4.9 percent of older adults, a 27 percent difference.

Vehicle ownership is linked to employment (Blumenberg & Pierce, 2014) and, therefore, also

may shape neighborhood location decisions. Specifically, households with fewer cars may

choose to live in urban neighborhoods where walking trips are more feasible and transit service

is better (Glaeser, Kahn, & Rappaport, 2008).

Figure 4 displays the results of the multinomial logistic regression model estimated to

compare the neighborhood residential location probabilities of young and older adults (see the

technical appendix for full model results). Controlling for various factors thought in the

literature to influence residential location, young adults are still more likely than otherwise

similar older adults to reside in urban neighborhoods, and are less likely to live in *Rural* or

Established Suburb neighborhoods. These results suggest that young adults tend to share age-

related characteristics, such as preferences for urban living that are not accounted for by the

socioeconomic variables included in our models.

[Figure 4 here]

The results presented so far—that most young adults live in suburbs, but are more likely

than older adults to live in urban areas—paint a static picture of age-related residential location

decisions. But are these patterns static, or have they changed over time? In other words, are

young adults *increasingly* enamored of urban living vis-à-vis older adults, and thus leading an

urban renaissance, or are their preferences relative to older adults holding steady, or even converging?

To explore this question, we examined changes in the residential location of young and older adults between 2000 and 2011-15.[v] Given that the United States adult population increased by 19.2 million (an 11.6% increase) over this time period, it is perhaps not surprising that the number of adults—both young and older—increased in all seven neighborhood types. But Figure 5 shows that the distribution of these increases varied widely. The three urban neighborhood types added more than four million working-age adult residents between 2000 and 2011-15, and more than half of this increase was in *Urban Residential* neighborhoods and not in *Mixed-use* or *Old Urban* neighborhoods, the mixed-use urban neighborhoods that literature suggests should be most attractive to young new urban residents. Moreover, for both young and older adults, the increase in urban neighborhood dwellers was small relative to the absolute increase in those living in suburban neighborhoods. The number of working-age adults (20-64) living in the three suburban neighborhood types increased by 12.5 million, which was 4.5 times greater than the population increase in the urban neighborhoods. In fact, the increase in adults in the newest and most sprawling suburban neighborhood type—*New Development*—was 42 percent greater than the growth in all the other neighborhood types *combined*. Among younger adults, the increase in those living in *New Development* suburbs was even larger than for all adults, and over 50 percent greater than the population increases in all other neighborhood types *combined*.

[Figure 5 here]

The substantial increase in the numbers of adults residing in *New Development* neighborhoods reshaped the relative distribution of both young and older adults across all neighborhood types. Figure 6 shows that, despite the absolute population increases in all of the

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neighborhood types, the share of young and older adults in all but one of our neighborhood types declined between 2000 and 2011-15, while the share of young and older adults living in sprawling *New Development* suburbs increased by four and five percentage points respectively. So while we see clear evidence of population growth in urban neighborhoods, this growth is most decidedly not linked to the abandonment of suburban living—including among young adults.

[Figure 6 here]

Thus far we have analyzed these neighborhood types collectively across all metropolitan areas. But evidence suggests that adults appear to be abandoning suburbs for urban living in a select group of large cosmopolitan metropolitan areas like New York and San Francisco. Indeed, studies point to stronger population growth in the largest cities (Frey, 2016) and, within them, in the densest urban neighborhoods (Kolko, 2016b). To investigate this issue, we replicated our analysis described above, using data for the largest 25 metropolitan areas. While we found that a higher percentage of young and older adults in these metropolitan areas live in *Old Urban* neighborhoods (which we would expect, as most of these neighborhoods are located in large metropolitan areas), the change in the distribution of the population across neighborhood types in the 25 largest metros was almost identical to the nation as a whole, with the largest population increases in the suburbs and, in particular, the most outlying *New Development* suburbs.

To analyze change over time in the residential location patterns of young and older adults, we estimated a second set of models, again controlling for individual and household factors thought to influence residential location choice, and this time combining data from both the 2001 and 2009 National Household Travel Surveys. The model includes the same set of variables as our previous model. We also control for year (2009 relative to 2001) and the interaction between age and year to assess the difference over time in the likelihood of a young

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versus an older adult residing in a given neighborhood type. We use this interaction to assess whether young adults were more or less likely than older adults to live in urban neighborhoods in 2009 than in 2001.

In general, the results from this second multivariate analysis confirm those of our previous analyses (the full results are included in the appendix). First, young adults in this second model were more urban and less suburban than otherwise similar older adults. Second, as before, the overall share of adults in *New Developments* increased and the share of adults in all other neighborhood types declined. Finally, with respect to our variable of interest—the interaction between age and year—the model shows that young adults are *not* becoming relatively more urban over time relative to older adults. In fact, the age gap in the propensity to live in urban neighborhoods narrowed from 2001 to 2009, a finding that counters the idea that young adults are increasingly urban relative to older adults over time. This finding persists even when limiting the analysis to large metropolitan areas.

Residential location trends: Implications for (sub)urban planning

The popular story of young adults abandoning suburban living *en masse* for city life is not supported by this analysis. These findings are consistent with some other, albeit less spatially-refined, analyses (Cortright, 2016; Frizell, 2014; Maney, 2015), but counter to many of the arguments in the back-to-the-city literature (Baum-Snow & Hartley, 2016; Cortright, 2014; Couture & Handbury, 2015; Moos, 2016). Young adults are indeed more likely than older adults to live in urban neighborhoods than in suburbs or rural areas, but young adults are not *increasingly* likely to live in urban areas over time, contrary to popular perception. Further, the number of young adults living in suburban neighborhoods far outweighs those living in urban neighborhoods, and these numbers too have grown increasingly suburban since 2000. In fact,

the absolute increase in the number of young adults living in sprawling *New Development* neighborhoods between 2000 and 2011-15 was 50 percent greater than the increases in all three urban, the two other suburban, and the rural neighborhoods *combined*. Thus, the processes of suburban expansion of U.S. metropolitan areas remains largely in place, despite the notable resurgence of many central-city neighborhoods.

But the fact of continued suburban growth does not obviate the remarkable turnaround by central cities generally, and urban neighborhoods in particular, since the 1990s, after nearly a half-century of widespread central city decline after the Second World War. In the context of these decades of urban population decline, the recent uptick across all three urban neighborhood types in the 2000s is cause for celebration (Ehrenhalt, 2013). In this context, *any* increase in population—regardless of what is happening in the suburbs—is noteworthy, but is it temporary? Myers (2016) argues smaller recent birth cohorts and improved employment and housing opportunities for young adults (who were the last to recover from the Great Recession) may ultimately reduce the demand for urban living among young adults. In contrast, Cortright (2016) focuses on the behavior of Millennials (25-34), a growing cohort whose preferences for urban living, he argues, have increased over the past two decades.

To accommodate the recent increased demand for central-city living, older-central city housing is being renovated and new urban housing is being added in some (but not all) U.S. cities at a remarkable pace (Landis, 2016). Higher-income households tend to seek newer housing stock and high-quality public schools, and are likely to locate where these are available (Brueckner & Rosenthal, 2009). For decades, most of the newest housing stock was available on the metropolitan fringe. But increased gentrification of central-city neighborhoods suggests that some better-educated, higher-income households are able to find newer housing in city centers

(Couture & Handbury, 2015; Ellen & Ding, 2016) in addition to rapidly expanding suburbs and exurbs. Our findings of absolute population growth across all neighborhood types would appear to support this conclusion.

However, given that the absolute majority of U.S. population growth since 2000 has been in sprawling *New Development* suburbs, does this mean that most young and older adults prefer low-density, auto-oriented life on the suburban fringe? Perhaps. Or it may mean that it is just easier to add new housing stock in greenfield *New Developments* on the suburban fringe, which keeps the relative cost of housing in those neighborhoods low compared to already built-out urban neighborhoods where building costs are higher, entitlements are harder to secure, and opposition to new development by current residents is more vocal and better organized (Levine, 2010). The housing affordability crises in the centers of many U.S. metropolitan areas—such as Boston, Los Angeles, New York, San Diego, San Francisco, Seattle, and Washington, D.C.— strongly suggest that the supply of urban housing is falling well behind the demand in these places. If so, the continued resurgence of urban neighborhoods in many United States cities will likely depend on the ability of planners to work with elected officials, developers, and neighborhood groups to relax constraints on increased housing supply in the most desirable urban neighborhoods (Monkkonen, 2016).

Neighborhood amenities are also important. Housing preferences are often bundled with amenities like low crime rates and high-quality public schools, making it difficult to untangle housing preferences from amenity preferences bundled with them. Recent studies highlight the relationship between amenities and residential location decisions (Annenberg & Kung, 2018; Glaeser & Gottlieb, 2006)

That most United States neighborhoods are suburban, that most adults—both young and older—live in those suburban neighborhoods, and that the absolute majority of population growth—among both young and older adults—is in the newest and most sprawling of these suburbs, suggests that planners and public officials should be devoting more attention than ever to both improving the form and function of new suburban developments and adapting and revitalizing older suburbs. In the years ahead the ripple of aging housing will continue to push outward from city centers to older suburbs, and case studies suggest that declining inner-ring suburbs are increasingly common (Ehrenhalt, 2013; Kim & Morrow-Jones, 2011). Indeed, our findings (in Figure 6) show that older *Established Suburbs* nearly matched rural areas since 2000 in their relative rates of population decline.

These trends have prompted calls and efforts to remake suburbs into more lively, equitable, and sustainable places (Berger, 2017; Brown, 2016; Cervero, Guerra, & Al, 2017; Nielsen, 2014; Sisson, 2016; Urban Land Institute, 2016). Such "new suburbs," with affordable housing, walkable and bikable streets, good schools, low crime, a diversity of shops and restaurants, and plenty of open space, may prove more attractive to young adults across all manner of incomes and preferences in the years ahead. So while we have witnessed a heartening urban resurgence in many (though certainly not all) urban neighborhoods in the United States, and while young adults are more likely than older adults to be part of this resurgence, this oft noted Back-to-the-City movement is overwhelmed by what can only be described as a much larger Out-to-the-Newest-Suburbs trend—among both young and older adults. These findings strongly suggest that the suburban era of American metropolitan development is far from over, and that attention to suburban planning is more important than ever.

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Acknowledgements

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Appendix

Table A1. Do young adults and older adults live in different neighborhoods?

	New Development		Patchwork		Established Suburbs		Urban Residential		Old Urban		Mixed Use	
Age (*Base: Adult, ages 35 to 64*)												
Young adults, ages 20 to 34	0.07	***	0.05	*	-0.09	***	0.19	***	0.22	***	0.30	***
Household characteristics												
Household income (ln)	0.19	***	0.03	**	0.05	***	-0.19	***	-0.34	***	-0.15	***
Child <18 in household (*Base: None*)	0.14	***	0.07	**	-0.20	***	0.06	ns	0.07	ns	0.20	***
Household size (*Base: One person*)												
2 people	-0.19	***	-0.36	***	-0.28	***	-0.35	***	-0.56	***	-0.64	***
3 people	-0.29	***	-0.52	***	-0.30	***	-0.48	***	-0.80	***	-0.97	***
4 people	-0.33	***	-0.60	***	-0.28	***	-0.57	***	-1.00	***	-1.17	***
5+ people	-0.37	***	-0.69	***	-0.38	***	-0.60	***	-1.02	***	-1.25	***
Educational attainment (*Base: Less than high school*)												
High school	0.19	***	0.03	ns	0.25	***	0.00	ns	-0.19	*	0.00	ns
Some college	0.46	***	0.24	***	0.44	***	0.23	***	-0.04	ns	0.35	***
College degree	0.78	***	0.52	***	0.77	***	0.45	***	0.41	***	0.81	***
Advanced degree	0.76	***	0.68	***	1.00	***	0.67	***	0.90	***	1.16	***
Adults Roles												
Employed (*Base: not employed*)	-0.17	***	-0.11	***	-0.19	***	-0.03	ns	0.08	*	-0.04	ns
Married (*Base: single*)	0.03	ns	-0.10	***	-0.19	***	-0.28	***	-0.59	***	-0.26	***
Race/ethnicity (*Base: NH White*)												
NH Black	0.39	***	0.53	***	0.81	***	1.27	***	1.84	***	0.90	***

NH Asian	1.07	***	0.97	***	1.49	***	1.67	***	2.18	***	1.71	***
Hispanic	0.93	***	0.90	***	1.37	***	1.70	***	2.44	***	1.33	***
NH Other	0.04	ns	0.00	ns	0.13	*	0.45	***	1.26	***	0.08	ns
Large MSA	1.28	***	0.97	***	2.10	***	1.46	***	4.47	***	1.25	***
Constant	-3.49	***	-1.22	***	-4.11	***	-0.70	***	-19.48	ns	-1.56	***

Notes: N= 249,697 Pseudo R^2= 0.0968

Source: 2009 NHTS, unweighted values.
*** p<0.01, ** p<0.05, * p<0.1, ns not significant

Table A2. Did the Residential Location of Young Adults Becoming More or Less Similar to Older Adults from 2001 to 2009?

	New Development		Patchwork		Established Suburbs		Urban Residential		Old Urban		Mixed Use	
Age (*Base: Adult, ages 35 to 64*)												
Young adults, ages 20 to 34	0.13	***	0.21	***	0.00	ns	0.45	***	0.30	***	0.64	***
Year												
2009	0.58	***	-0.02	ns	-0.36	***	-0.09	***	-0.77	***	-0.14	***
Year*Age												
2009*young adults, ages 20 to 34	-0.05	ns	-0.14	***	-0.08	*	-0.24	***	-0.15	**	-0.33	***
Household characteristics												
Household income (ln)	0.40	***	0.13	***	0.31	***	-0.03	**	-0.03	ns	-0.05	**
Child <18 in household (*Base: None*)	0.15	***	0.09	***	-0.14	***	0.05	ns	0.11	*	0.21	***
Household size (*Base: One person*)												
2 people	-0.23	***	-0.39	***	-0.30	***	-0.44	***	-0.69	***	-0.74	***
3 people	-0.26	***	-0.45	***	-0.13	***	-0.51	***	-0.78	***	-1.09	***
4 people	-0.27	***	-0.52	***	-0.10	**	-0.60	***	-0.98	***	-1.25	***
5+ people	-0.32	***	-0.61	***	-0.15	***	-0.62	***	-1.08	***	-1.39	***
Educational attainment (*Base: Less than high school*)												
High school	0.15	***	-0.05	ns	0.24	***	-0.13	**	-0.34	***	-0.10	ns
Some college	0.44	***	0.16	***	0.49	***	0.14	**	-0.08	ns	0.28	***
College degree	0.81	***	0.50	***	0.90	***	0.47	***	0.66	***	0.82	***
Advanced degree	0.77	***	0.65	***	1.10	***	0.70	***	1.08	***	1.19	***

Adults Roles												
Employed (*Base: not employed*)	-0.14	***	0.00	ns	-0.08	***	-0.02	ns	-0.07	ns	0.00	ns
Married (*Base: single*)	-0.14	***	-0.25	***	-0.45	***	-0.45	***	-0.87	***	-0.45	***
Race/ethnicity (*Base: NH White*)												
NH Black	0.74	***	0.77	***	1.23	***	1.67	***	2.57	***	1.20	***
NH Asian	1.12	***	0.99	***	1.59	***	1.74	***	2.65	***	1.75	***
Hispanic	1.20	***	1.02	***	1.69	***	1.90	***	3.23	***	1.50	***
NH Other	0.18	***	0.10	*	0.25	***	0.51	***	1.11	***	0.22	***
Big city	1.06	***	0.76	***	1.81	***	1.32	***	4.28	***	1.08	***
Constant	-4.84	***	-1.45	***	-4.06	***	-0.27	**	-1.52	***	-0.81	***

Notes: N= 245,980 Pseudo R^2= 0.0404

Source: 2009 NHTS, unweighted values.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$, ns not significant

Table A3. Changes in Residential Location – All Neighborhoods

Neighborhood Types	Young Adults (20-34)			Older Adults (35-64)		
	Distribution 2000	Distribution 2011-15	Absolute Increase 2000 to 2011-15	Distribution 2000	Distribution 2011-15	Absolute Increase 2000 to 2011-15
Mixed use	7%	7%	491,242	5%	4%	579,767
Old urban	6%	6%	83,195	4%	4%	515,879
Urban residential	19%	19%	760,411	13%	12%	1,653,222
Established suburb	13%	12%	147,272	15%	14%	496,925
Patchwork	18%	18%	1,119,818	18%	17%	2,175,428
New development	20%	24%	3,961,625	23%	28%	9,851,934
Rural	16%	15%	28,829	22%	20%	1,510,367
Total	100%	100%	6,592,391	100%	100%	16,783,522

Sources: United States Census (2000); American Community Survey (2011-2015).

Table A4. Changes in Residential Location – Neighborhoods in Largest 25 Metropolitan Areas

Neighborhood Types	Young Adults (20-34)			Older Adults (35-64)		
	Distribution 2000	Distribution 2011-15	Absolute Increase 2000 to 2011-15	Distribution 2000	Distribution 2011-15	Absolute Increase 2000 to 2011-15
Mixed use	8%	8%	315,536	5%	5%	414,624
Old urban	14%	13%	77,044	10%	9%	504,694
Urban residential	22%	20%	302,444	16%	15%	1,062,413
Established suburb	20%	18%	68,181	24%	22%	527,957
Patchwork	14%	14%	300,909	16%	15%	927,651
New development	18%	22%	1,614,672	23%	28%	4,486,760
Rural	4%	4%	59,241	6%	5%	224,737
Total	100%	100%	2,738,027	100%	100%	8,148,835

Sources: U.S Census (2000); American Community Survey (2011-2015).

Table 1. Seven Neighborhood Types

	Neighborhood Type	% Tracts	Description	Housing Density[1]	Job Accessibility[2]
Urban	Mixed-use	6%	Downtowns and dense outlying commercial & industrial districts	5.2	181
	Old Urban	4%	Very high-density, very transit-rich neighborhoods	27.5	533
	Urban Residential	15%	Residential neighborhoods in mostly central city areas	5.9	147
Suburban	Established Suburbs	15%	Older, mostly residential suburban neighborhoods	4.1	186
	Patchwork Suburban	18%	Mix of residential and commercial land uses in suburban settings	1.7	94
	New Development	22%	Mostly new, low-density suburban development often near the fringes of metropolitan areas	1.4	68
Rural	Rural	21%	Most types of non-urban and non-suburban development	0.1	14

[1]Measured as homes per acre

[2]Measured as thousands of jobs within a 45-minute drive

Source: redacted

Figure Captions

Figure 1. Percentage of Adult Population (20-64) Living in Central Cities (2011-15 American Community Survey)

Figure 2. Neighborhood Typology—Methodology

Figure 3. Residential Location by Neighborhood Type and Age Group

Figure 1. Multivariate analysis results: Probability of young adults (20-34) living in each neighborhood type relative to older adults (35-64) (controlling for resources, household composition, and race/ethnicity)

Figure 5. Absolute increase (1,000s) in older and younger adults living in each neighborhood type between 2000 to 2011-15

Figure 6. Distribution of Young and Older Adults across Neighborhood Types, 2000 and 2011-15

i Conducted periodically by the U.S. Federal Highway Administration (FHWA), the nationally-stratified surveys are the authoritative source on U.S. travel behavior. The data include daily non-commercial travel by all modes, the characteristics of travelers and their household, as well as a census-tract identifier that allowed us to match each respondent to the neighborhood in which they lived. The survey includes 69,817 households in 2001 and 150,147 in 2009.

ii The 20 variables were: jobs within a 45-minute commute, tract share of area employment, jobs/(jobs+homes), office jobs/(jobs+homes), retail jobs/(jobs+homes), jobs/housing balance, housing density, employment density, housing+job density, total road network density, pedestrian-oriented road network density, car-oriented road density, intersection density, transit service density, single-family homes/total homes, rental homes/occupied homes, share of home occupied fewer than 5 years, share of homes occupied for more than 20 years, share of homes fewer than 10 years old, share of homes more than 40 years old.

iii There is no commonly-accepted age bracket for "young adults." We established the 20 to 34 age bracket drawing from the upper age limit used by the U.S. Census (Vespa, 2017). We do not, however, include teenagers to (a) minimize the number of individuals in our sample who are in college and, therefore, may not reside at their permanent address and (b) better match the two data sources.

iv In our subsequent models, we use a household measure of education--the highest grade achieved by anyone in the household. We use this variable rather than an individual-level measure to account for the fact that young people may still be pursuing their educations. As a result, a young person's observed educational attainment values may not reflect the education that they ultimately will achieve.

v The Appendix includes data for all neighborhood types for 2000 and 2011-15.