

Have Millennials' Housing Preferences Changed in the COVID Era?

A Case of the Phoenix Metropolitan Area

by

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## ABSTRACT

The COVID-19 pandemic carries many implications that are resulting in substantial shifts in the way people work, live, and socialize. Interest in the effects of the pandemic on residential mobility and discussions about the short- and long-term impacts on housing preferences have grown. Recent studies have explored the pandemic's implications for the housing market. Yet, little is known about how COVID-19 is changing people's housing needs and residential choices.

This research narrows the gap in the literature by exploring changing housing preferences in the Phoenix metro area (PMA) among Millennials (i.e., those born between 1981 and 1996; Pew Research Center, 2019). The study uses data from (i) one-on-one interviews with Millennials and other generations, planners, and real estate agents, (ii) the U.S. Census, (iii) Zillow, and (iv) scholarly publications and regional media to investigate the push and pull factors shaping emerging Millennial housing trends in the PMA. This study also investigates the implications of Millennials' changing residential choices on the PMA housing market, with special attention to impacts on social equity.

The findings suggest that the pandemic has made Millennials reevaluate their residential choices. While this generation's locational housing preferences were strongly motivated by proximity-related factors (Ehlenz et al., 2020; Pfeiffer et al., 2019), telecommuting and online learning resulted in Millennials' mobility to smaller cities, suburban neighborhoods, and areas far away from jobs and schools. This research also

finds that Millennials are becoming more interested in privacy, flexibility in housing, and larger homes that include work and outdoor spaces. Finally, the study reveals concerns about the increasing risk of eviction because of the business shutdowns and employment losses caused by the ongoing health crisis.

Overall, this research suggests that planners and decisionmakers should rethink PMA urban growth policies to avoid continued suburbanization and social justice challenges, such as eviction and foreclosures. It also highlights the positive outcomes of flexible housing as an effective tool for community development. The findings suggest that planners and developers should integrate considerations of generational diversity into housing practice and theory.

## DEDICATION

I dedicate this thesis to my parents for their endless love and support throughout my life.

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# CHAPTER 1

## INTRODUCTION

The ongoing COVID-19 pandemic has already transformed our society into a new reality. Cities are experiencing unprecedented and abrupt shifts that may result in lasting changes in transportation systems, housing trends, real estate and financial markets, employment, and even the public realm. The pandemic and its impacts have brought to the forefront debates about urban vulnerability, resilience, equity, sustainability, and recovery policies in the wake of these shifts.

The first case of COVID-19 was initially reported in Wuhan, China in December 2019. The World Health Organization (WHO) officially declared the outbreak as a Public Health Emergency of International Concern in January 2020 and as a pandemic in March 2020 (World Health Organization, 2020). The United States confirmed its first case of COVID-19 on January 21, 2020, in Washington state (Centers for Disease Control and Prevention (CDC), 2020). The pandemic has globally infected over 30 million people and caused more than 500 thousand deaths to date in the U.S. (Worldmeters.info, 2021). COVID-19 has created feelings of fear and anxiety (Egunjobi, 2020; Scommegna, 2020; Singh et al., 2020), stress and worry (Fitzpatrick et al., 2020; Hoyt et al., 2021), as well as changes in living patterns and working conditions (Conroy et al., 2021; Pew Research Center, 2020).

Similarly, health concerns and increases in remote working, also known as telecommuting, have revived questions about housing amenity, type, and locational

preferences. Many researchers sought to study the impacts of the pandemic on housing choices and real estate markets and the trends that emerged in response to lifestyle changes (e.g., Benfer et al., 2021; D’Lima et al., 2020; Nanda et al., 2020; Sturtevant, 2020; Yoruk, 2020). The pandemic has also challenged decisionmakers to (i) develop effective control strategies (Giustiniano et al., 2020), (ii) provide residents with needed services, such as mental health assistance and financial help with food, housing, and bills, and (iii) increase urban pandemic resilience (Lak et al., 2020).

The COVID-19 pandemic was consequential for all generations. Yet, the pandemic hit Millennials, defined as those born between 1981 and 1996 (Dimock, 2019), the hardest. After the 2008 Great Recession, Millennials were financially unstable, given their large student loan debt and struggles to access the job market (Cramer et al., 2019). Millennials continue to grow up, and their needs continue to change. Many are now seeking new life milestones as they become interested in stability, homeownership, building a family, and parenthood (Ehlenz et al., 2020; Shashkevich, 2018).

Little is known about whether and, if so, how the pandemic is changing Millennials' attainment of milestones and housings preferences. Schmidt (2020) and Hess (2020) argued that the pandemic paused many Millennials' personal plans and career goals, especially since the decline in economic activities resulted in a high rate of unemployment and increased risk of eviction and foreclosure. Hunter (2020) stated that a trend toward more single-family homes will emerge among Millennials in a post-COVID era. Similarly, Smith (2020) claimed that the pandemic has made Millennials' desire for detached homes and larger yards stronger.

This research seeks to study the key emerging housing trends in the COVID era and explore the push and pull factors (i.e., forces that drive people away from or attract them to a place/area/neighborhood) shaping Millennials' housing amenity, type, and location preferences. This study uses qualitative and quantitative methods to answer four research questions, which are: (i) what are the key emerging housing trends in the COVID era that may shape the future of the housing market?, (ii) how do Millennials' housing amenity, type, and location preferences compare between the COVID and pre-COVID eras (March 2020 and after and prior to March 2020)?, (iii) how do the push and pull factors shaping Millennials' preferences compare between the COVID and pre-COVID eras (March 2020 and after and prior to March 2020)?, and (iv) what implications do changes in Millennials' preferences have for urban structure, equity, and housing policy-making in the short- and long-term? The contribution of this research is threefold. First, it fills the gap in the literature about Millennial housing preferences amid a public health and economic crisis. Second, it contextualizes emerging Millennial housing trends and patterns by providing evidence from in-depth interviews with several generational cohorts and housing experts. Third, it provides some guidance to policymakers, planners, and social justice and housing advocates to make informed planning and policy decisions in the post-COVID era.

This study focuses on the Phoenix Metro area (PMA) because it is one of the largest and fastest-growing metro areas in the United States. PMA is also a thriving hub for Millennials' migration (Tufts, 2019) and counts 21 percent of this generation, which

is typical for the U.S. metropolitan areas that have a high share of employment opportunities (U.S. Census Bureau, 2019).

This thesis will proceed as follows. The first chapter provides an overview of the literature on residential choice theories, characteristics of the Millennial generation, Millennial housing preferences, and emerging Millennial residential trends in the COVID era (March 2020 and after). It also further explains the research gap and the contributions of this research. The next chapters present the case study's demographic and housing attributes and address the data collection process and methods used to conduct the research, with consideration of their main limitations. The bulk of this thesis highlights the emerging housing trends among Millennials in the PMA, the push and pull factors shaping their residential choices, and the implications of changing preferences for urban structure, equity, and housing policymaking in the short- and long-term. Further, this chapter offers a comparative case with other generations (i.e., Generation X and Generation Z) to clarify the housing trends that are specific to Millennials and the patterns that are common among age groups. The thesis concludes with a summary of the key findings and a discussion of the diversity of the Millennial generation, the implications of changing housing preferences for planning practice, and potential research directions.



## CHAPTER 2

### LITERATURE REVIEW

#### **2.1. Introduction**

This chapter joins together a diverse set of literature on residential choices theories and factors shaping Millennial housing preferences. First, it addresses what drives a household's decision of whether and where to move, such as lifecycle changes (Rossi & Shlay, 1982), dissatisfaction (Quigley & Weinberg, 1977), and housing market characteristics (Clark, 2012). Second, it sheds light on the Millennial generation's characteristics, including racial and ethnic diversity, high educational attainment (Bialik & Fry, 2020), flexibility (Pfeiffer et al., 2019), and interest in technological innovation (West, 2018). Third, it explores Millennials housing amenity, type, and location preferences, such as walkable environments, amenity-rich areas, and authentic neighborhoods (Ehlenz et al., 2020; Pfeiffer et al., 2019) and factors shaping them. Finally, it examines the impacts of the COVID-19 pandemic on the Millennial generation's housing choices and residential decisions, including increased demand for high-speed internet (Messerli, 2020) and outdoor spaces (Kaufman, 2020).

#### **2.2. Residential choice theories**

Scholars have long sought to understand the push and pull factors that shape residential mobility. These factors are dynamic, vary over the life course, and change as household composition and socio-economic conditions shift. Rossi & Shlay (1982) describe residential mobility as a normal process of the family life cycle to meet their

new needs and adapt to life course trajectories. In turn, changes in family structures continue to shape residential mobility and generate specific housing needs. The young single population moves more frequently and is more attracted to amenity-rich areas with high density and a variety of socio-economic opportunities (Coulter & Scott, 2015; Geist & Mcmanus, 2008). Renters are also more likely to experience family stages shifts and thus are more likely to move, especially since their moving costs are cheaper compared to homeowners (Rossi & Shlay, 1982). In contrast, older people, especially households with children and owner-occupiers, seek residential stability and value neighborhood quality and housing size (Clark & Onaka, 1983).

In the same context, evidence suggests that satisfaction (i.e., congruence of housing needs and preferences and the residential situation; Lu, 1998) is a key determinant to residential mobility (Boschman et al., 2017; Lu, 1998; Speare, 1974). Tiebout (1956) claims that residential choices depend on where preference patterns are met and satisfied, including satisfaction with political governance. Similarly, Quigley and Weinberg (1977) argue that dissatisfaction causes residential mobility.

Residential outcomes do not always reflect choice; moving is not always voluntary. Galster and Killen (1995) explain that residential location is the result of the economic and social prospects of individuals and opportunity structures defined as resources and privileges available to achieve aspirations. Clark & Onaka (1983) relate involuntary or forced mobility to eviction, foreclosure, and destruction of housing properties. Constraints that mediate residential choice include households' income and wealth available for housing (South & Crowder, 1998). Phinney (2013) argues that low-

income communities have fewer financial resources, which leads to an increased risk of housing instability. Racial inequalities and housing discrimination are among the principal factors shaping residential mobility (Rothstein, 2017; South & Crowder, 1998). For instance, White people are more likely to move because of neighborhood dissatisfaction. On the other hand, the Black population is often hampered by neighborhood segregation and/or ignorance of their residential needs (Galster et al., 1987). South and Crowder (1998) claim that White Americans' mobility into white neighborhoods reflects residential discrimination against African Americans. Exclusionary zoning policies continue to accentuate this racial segregation (Shertzer et al., 2021), contributing to the housing shortage and affordability crises (Kingsella, 2019).

In short, residential mobility is strongly motivated by the pursuit of a high quality of life, including improved housing situation, neighborhood attributes, short commuting, employment opportunities, and health benefits (Geist & Mcmanus, 2008). However, many communities face mobility challenges because of their race and ethnicity and/or socio-economic status.

### **2.3. Millennials' characteristics and diversity**

The Millennial generation made up 22 percent of the U.S. total population in 2019 and is now the nation's largest adult age group (Fry, 2020). The literature divides the Millennial generation into two lifecycle stages. The first lifecycle stage refers to emerging adults who are transitioning from adolescence to young adulthood (Arnett, 2007; Ehlenz et al., 2020). The main characteristics of this group include flexibility (Ehlenz et al., 2020), identity explorations (Trible, 2015), and independent decision

making (Arnett & Mitra, 2020). The second stage comprises attempting adults, defined as Millennials seeking financial stability, parenthood, and homeownership (Ehlenz et al., 2020). These lifecycle stages have implications for Millennials' residential choices in terms of location, housing type, and neighborhood amenities (Ehlenz et al., 2020).

Millennials are one of the most diverse generations in the U.S. in terms of race and ethnicity, education attainment, and homeownership (Bialik & Fry, 2020). A study conducted by Pew Research Center (2020) shows that the share of non-Hispanic Whites among Millennials is 55 percent, which is significantly low as compared with Baby Boomers (i.e., 82 percent of those born between 1946 and 1964 are non-Hispanic Whites; Bialik & Fry, 2020). Similarly, Frey (2018) argues that Millennials are more racially and ethnically diverse than the older generations and relates this diversity to the high rate of immigration from Latin America and Asia to the U.S. in the 1980s and 1990s and declining White population growth. High educational attainment is also one of the main characteristics of Millennials, as 39 percent among this generation have a bachelor's degree or higher, compared with 15 percent of the Silent Generation (i.e., those born between 1928 and 1945) and 29 percent of Gen X (i.e., those born between 1965 and 1980; Bialik & Fry, 2019).

Millennials are also distinct from earlier generations in economic and social status. This generational cohort is slower to get married, have children, and build a family on their own (Bialik & Fry, 2020; Ehlenz et al., 2020; Frey, 2018). Yet, Black Millennials are less likely to get married as compared to Millennials from other racial and ethnic groups. A study conducted by Pew Research Center (2020) demonstrates that only

24 percent of Black Millennials get married as compared with 48 percent of White Millennials. College-educated Millennials are also more likely to get married. Married Millennials with a bachelor's degree or higher represent 50 percent of this demographic cohort while married Millennials with a high school diploma represent 40 percent. Married Silents with a high school diploma as the highest level of education, in comparison, represented 86 percent of the silent generation in 1968 (Bialik & Fry, 2020).

The delay of traditional adulthood milestones is strongly related to financial struggles, high student debt, and limited household wealth and income (Bialik & Fry, 2020). The median adjusted household income of households headed by Millennials with a bachelor's degree or higher was \$105,343 in 2017, which is \$4,409 lower than the household income of Gen Xers (i.e., those born between 1965 and 1980; Bialik & Fry, 2020). Millennials have also accumulated a 49 percent greater median amount of student debt (\$19,000) compared to Gen X (\$12,800) (Bialik & Fry, 2020).

The Great Recession in the mid-2000s had a significant impact on Millennials' financial stability. This economic crisis has also created a competitive job market for Millennials who faced this financial crisis when they were graduating and carrying a considerable amount of student debt. The unemployment rate among Millennials was also high in the years following the Great Recession (Bialik & Fry, 2020; Osili et al., 2019). Nine percent of Millennial college graduates were unemployed, and Millennials' wages experienced an eight percent drop after the Great Recession (Elliott & William, 2014). Similarly, the Millennial generation's unstable financial situation shaped housing preferences for affordable rental units in or near downtown (Myers, 2016) or larger

residences in the suburbs, despite the need for daily commuting to their job (John, 2019). Homeownership, in turn, is relatively lower among Millennials compared to older generations (Frey, 2018). However, homeownership becomes more attractive to Millennials as they age (Mountain et al., 2020). A Pew Research Center study (2021) shows that homeownership rate in 2020 was estimated at 39 percent among adults aged 35 and younger, 61 percent among those aged between 35 and 44, and more than 70 percent among individuals aged 45 and greater. In the same context, Millennials with higher educational attainment are more likely to be homeowners (Choi et al., 2019; Xu et al., 2015). Yet, there are substantial racial disparities and wealth inequality among this demographic cohort. Lerner (2020) argues that Black Millennials may not even reach a 40 percent homeownership rate by the time they turn 50. Black young adults are also more likely to live with their parents as compared to White Millennials (Choi et al., 2019).

#### **2.4. Millennials' housing preferences**

Millennials' housing preferences imply an implicit choice for an array of attributes. Jansen (2020) suggests that many aspects including location, accessibility, and environmental ambiances as well as character, size, design, and aesthetics can elicit housing preferences and residential choices, especially since housing fulfills different goals. These attributes are not the only factors driving Millennials' housing residential choice. Socio-economic status and housing supply and prices are also push factors and constraints that shape Millennials' preferences.

#### *2.4.1. Location, accessibility, and environmental ambiances*

The Millennial generation tends to prefer larger cities over smaller places (Y. Lee et al., 2019; Okulicz-Kozaryn & Valente, 2019). Hoffower (2019) argues that Millennials favor metro areas such as New York and San Francisco. Similarly, Lee (2020) states that Millennials, especially emerging adults, are highly attracted to big cities and urban centers. These preferences are strongly associated with the desire for a rich urban experience and the availability of various amenities, such as retail, entertainment services, and open spaces (Florida, 2019).

Millennials also prefer living in vibrant urban settings with high density, walkable environments, amenities and job opportunities, shorter commutes, transit and ridesharing services, arts and cultural nodes, and recreational activities (Ehlenz et al., 2020; Garcia, 2015; Y. Lee et al., 2019). The distance between the house and daily activities (e.g., work, school, shopping facilities) plays a critical role in defining Millennials' intra-locational housing preferences. Accordingly, car ownership has a strong link with location choice (Raymond et al., 2018). Millennials are flexible towards car ownership (Circella et al., 2017; Klein & Smart, 2017; Lee et al., 2019) and are less likely to prefer driving (McDonald, 2015). Thus, they tend to live in or closer to the city center and may see living downtown as a strategy for satisfying their travel needs by using public transit or ride-hailing services (Lee et al., 2019; Wheeland, 2016). However, Brandt's (2017) study on willingness to embrace the new technology of autonomous vehicles demonstrates that a large number of Millennials are ready for driverless cars and willing to buy self-driving vehicles in the coming years. Overall, a high share of Millennials

tends to value a sense of community experience and prefers to live and stay downtown in young adulthood (Ehlenz et al., 2020). In contrast, the older segment of the Millennial generation is more likely to move to larger suburban single-family housing far away from the city center as they become interested in marriage and parenthood (Ehlenz et al., 2020; Lee et al., 2019; Paris, 2019; Pfeiffer et al., 2019; Raymond et al., 2018).

Millennials share a desire for equality, empathy, and social connection (Okulicz-Kozaryn & Valente, 2019; Twenge et al., 2012). Millennials' choice of homes in city central business districts (CBD) and downtown cityscapes is driven in part by their attraction to environmental ambiances that promote daily interactions and offer street-level activities beyond the 9-to-5 workday at every corner (Ehlenz et al., 2020; Joseph, 2020). These trends are also pushing developers to endow projects with a greater sense of place and diversity of activities (Ehlenz et al., 2020). Desire to locate near relatives and friends may also affect Millennials' housing preferences (Mulder, 2007). Tieperman (2019) highlights that the special and strong bond that Millennials have with their parents, as they view them as a source of positive influence, may affect their locational housing preferences. Similarly, Lee et al. (2019) suggest that Millennials tend to prefer living in neighborhoods that are inhabited by peers with similar tastes.

#### *2.4.2. Character, size, design, and aesthetics*

Millennials' attraction to authenticity, an Instagram-worthy lifestyle, and high-tech features are key factors that drive Millennials' housing preferences. These preferences reflect minimalist lifestyles with simple interior design (Becker, 2017) and are usually realized through smaller spaces and manageable properties ranging from 300



to 450 square foot micro-units to two-bedroom apartments (John, 2019; Pfeiffer et al., 2019; Swanson, 2015). Besides, Millennials are self-centered and value independence, despite their preference for social connection and diverse neighborhoods (Okulicz-Kozaryn & Valente, 2019).

Millennials also tend to prefer flexible “inside/out” lifestyles that refer to the desire of using their homes as intermediate areas between the public outside and the private inside (Maliki et al., 2015; Pfeiffer et al., 2019). Pfeiffer et al. (2019) suggest that this translates into preferences for homes with outdoor living where Millennials can engage with people and socially interact with the community living there. Similarly, Millennials have a penchant for live-work units and mixed-use properties as they reflect their flexible lifestyle and need for amenities in proximity.

Innovation, high-quality technology, and social consciousness are also essential aspects that Millennials look for in terms of housing. Some scholars (e.g., Pfeiffer et al., 2019; Swanson, 2015) emphasize Millennials' housing preferences for innovative design and conscious buildings with creative eco-friendly features, reusable materials, and high efficiency and water-conserving appliances. In addition, Millennials are known for their constant connectivity, as they value access to technological features such as Wi-Fi and high-speed internet (Pfeiffer et al., 2019). More than nine-in-ten Millennials have smartphones (Vogels, 2019), which drives their preference for housing with access to technology devices and services (Lee et al., 2019; Pfeiffer et al., 2019).

## **2.5. Impacts of housing supply and prices on Millennials' residential decisions**

Housing supply and prices play a critical role in determining where Millennials live. The insufficient housing supply, due to the growing demand, stagnating multifamily construction, and increased land and labor costs, has led to high housing prices that exceed Millennials' buying power, especially since rising rent costs did not allow for sizeable down payment savings (Choi et al., 2019). Some scholars, in turn, state that there is a housing supply shortage, which is partially related to older homebuyers who have not vacated starter homes (Moos et al., 2017). In the same context, home prices on average are still relatively higher than during the housing boom experienced in 2006 (Cramer et al., 2019). As a result, Millennial prospective first-time buyers, especially those with limited income, have faced delayed homeownership (Choi et al., 2019; Myers, 2016).

Housing supply and prices affect Millennials differently based on their socioeconomic characteristics. Choi et al. (2018) explain that college-educated Millennials prefer living in cities where the housing supply is inelastic (i.e., a shift in price/demand does not significantly impact the overall housing supply) such as Los Angeles and New York City because they offer greater urban amenities and more job opportunities. In contrast, less-educated young adults are more likely to live in elastic cities, as their earning capacity tends to be lower.

## **2.6. Millennials' housing preferences in the COVID era**

Even as research has explored Millennials' housing trends over the last several years, the COVID-19 pandemic has introduced new uncertainties and dynamics into current and future trends for this generation. Scholars currently are debating whether and,

if so, how, the COVID-19 pandemic will impact Millennials' housing preferences and residential choices. Bortz (2020) and Hunter (2020) argue that the novel coronavirus is persuading Millennials to leave the city, as they attempt to avoid contact with others and dense places. In contrast, Malizia (2020) predicts that Millennials will continue to prefer amenity-rich neighborhoods and vibrant lifestyles. Florida (2020) argues that some traditionally expensive cities will attract young people as they become more affordable. For instance, the median sale prices in Manhattan, New York went down by 18 percent in June 2020 compared to the same time in 2019 (Chen & Franklin, 2020). The rent prices in Manhattan have also fallen by seven percent in September 2020 compared to September 2019 (Hubbard, 2020). Similarly, rent prices amid pandemic dropped in San Francisco (Alexander, 2020), Los Angeles (Abramian, 2020), and Chicago (Greenspan, 2021).

The pandemic has also revived the debate about the future of working patterns that will certainly impact residential preferences and choices. COVID-19 could result in a permanent shift towards telecommuting, especially now that many companies and workers have become more comfortable with remote work during the outbreak (Haag, 2020; Hern, 2020). A national study by Conway et al. (2020) on the impacts of COVID-19 on urban life predicts continued trend of telecommuting and expects a 22 percent increase in working from home in the future compared to the pre-pandemic era. Similarly, some scholars expect an increase in the demand for quieter housing options that include work offices that can be easily converted into home-offices. The pandemic and increased remote working would make it hard to justify high prices for homes that

cannot provide services such as access to technological devices and high-speed internet (Lowrey, 2020; Messerli, 2020).

Bringing the “outside in”, defined as the desire to be surrounded by nature and feel outdoors, is significantly increasing amongst the Millennial generation (Kassing, 2020). Social distancing restrictions and less interaction with the community have led to an increased desire to have amenities such as party rooms, outdoor living rooms, garages, and yards (Kaufman, 2020). Similarly, many have converted their single-family home garages and driveways into workout spaces to continue with their training at home (Dunton et al., 2020).

Many scholars suggest that homeownership among Millennials will increase in the post-COVID era. Despite the economic issues that the pandemic caused, the desire for housing stability among Millennials is growing; many are considering homeownership in their spending priorities (Messerli, 2020; Williams, 2020). Bates (2020) highlights that this trend is heavily related to the low mortgage rates and shelter-in-place orders that allowed more savings for down payments.

## **2.7. Research gap and contribution**

The literature suggests that the COVID pandemic may result in significant changes in Millennials' housing preferences and residential choices. Analyses of pre-pandemic Millennials' housing preferences are relatively robust. Yet, most of the recent studies strongly rely on predictions rather than evidence since the situation is fairly new and not enough time has passed to build a solid database on the topic. Thus, this research

attempts to at least partially fill that gap in the literature about Millennials' housing preference during the COVID era.

Similarly, little is known about the push and pull factors that may shape Millennials' residential choices in a post-pandemic world. This study contextualizes Millennials' housing preferences in the PMA, a large and fast-growing metropolitan area with a high share of Millennials, and in relation to changing preferences among people from other generations. Further, Millennials' housing preferences are an important consideration in the future of housing policymaking, given the large size of this generation. This work addresses the implications of Millennials' emerging housing and location trends for urban structure, equity, and housing policymaking in the short- and long-term.

More specifically, the four research questions that this study answers, using a mixed-method approach, are:

- What are PMA's key emerging residential trends in the COVID era that may shape the future of the housing market?
- How do PMA Millennials' housing amenity, type, and location preferences compare between the COVID and pre-COVID eras (post-/pre-March 2020)?
- How do the push and pull factors shaping PMA Millennials' preferences compare between the COVID and pre-COVID eras (post-/pre-March 2020)?

- What implications do changes in PMA Millennials' preferences have for urban structure, equity, and housing policymaking in the short- and long-term?

## CHAPTER 3

### INTRODUCTION TO THE PHOENIX METROPOLITAN AREA

#### **3.1. Introduction**

This chapter presents a description of the PMA in terms of its demographic and housing characteristics and COVID-19 updates. First, the section provides detailed background on the study area's assets that attract people to move to the PMA, such as employment opportunities, proximity to economic hubs, and diverse recreational activities. Second, it describes the study area's demographic profile, including population, race and ethnicity, employment, and housing statistics. Finally, the chapter reports the pandemic updates and policy responses to control the spread of the virus and mitigate its impacts.

#### **3.2. Background**

The PMA, officially designated by the U.S. Census Bureau as the Phoenix-Mesa-Chandler, AZ Metropolitan Statistical Area (MSA), is located in the northeast part of the Sonoran Desert in central Arizona. The PMA includes the entirety of Maricopa County and Pinal County and encompasses more than twenty cities (see Figure 1). Factors such as proximity to core economic hubs (e.g., Greater Los Angeles), pleasant weather with over 300 sunny days yearly, and easy access to outdoor activities such as hiking, mountain biking, cycling, and fishing make the PMA an attractive destination not only for tourists but also for movers looking for a place to settle.

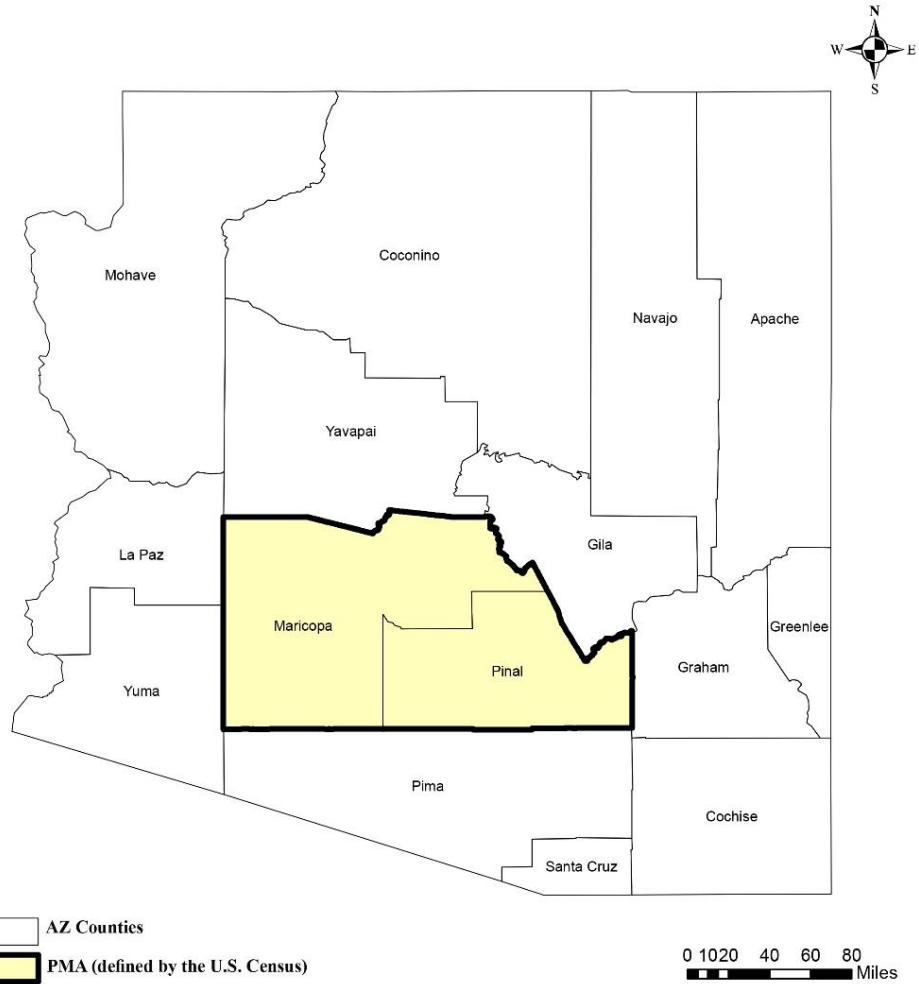


Figure 1. Study Area  
*Source:* Author

The PMA is considered the center of Arizona's economy and has one of the fastest-growing job markets in the country (Fulton et al., 2020). The economic structure of the PMA is also very diverse and continues to offer many job opportunities to individuals/ migrants with different socio-economic characteristics. Leading sectors for economic and employment growth are education and health services, construction, professional and business services, and tourism (azgovernor, 2019b; Greater Phoenix Economic Council, 2021). Innovation and technology sectors are also growing, especially



since the operational cost of companies in the PMA can be up to 36 percent less compared to California (Greater Phoenix Economic Council, 2021). Overall, the PMA number of non-farms added jobs from 2018 to 2019 was estimated at 66,500, which is slightly higher than the number of jobs that other metro areas, such as San Francisco, added during the same time period (U.S. Bureau of Labor Statistics, 2019).

The PMA is a thriving economic region. Yet, it faces several challenges, including sprawl. While covering an area of over 14,000 square miles, it has a density of no more than 300 people per square mile (U.S. Census Bureau, 2019). Suburban sprawl externalities, such as drought because of the limited water resources and increased air pollution because of private automobile dependence, could lead to a decline in quality of life in the PMA.

The following section provides a summary of present and future demographic and housing characteristics in the PMA. The data and information in this analysis originate from the U.S. Census Bureau American Community Survey (ACS) estimates and are supplemented by other sources as listed.

### **3.3. Demographic and housing characteristics**

As one of the largest metro areas in the United States, the PMA is in the midst of a period of significant population growth, reaching a percentage change of 17 percent from 2010 to 2019 and an average of 200 additional residents on a daily basis (azgovernor, 2019a). Maricopa County, which constitutes a large share of the PMA area, is also still ranked the fastest growing county in the country since 2016 (U.S. Census Bureau, 2019). On the whole, the PMA estimated total population was 4,761,603 in 2019

and is expected to reach 5,291,189 in 2026, adding almost 1 million people during the next decade, if current growth trends are extrapolated (see Figure 2).

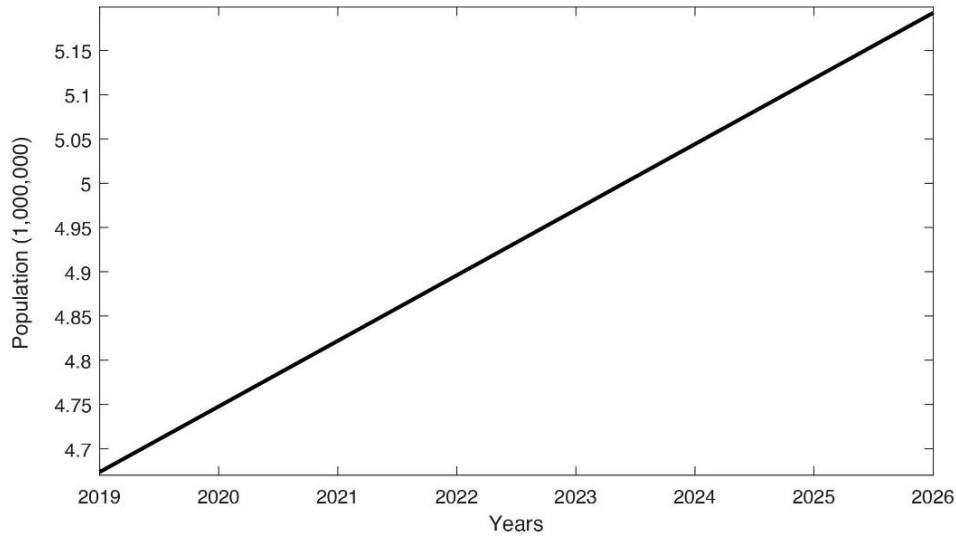


Figure 2. Study Area Projected Population (2019-2026)  
Data source: American Community Survey 5-Year Estimate (2019); American Community Survey 5-Year Estimate (2010)

The population distribution is demonstrated in the population pyramid (see Figure 3). PMA’s population pyramid has a relatively large base indicating a high number of children. Approximately 27 percent of the PMA population was under the age of 20 in 2019, which is slightly lower than the average U.S. population under the age of 20 (~ 29 percent). The pyramid has a significantly large middle section showing the large cohort of individuals aged between 20 and 34 years, considered as Millennials in this study. The share of Millennials in the PMA is typical for the U.S. metropolitan such as Greater Houston and Los Angeles (see Table 1). The population pyramid gradually tapers off at the oldest ages with a population of 65 and older of 15 percent, which is relatively low as compared to other U.S. metropolitan areas.

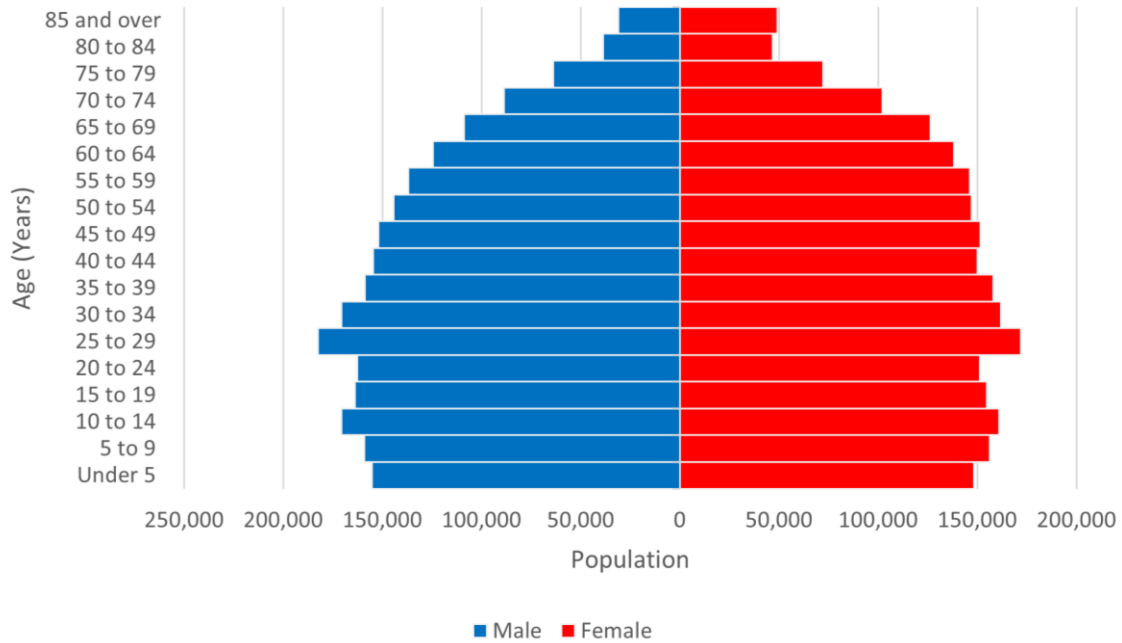


Figure 3. Study Area Population Pyramid (2019)  
 Data source: American Community Survey 5-Year Estimate (2019)

The PMA is becoming one of the most racially and ethnically diverse metropolitan areas in the U.S. along with other regions in the urban Sun Belt, such as Los Angeles, Dallas, and Houston (Fulton et al., 2020; see Figure 19 in Appendix E). Yet, it is dominated by the White population. The Not Hispanic or Latino (NHL) White population represented 55 percent and the percentage of Hispanic or Latino (HL) White was estimated at 22 percent in 2019. The PMA’s second-largest racial group is Black or African American, with 5 percent of NHLs. The Asian population ranks third with 4 percent of NHLs, followed by 2 percent of NHL American Indian and Alaska Native. The Native Hawaiian and Other Pacific Islander population was the least represented race in the PMA (see Figure 4).

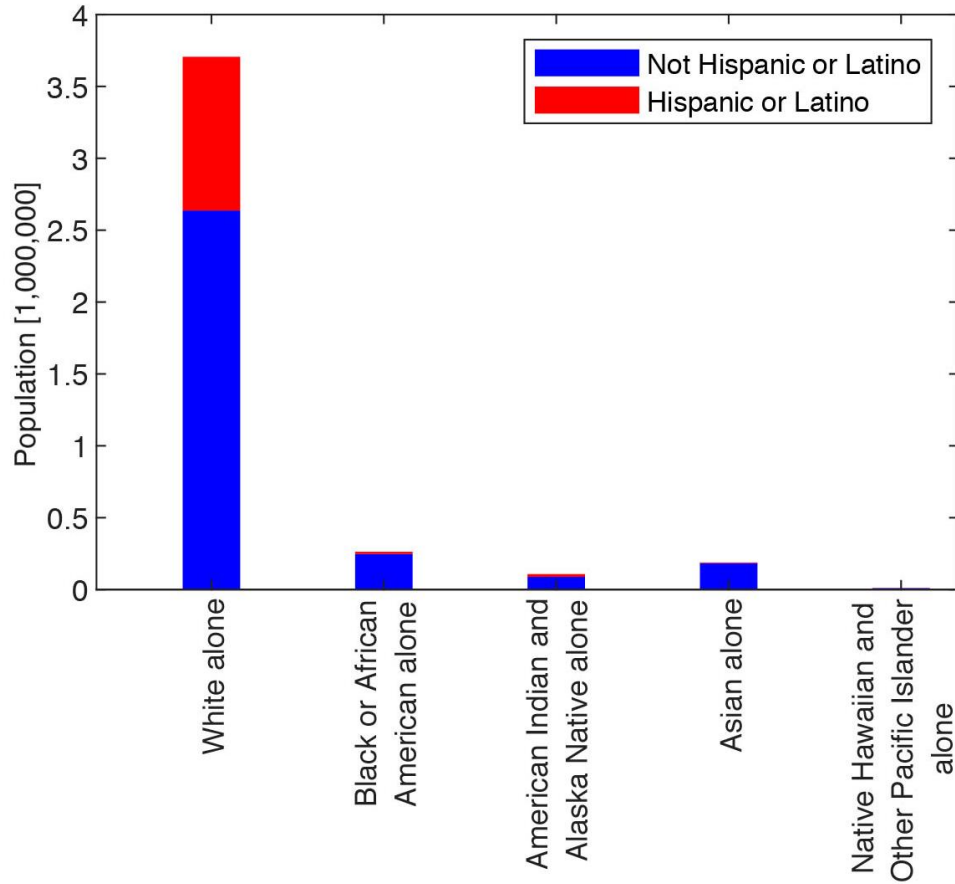


Figure 4. PMA Population Origin by Race (2019)  
 Data source: American Community Survey 5-Year Estimate (2019)

The PMA has a variety of housing options that differ from one area to another. Single-family housing represents the largest share (i.e., 65 percent in 2019). Yet, the multifamily housing market is growing, especially in urban cores (Pfeiffer et al., 2019). Geographic variations in household income and housing types are some of the main factors shaping residential decisions and mobility.

The PMA had a total number of households of 1,693,396 in 2019 and a 66 percent share of family households. The occupancy rate was estimated at 88 percent, with 63 percent owner-occupied. The typical housing value in the PMA, in turn, reached

\$334,975 in 2021, which is slightly higher than the typical home value in the United States (i.e., \$269,039) (Zillow, 2021). PMA's average fair market rent for a two-bedroom home is estimated at \$1,173, which is lower than the national average fair market rent for a two-bedroom home in the U.S. (i.e., \$1,246) and other metropolitan areas, such as Greater Los Angeles (Out Of Reach National Low Income Housing Coalition, 2020).

The PMA median household income estimated at \$68,032, which reflects a 22-point increase between 2010 and 2019, is slightly low as compared to other major metropolitan areas such as Greater Houston and Greater Los Angeles (see Table 1). Besides, there is still a drastic housing shortage and a significant mismatch between housing needs at lower income levels and the number of units available to these communities (Reagor, 2021), especially since the rent affordable for a two bedroom home for households earning extremely low incomes is \$584 (Out Of Reach National Low Income Housing Coalition, 2020).

#### **3.4. COVID data and updates**

The COVID-19 pandemic reached Arizona at the early stages of its spread in the U.S. The state reported its first confirmed case in January, 2021, which was the 5<sup>th</sup> COVID case overall in the country (Arizona Department of Health Services, 2021). The Arizona governor signed an executive order announcing the state of emergency on March 11, 2021, after the 9<sup>th</sup> confirmed case, and schools started to close on March 15, 2020 (azgovernor, 2021). As numbers of COVID-cases and deaths were growing fast, the state issued stay-at-home and non-essential businesses (e.g., gyms, bars, and recreation centers) shut down orders on March 20, 2020, which expired on May 15, 2020 (Arizona

Department of Health Services, 2021; azgovernor, 2021). COVID-19 cases continued to rise and hit a record high after the end of the state lockdown, which made some counties, including Maricopa issue masks mandates. The numbers are still rising, and Arizona public health authorities reported a cumulative total of 839,888 cases and 16,919 deaths on March 28, 2021 (Arizona Department of Health Services, 2021). Figure 5 illustrates the Arizona and Maricopa county COVID-19 pandemic timeline.

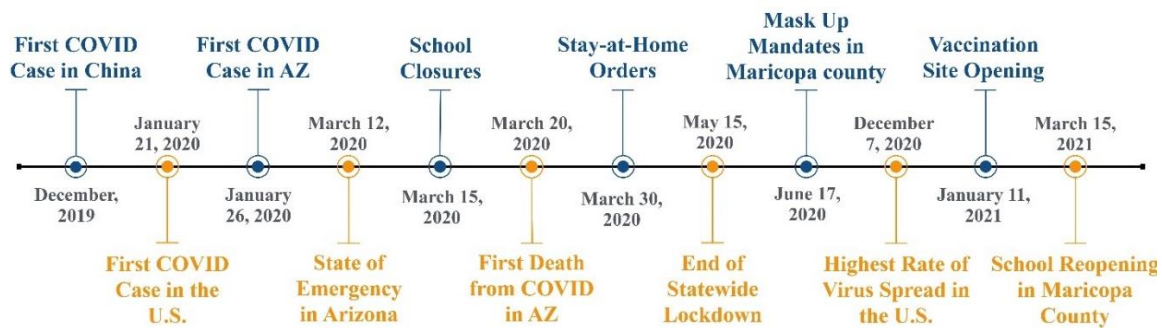


Figure 5. COVID-19 Timeline in Arizona and Maricopa County

Data source: Arizona Department of Health Services, 2021; azcentral, 2021; azgovernor, 2021; World Health Organization, 2020

Maricopa County and Pinal County are some of the Arizona counties that were hit the hardest (see Figure 6). Overall, the PMA has accumulated 572,687 cases and 10,494 deaths (Arizona Department of Health Services, March 28, 2021). These numbers are relatively high compared to some major metropolitan areas such as Greater Houston (see Figure 7). Yet other regions, including Greater Los Angeles, count greater numbers of confirmed cases and deaths; these were estimated at 2,147,820 and 43,220 respectively on March 28, 2021 (The New York Times, 2021b). Figure 7 shows the COVID-19 time series in the PMA, Greater Houston, and Greater Los Angeles. Table 1 provides a

summary of the demographic, housing, and pandemic characteristics of the PMA, Greater Houston, and Greater Los Angeles, for comparison.

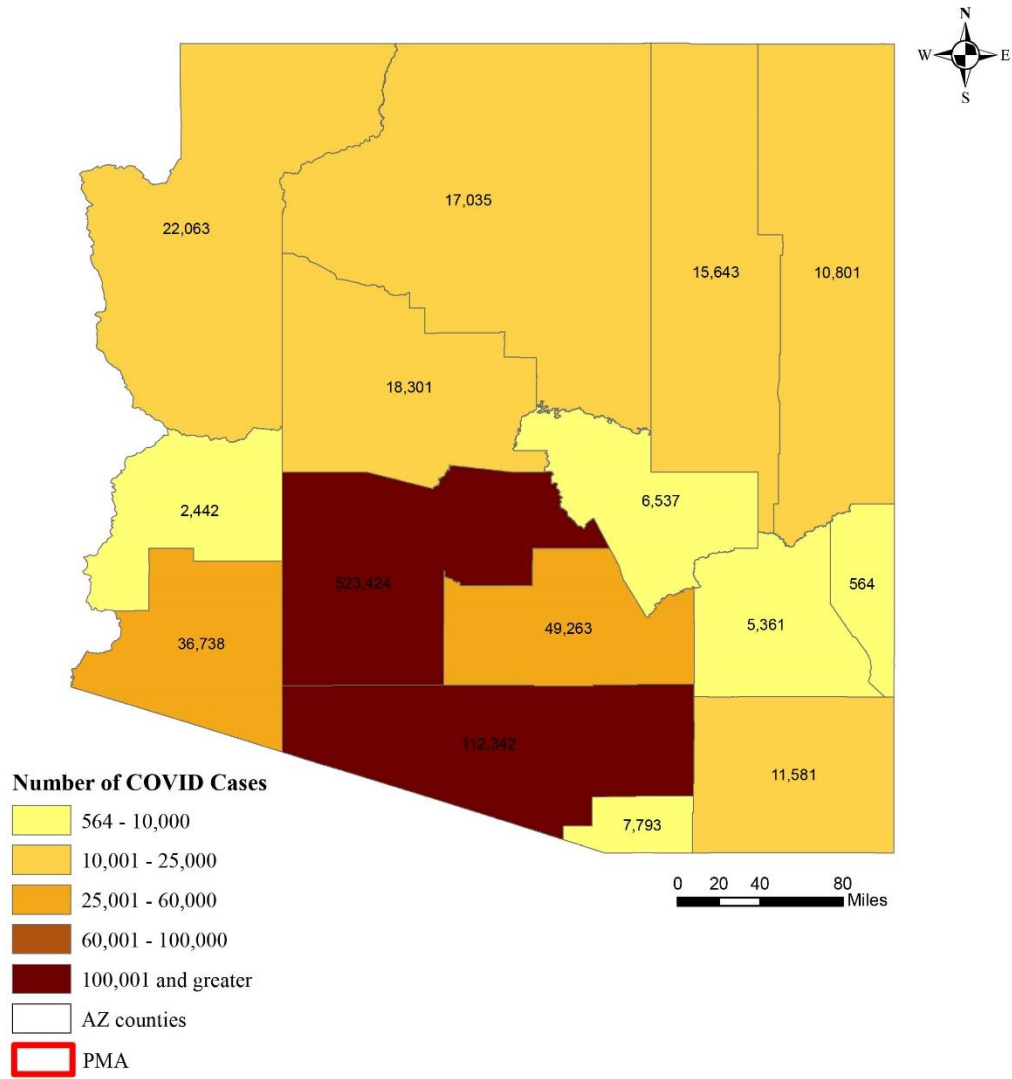


Figure 6. Number of COVID Cases in Arizona by County (March 28, 2021)  
 Data source: Arizona Department of Health Services, 2021; The New York Times, 2021

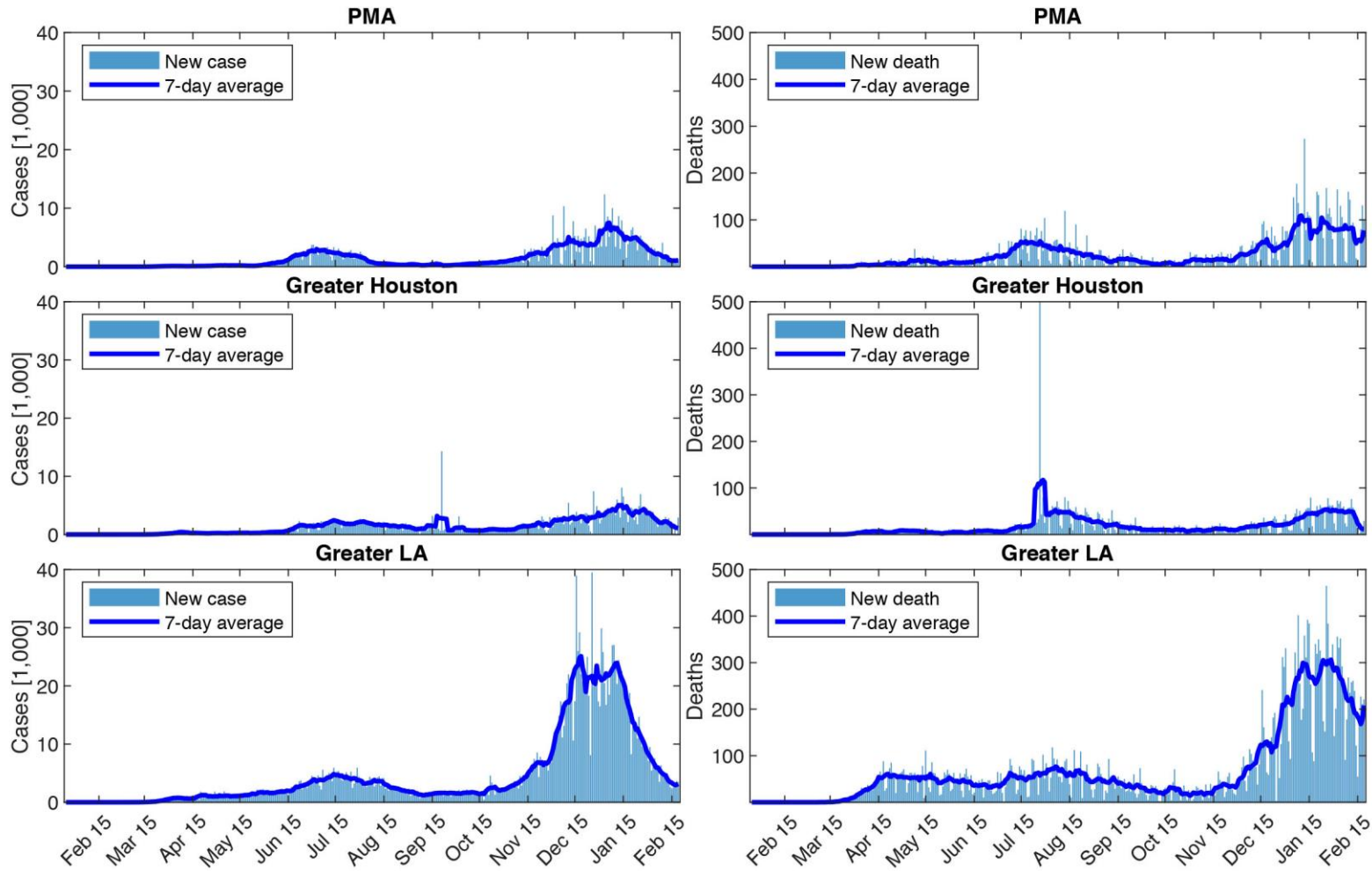


Figure 7. Number of COVID Cases and Deaths in the PMA, Greater Houston, and Greater Los Angeles (2020-2021)  
 Data source: Arizona Department of Health Services, 2021; The New York Times, 2021



Table 1. PMA, Greater Houston, and Greater Los Angeles Demographic/Housing Characteristics and COVID Numbers

Characteristics			PMA	Greater Houston	Greater Los Angeles
<b>Total Population</b>			4,761,603	6,884,138	18,711,436
<b>Male (%)</b>			50	50	49
<b>Female (%)</b>			50	50	51
<b>Millennials (%)</b>			21	22	22
29	Not Hispanic or Latino	White alone	55	36	30
		Black or African American alone	5	17	6
		American Indian and Alaska Native alone	2	0	0
	Hispanic or Latino	Asian alone	4	8	13
		White alone	22	29	27
<b>Median Income (\$)</b>			68,032	68,960	77,094

	<b>Characteristics</b>	<b>PMA</b>	<b>Greater Houston</b>	<b>Greater Los Angeles</b>
<b>Households</b>	Total Households	1,693,396	2,352,275	6,020,908
	Family households (%)	66	51	49
<b>Housing</b>	Total Housing Units	1,915,023	2,596,734	6,577,733
	Units Occupied (%)	88	91	92
	1-unit detached (%)	65	63	54
	Median Housing Value (\$)	334,975	231,195	748,532
	Average fair market rent for one-bedroom home (\$)	958	908	1,517
	Average fair market rent for two-bedroom home (\$)	1,173	1,096	1,956
<b>COVID data (March 28, 2021)</b>	Total confirmed cases	839,888	539,012	2,147,820
	Deaths	16,919	1,928	43,220

	<b>Characteristics</b>	<b>PMA</b>	<b>Greater Houston</b>	<b>Greater Los Angeles</b>
	Daily cases average	1,400	1,328	4,674
<b>COVID data (March 28, 2021)</b>	Daily deaths average	24	17	68
	Administrated vaccine doses	1,811,597	2,450,297	5,970,083

Data source: American Community Survey 5-Year Estimate (2019); Zillow (2021); Out Of Reach National Low Income Housing Coalition (2020); Maricopa.gov, 2021; Pinalcountyaz.gov, 2021; Los Angeles Times, 2021; Texas Department of State Health Services, 2021

### 3.5. Policy responses during the pandemic

As the COVID-19 pandemic has unfolded, Arizona and local authorities have implemented an array of policy measures. These policies have targeted some of the primary consequences of the pandemic, including under- and unemployment and housing instability. In addition to the PMA health authorities' efforts to administer over 1,800,000 doses of COVID-vaccine (see Table 1; Maricopa.gov, 2021; Pinalcountyz.gov, 2021), Arizona's Governor has also changed a few eviction rules and delayed eviction actions for tenants affected financially or medically by COVID-19. Figure 8 demonstrates the significant decrease of eviction filings in Maricopa County in 2020 compared to the historical average taken over the years 2015-2019. In May 2020, there has been a 72 percent decline in eviction filings; evictions remained below the historical average throughout the year 2020 and the first two months of 2021.

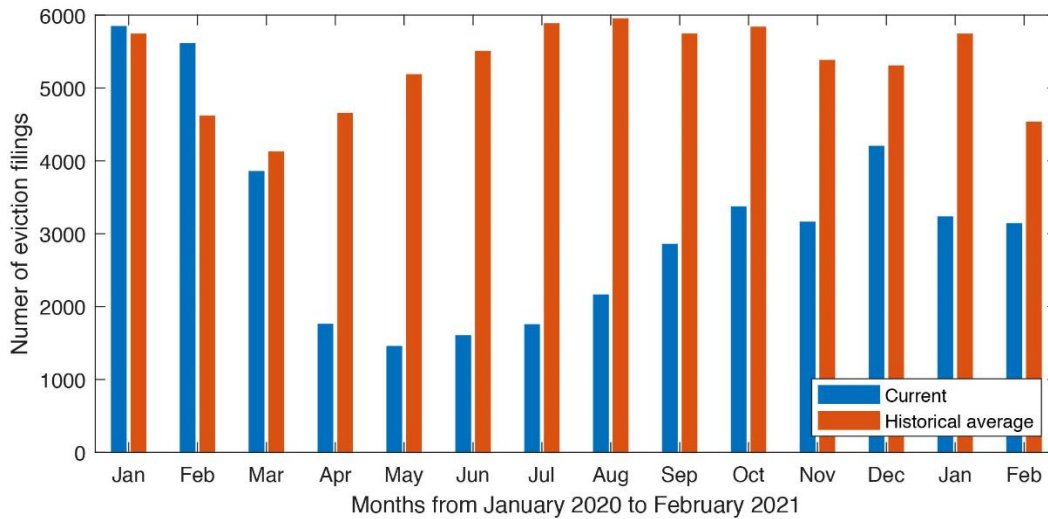


Figure 8. Current and Historical Numbers of Eviction Filings in Maricopa County  
Data source: The Eviction Lab (2021)

In the same context, the state of Arizona has ensured the application of the Centers for Disease Control and Prevention (CDC) order that protects renters at risk of eviction for nonpayment of rent during the pandemic (AZcourts, 2021). The Arizona Department of Economic Security (DES) has also provided unemployment insurance (i.e., weekly stipend) to residents who lost their jobs during the pandemic (DES, 2021). Similarly, the Arizona Small Business Association (ASBA), the Greater Phoenix Economic Council (GPEC), and the Arizona Office of Tourism have offered employment opportunities and resources to help small business owners and companies overcome the economic crisis caused by the pandemic (City of Phoenix, 2021).

Figure 9 illustrates Arizona’s actions related to housing and the different phases of federal financial relief.

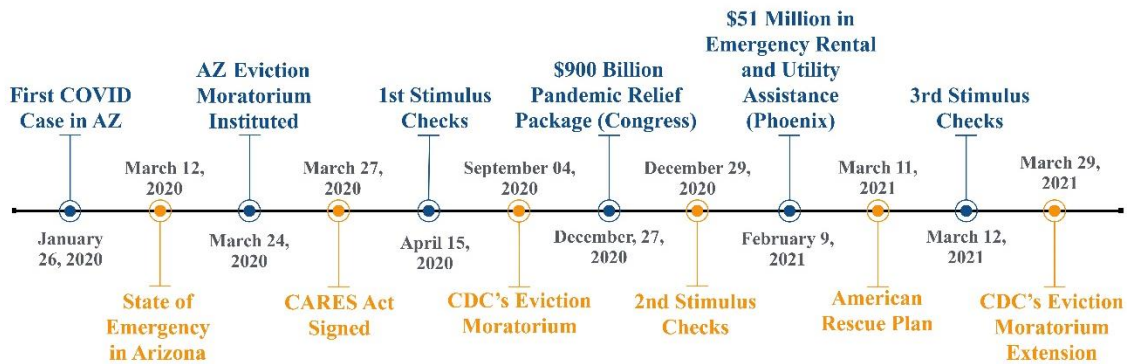


Figure 9. Timeline of Actions Related to Housing and Federal Financial Relief  
 Data source: AZcourts (2021); azcentral (2021a); azcentral (2021b); The New York Times (2021a)

Whether these rules, assistance, and resources will be enough to solve the equity issues in the PMA is a debatable topic, especially since the future of the COVID-19 crisis is still uncertain. There are also some factors, such as the lack of awareness (Reagor & Boehm, 2020) and confusion about the unprecedented eviction rules (Sanders, 2020) that hinder the implementation of these programs.

## CHAPTER 4

### DATA AND METHODS

#### **4.1. Introduction**

This chapter highlights the data collection sources, explains the analysis processes conducted to answer the research questions and draw findings and conclusions, and reviews the main limitations of these methods. The research relied on data obtained from four primary sources: (i) the U.S. Census American Community Survey, (ii) Zillow Weekly Market Reports, (iii) the U.S. Census Household Pulse Survey, and (iv) one-on-one interviews with Millennials, non-Millennials, real estate agents, planners, and social justice/housing advocates in the PMA. Mixed methods were used to analyze the data, including content analysis, descriptive statistics, and interview coding. The conclusions are based on data triangulation to increase the rigor and validity of this research's findings.

#### **4.2. Data collection**

##### *4.2.1. The U.S. Census American Community Survey*

The research used the U.S. Census American Community Survey (ACS) to collect data about the study area and Millennials' share and spatial distribution in the PMA (see Figure 18 in appendix E). The data served as a foundation to develop the study area's demographic and housing profile and evaluate features attracting Millennials in their housing decisions, such as proximity to amenities, authentic neighborhood character, and dense urban cores.

#### *4.2.2. Zillow Weekly Market Reports*

The research relied on Zillow Weekly Market Reports to investigate the housing market and real estate activity in the PMA and thus understand the key emerging housing trends in the COVID-era. The reports provide weekly data on the national and local real estate market activity compiled based on data aggregated from public sources and listing data on Zillow.com. The variables included newly pending sales (i.e., offer accepted but the sale has not happened yet), days to pending, and median sale price.

#### *4.2.3. The U.S. Census Household Pulse Survey*

The U.S. Census Household Pulse Survey served as a source of real-time information regarding the impacts of the COVID-19 pandemic on the study area's households using the following variables:

- Likelihood of eviction, referring to adults living in households where the risk of eviction in the next two months is very or somewhat likely;
- Confidence in ability to pay next month's mortgage;
- Confidence in ability to pay next month's rent; and
- Expected loss in employment income, referring to adults expecting someone in their households to lose their job or income in the next week.

The Household Pulse Survey data collection process included three phases and is available from April 23, 2020 to December 21, 2020 at the national and metro area levels. Depending on data availability on the PMA, the study used specific periods. The data collection periods for the variables included in this study are as follows:



- Confidence in ability to pay next month's mortgage or rent: from April 23, 2020 to August 31, 2020;
- Expected loss in employment: from April 23, 2020 to December 21, 2020;
- Eviction likelihood: from August 19, 2020 to December 21, 2020.

The Household Pulse Survey data is also available by age, which helps in generating data for the Millennial generation and thus understanding emerging housing trends and implications for equity in the PMA.

#### *4.2.4. Interviews*

The qualitative component of the research relied heavily on interviews to further explore Millennials' housing preferences in this health crisis in the PMA and get a better sense of the themes pertaining to this topic (see appendices A, B, C, and D). Given the need for social distancing due to the ongoing pandemic and difficulties of conducting focus groups virtually (e.g., technical problems that can disrupt the whole group), this study relied on 27 one-on-one interviews, including 16 interviews with Millennials, six interviews with non-Millennials, two interviews with real estate agents, and three interviews with planners, and social justice/housing advocates in the PMA (see Table 2). The interviews were conducted via Zoom, over the phone, or through email, depending on participants' preferences and availability from December 20, 2020 to February 12, 2021.

The interview introductory questions addressed whether and, if so, how, the COVID-19 pandemic impacted interviewees' life, community, and practices. Interview questions varied depending on the participant profiles. For Millennials and non-

Millennials, the questions addressed households’ characteristics as well as residential choice and mobility before and after March 2020 and the push and pull factors shaping changes in residential location over time and after the onset of the pandemic, if applicable. The questions for real estate agents focused on the observed trends in habits and preferences among Millennials prior to and after March 2020, as well as the impacts that these patterns can have on the PMA housing market in the short- and long-term. The bulk of the last type of the interviews included questions for planners and/or social justice/housing advocates in the PMA about the impact of COVID, if any, on Millennials’ housing amenity, type, and locational preferences and the effects of emerging trends on migration patterns, where housing is built, low-income communities, and the housing market in the short- and long-term. For all three interview types, the concluding questions included questions about additional thoughts, recommendations, and suggestions from the interviewees, and follow-up emails.

Table 2. Summary of Millennials and Non-Millennials’ Characteristics

<b>Interview type</b>	<b>Targeted participants</b>	<b>Number of participants</b>	<b>Length of the interview</b>
1	Millennials	16	30-45 min
	Non-Millennials	6	
2	Real estate agents	2	15-20 min
3	Planners and social justice/housing advocates	3	15-20 min

*Source: Interviews*

For the recruitment process, this study drew on a convenience sample using a snowballing strategy to identify participants through (i) direct advertising through the ASU School of Geographical Sciences and Urban Planning (SGSUP) mailing lists and other social media platforms (e.g., SGSUP Instagram, Twitter, and LinkedIn), (ii) reposts in personal Instagram and LinkedIn platforms and re-tweets, and (iii) existing participants. Data were collected until attaining a saturation point, meaning no new information was obtained from further interviews (Small, 2009).

The Millennial and non-Millennial interviewees included current students, faculty, and staff, among others, and were racially diverse with different life/family situations (i.e., married, single, living with a partner, living with parents, etc.) (see Table 3). The study also included participants with different housing tenures (i.e., tenancy and owner-occupancy) to capture the factors shaping residential decisions holistically. Finally, most of the participants, especially Millennials, were living in urban cores and/or areas with a high share of Millennials (i.e., 20 percent and greater). For confidentiality reasons, Figure 10 demonstrates the approximate location of where the participants were living at the time of the interview.

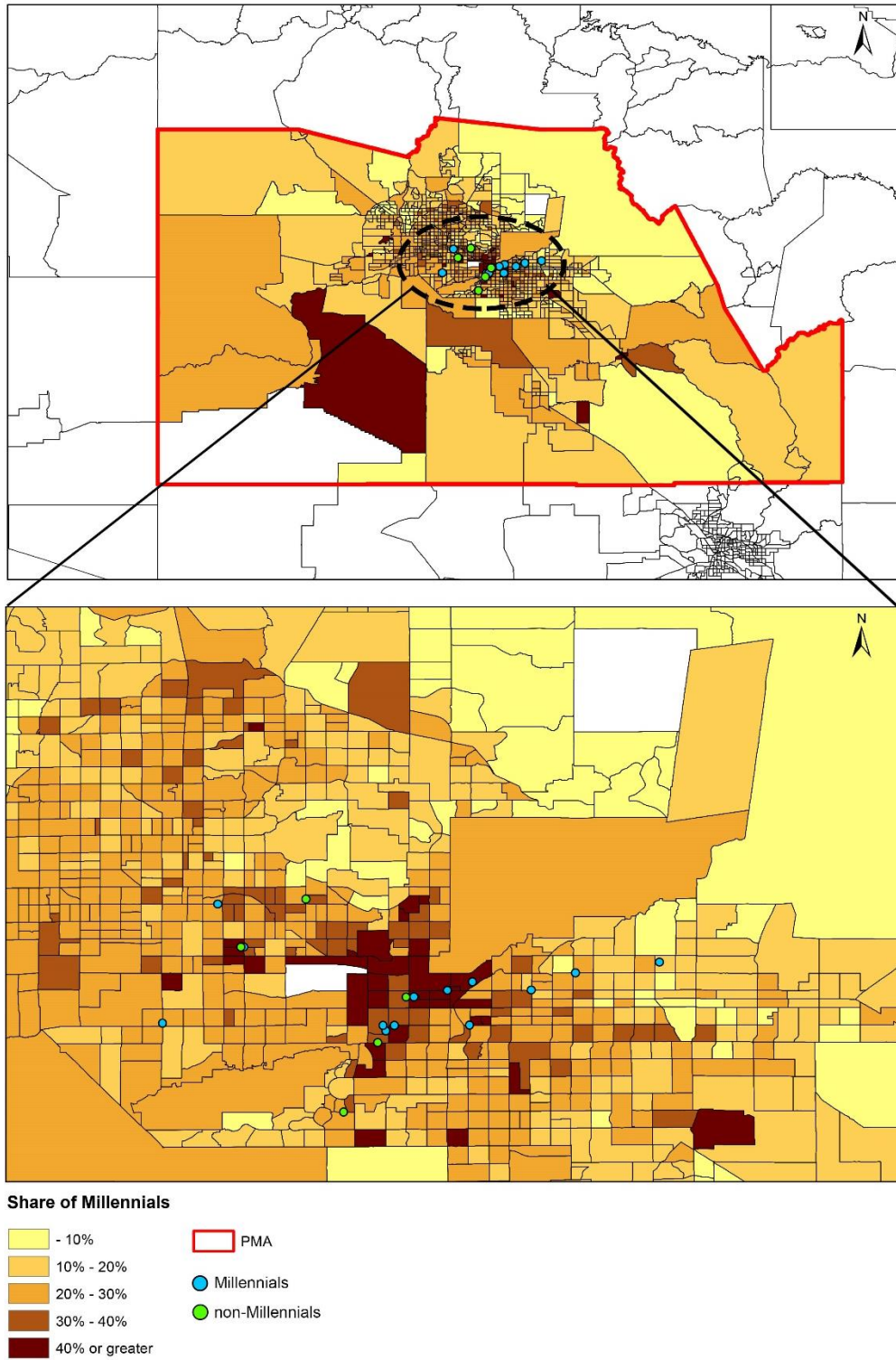


Figure 10. Interview Participants Approximate Addresses  
 Data source: Interviews

Table 3. Millennials and Non-Millennials' Characteristics

<b>Id</b>	<b>Generation</b>	<b>Race</b>	<b>Type of house</b>	<b>Tenure</b>	<b>Family household</b>	<b>Living alone</b>	<b>Living with roommates</b>	<b>Single</b>	<b>Married</b>	<b>Married with Children</b>	<b>In-person student</b>	<b>Online student</b>	<b>In-person work (full-time)</b>	<b>Telecommuting (full-time)</b>	<b>Telecommuting (part-time)</b>	<b>Moved during COVID</b>
1	Millennial	[Missing]	Apartment	Renter		✓		✓				✓		✓		
2	Millennial	White	Studio	Renter		✓		✓				✓			✓	✓
3	Millennial	Black-African American	Single-Family Home	Lives with family	✓			✓				✓				
4	Millennial	White	Single-Family Home	Renter		✓		✓				✓				✓
5	Millennial	Hispanic	Apartment	Owner		✓		✓				✓		✓		✓
6	Millennial	White	Apartment	Renter		✓				✓			✓			
7	Millennial	White	Townhouse	Renter	✓					✓		✓				
8	Millennial	White	Apartment	Renter		✓		✓				✓			✓	
9	Millennial	White	Apartment	Renter		✓		✓				✓				✓

<b>Id</b>	<b>Generation</b>	<b>Race</b>	<b>Type of house</b>	<b>Tenure</b>	<b>Family household</b>	<b>Living alone</b>	<b>Living with roommates</b>	<b>Single</b>	<b>Married</b>	<b>Married with Children</b>	<b>In-person student</b>	<b>Online student</b>	<b>In-person work (full-time)</b>	<b>Telecommuting (full-time)</b>	<b>Telecommuting (part-time)</b>	<b>Moved during COVID</b>
10	Millennial	White	Single-Family Home	Renter			✓	✓				✓				
11	Millennial	Mixed-Race	Apartment	Renter			✓	✓				✓	✓			
12	Millennial	White	Single-Family Home	Renter			✓	✓				✓	✓			✓
13	Millennial	[Missing]	Apartment	Renter			✓	✓				✓	✓			
14	Millennial	White	Single-Family Home	Lives with family	✓			✓				✓	✓			
15	Millennial	White	Apartment	Rented	✓				✓				✓			✓
16	Millennial	Asian	Apartment	Owner			✓	✓				✓	✓			
17	Non-Millennial	Asian	Apartment	Lives with family		✓		✓				✓				✓

<b>Id</b>	<b>Generation</b>	<b>Race</b>	<b>Type of house</b>	<b>Tenure</b>	<b>Family household</b>	<b>Living alone</b>	<b>Living with roommates</b>	<b>Single</b>	<b>Married</b>	<b>Married with Children</b>	<b>In-person student</b>	<b>Online student</b>	<b>In-person work (full-time)</b>	<b>Telecommuting (full-time)</b>	<b>Telecommuting (part-time)</b>	<b>Moved during COVID</b>
18	Non-Millennial	Asian	Single-Family Home	Renter			✓	✓				✓				✓
19	Non-Millennial	Black-African American	Dorms	Rented			✓	✓				✓			✓	
20	Non-Millennial	White	Townhouse	Renter			✓	✓						✓		
21	Non-Millennial	White	Single-Family Home	Lives with family	✓			✓				✓		✓		✓
22	Non-Millennial	Mixed-Race	Townhouse	Renter		✓		✓				✓				

Data source: Interviews

### **4.3. Data analysis**

The analysis of the collected data is based on two main methods, which are descriptive statistics and content analysis. The descriptive statistics method is used to describe, analyze, and summarize the data collected from the U.S. Census ACS, Zillow Weekly Market Reports, and the Household Pulse Survey. This analysis served to develop the research foundation and understand the study area's background and key emerging housing trends in the wake of the COVID pandemic.

Content analysis was the core method to analyze the interview transcripts. This method involved discovering, organizing, and conducting manifest and latent analysis of words, concepts, and themes (Gaber, 2020; Hsieh & Shannon, 2005). The interview analysis relied on full content transcription and manual coding of the text using a combined inductive and deductive approach. Coded texts were checked for internal inconsistencies. In all, the interview data helped to reveal stories about how the pandemic is shaping Millennials' housing preferences in the PMA and the potential impacts of these trends on the study area's housing market, urban structure, and housing policymaking in the short- and long-term.

The conclusions of this research were based on methodological triangulation to draw patterns and develop meaningful findings that represent the results of the descriptive statistics and interview content analysis. For instance, data from Zillow Market Reports were used to support real estate agents' claims about the increased demand for housing and rising home prices in the PMA. Interviews with planners were helpful in providing insights about equity issues that the Housing Pulse Survey revealed,



such as Millennials' increased risk of eviction in the PMA. Similarly, scholarly publications and newspaper articles provided supportive evidence to further explain Millennials' interviews and comments about emerging housing preferences.

#### **4.4. Limitations**

This research is vulnerable to challenges of validity and reliability and subject to several limitations. First, not enough time has passed to see the full impact of COVID-19 on housing preferences, which will require longitudinal data and analyses. However, a mixed-method approach is a good starting point for exploring emerging trends and themes, which can inform future predictions about Millennials' residential mobility and housing decisions.

Second, the ACS builds its dataset on a small sample size of the population and housing units, which increases the sampling error and thus affects the reliability of its estimates. The five-year ACS estimates also rely on continuous data collection over a five-year period, which results in a difference between the available age groups data and the definition of Millennials as those born between 1981 and 1996 (aged between 23 and 38 in 2019; Dimock, 2019). Similarly, the Household Pulse Survey is subject to sampling and processing errors, especially since the timeframe to code the data was very limited. The Zillow Weekly Reports' limitations in regard to this research, in turn, include the lack of data on smaller scales, such as counties, cities, block groups, and zip codes. The available data was only at the national and metropolitan area levels, which affected the ability to examine intraregional shifts in Millennial mobility. Data triangulation helped address these issues and draw holistic findings.

Third, most questions asked in the interviews were open-ended, which raises research bias in coding and interpreting the data and thus reliability and internal validity challenges. This issue was addressed by developing a detailed codebook that identified themes and subthemes related to the participants' responses. To ensure internal consistency, codes and coded text were consistently evaluated and revised if necessary. The snowball sampling based on SGSUP networks, in turn, meant that Millennial-aged students were a dominant group in the interviews. This may affect the ability to capture Millennials' housing preferences holistically, especially since students might have housing needs that cannot be generalized to the Millennial generation. Yet, the interviews were analyzed with scrutiny taking into consideration the lifecycle changes and socio-economic conditions prior to developing conclusions about Millennials' housing choices. Negative cases (i.e., responses that reflect experiences that are different from the main evidence provided by the rest of the interviewees) were highlighted throughout the results to capture Millennials' housing preferences comprehensively. The study also included a counterfactual of non-Millennials to identify what is unique about Millennials and increase the research accuracy.

Fourth, sending and/or explaining the topic and aim of the research prior to conducting the interview led to response biases from participants who tried to relate their answers to ongoing trends. The extent to which the answers were based on facts and personal experiences is unclear.

Further, the focus on the PMA represents an external validity challenge. The PMA has demographic and housing characteristics that are comparable with other

metropolitan areas (see Table 1). However, there are several attributes that should be considered prior to generalizing trends, including the sample size. Also, the numbers of COVID-19 confirmed cases, the social distancing restrictions, and the political response to the pandemic could have led to different experiences and thus different housing preferences (see Figure 7 and Table 1).

Finally, the dynamic and time-specific nature of the topic resulted in patterns that are suggestive of Millennials' housing preferences during the COVID era rather than conclusive. For instance, experts' responses about the implications of Millennials' housing preferences in the COVID era were based on personal perspectives and viewpoints.

## CHAPTER 5

### PMA HOUSING TRENDS AND IMPLICATIONS

#### **5.1. Introduction**

This section presents the key findings of this research analysis. It first sketches the housing dynamics in the PMA in the COVID era and explores the changes that the real estate industry has experienced during this ongoing health crisis. Increased demand for housing, rising home prices, desire for homeownership, and strong real estate activity are some of the new housing patterns observed during the pandemic. Second, this section highlights key Millennial housing preferences that emerged because of online schooling, telecommuting, business shutdowns, etc. The emerging preferences that Millennial interviewees highlighted include flexibility and comfort, increased demand for larger homes with outdoor spaces, and desire for more privacy, among others. Finally, the chapter describes the implications of Millennials' housing preferences in the COVID era for social equity and the regional housing market, including continued suburbanization and housing insecurity.

#### **5.2. Making sense of the housing boom in the PMA**

Amid uncertainties that the COVID pandemic has brought, many metro areas, such as New York and San Francisco have experienced a downturn in the housing market (Drucker, 2020; Taylor, 2020). In contrast, the real estate industry in the PMA has flourished. Many projects were delayed or canceled, and some housing funding was

eliminated or cut drastically. Yet, new opportunities emerged. A real estate agent in the PMA explained that the pandemic has led to unprecedented housing market activity:

*After the stay-at-home orders were lifted, it was as if it never happened, and we had a delayed spring selling season that never stopped. We were busier this past year than any of my prior 18 years in real estate. (Email interview, January 5, 2021)*

The housing market saw an increased number of new pending listings. Zillow (2020) demonstrated that the number of new pending listings started going up at the beginning of the year 2020 and slightly fell in March, when COVID was officially declared a pandemic (World Health Organization, 2020). The number increased again starting from May 2020. In all, listings increased from 4,786 in January 2020 to 6,519 in October 2020, which represents a percentage change of 4 percent (see Figure 11). This could be explained by home buyers who accelerated their purchase process because of the high competition in the marketplace. The accelerated trends, in turn, have caused a significant decline in the mean days to pending, which decreased by 17 days from February, 2020 to December, 2020. Besides, houses priced below \$500,000 got multiple offers within a few hours after being listed (Reagor, 2021). Cash- and well-qualified buyers with large down payments were the ones getting the most accepted offers, especially since the PMA housing boom and sales growth created a rapid rise of housing prices to \$334,975 in 2021, a trend that is expected to continue throughout the year

(Zillow, 2021;Reagor 2021). Figure 12 shows the dramatic change in home prices from December 2019 to November 2020.

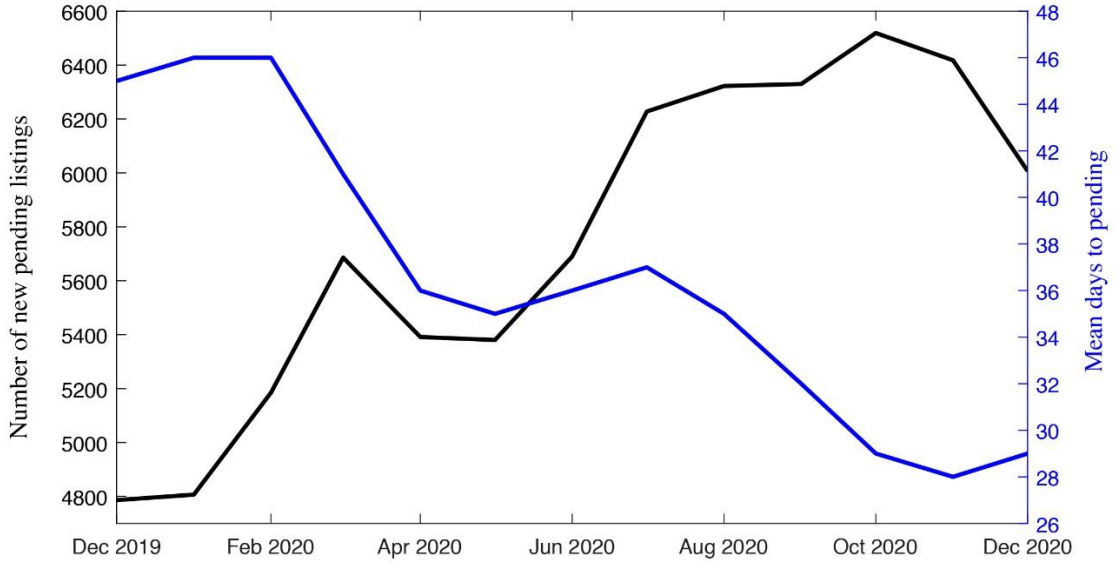


Figure 11. PMA Pending Listings and Mean Days to Pending (Dec, 2019-Dec, 2020)  
Data source: Zillow (2020)

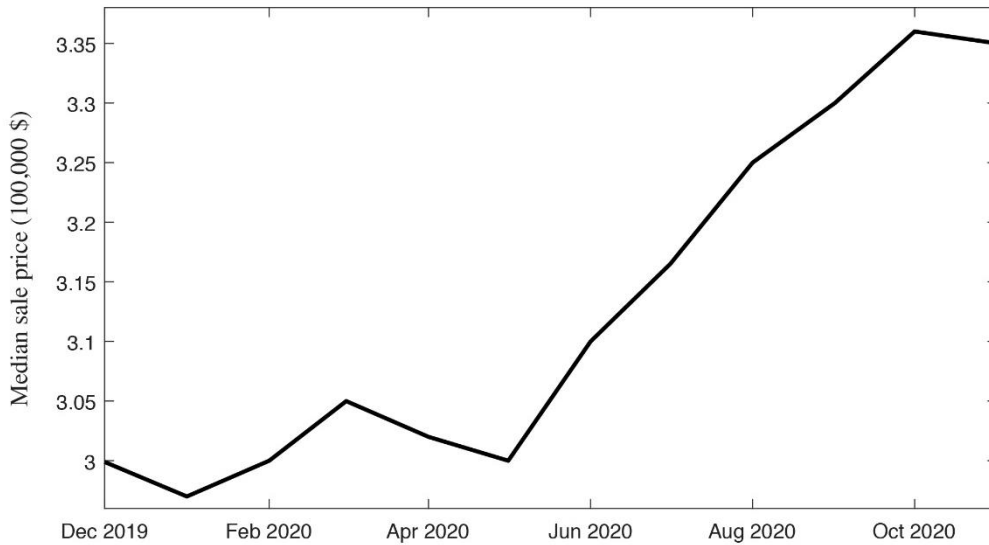


Figure 12. PMA Median Housing Sale Price (Dec, 2019-Nov, 2020)  
Data source: Zillow (2020)

Several factors have contributed to the resilience of the residential real estate market in the PMA in the age of the COVID health crisis. These factors include the availability of low mortgage rates, desire for stability and homeownership, and increased number of out-of-state buyers (Reagor, 2020a, 2020b; Snyder & Lum, 2021). Also, many homeowners used their properties as an income-generating asset as claimed by a real estate agent:

*People are thinking...the housing market is really great right now; I'm going to sell my house and I'm just going to rent for a while. And I'm going to wait until...there's a correction and then look at buying again...they're kind of...cashing out because they know the market is really strong right now. (Zoom interview, January 7, 2021)*

Another downtown real estate agent added: *“Clients who already owned homes decided this was the year to sell their homes...many made over \$100,000 above their purchase prices, due to their smart choices in remodeling and desirable, trendy finishes”*. (Email interview, January 5, 2021)

In short, the housing market in the PMA is booming. Evidence demonstrates that there is a significant increase in demand for housing and a substantial rise in home prices. The desire for homeownership can be clearly observed; experts expect this trend to continue. The PMA was an attractive hub for people seeking to settle. Yet, the COVID pandemic accelerated housing dynamics and created new opportunities to generate income from housing.

### **5.3. Where do Millennials want to move?**

Although the COVID pandemic has impacted all generations, Millennials, especially those who just graduated or entered the job market, were hit hard, as they faced employment and housing insecurity. The interviews conducted with Millennials, other generations, real estate agents, and planners demonstrated that a few residential habits and preferences have stayed the same. However, new housing trends have emerged as a response to the crisis and its externalities. A Phoenix real estate agent noted that the pandemic made many Millennials reevaluate their residential choices, which is forcing an adaptation of the real estate market and housing options in the PMA.

This research sheds light on Millennial residential mobility to further understand the factors shaping housing decisions. Many Millennial participants moved within the PMA and a few moved out of the study area as they were adapting to the new working and living conditions (see Table 1). Most Millennials who moved were living in urban cores. While many of them moved to areas with a high share of Millennials, a few decided to live in areas far away from downtown or even outside of the PMA. Similarly, a high share of participants mentioned their interest in residential mobility to meet new housing needs (e.g., homes with office spaces). Figure 13 illustrates the locations of where the interview participants were living and where they moved during the COVID era.



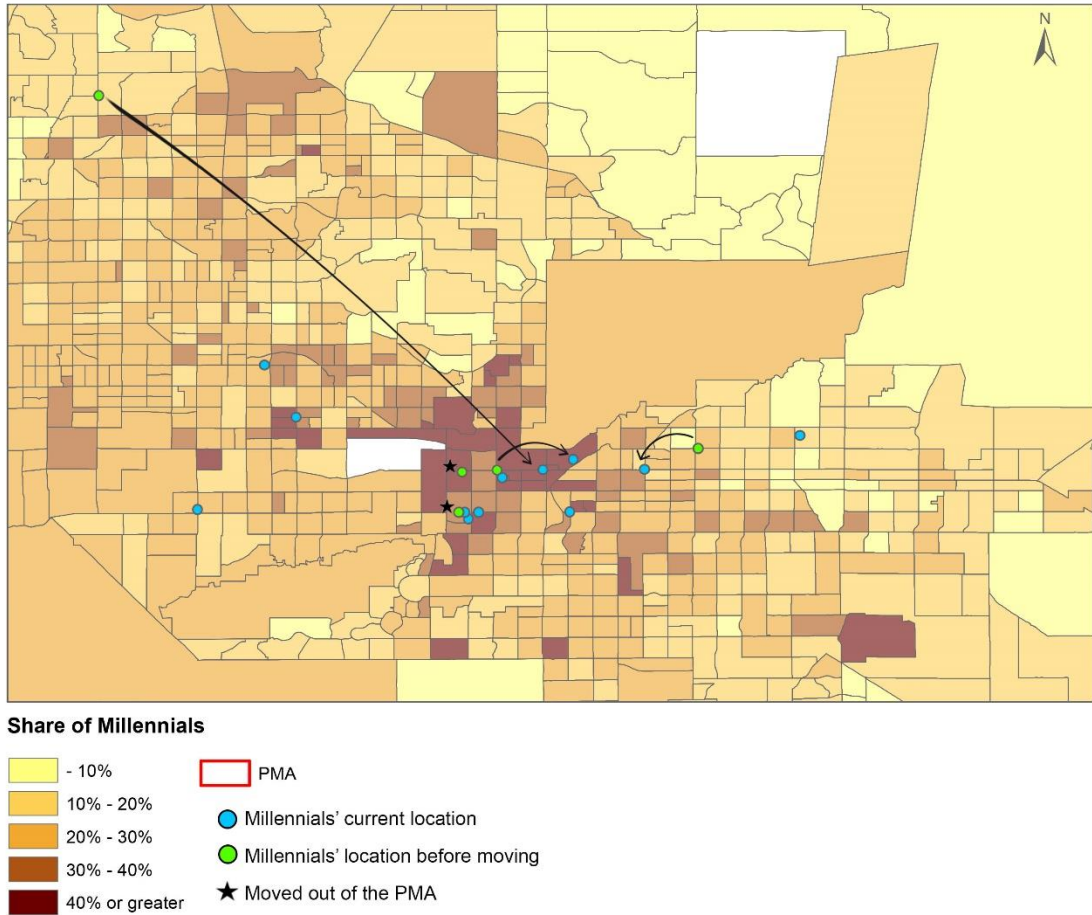


Figure 13. Participants' Residential Mobility Patterns

Data source: Interviews

### 5.3.1. *Effects of the pandemic on proximity consideration*

Many scholars, pre-pandemic, argued that proximity-related factors were among the main priorities in Millennials' residential choices (e.g., Ehlenz et al., 2020; Lee et al., 2019; Pfeiffer et al., 2019). Have Millennials changed their perspective on proximity in the COVID era? This section will address this point and provide illustrative examples of Millennials' residential preferences and consideration of proximity to jobs and schools in the wake of the pandemic.

Stay-at-home orders, business shutdowns, and the rise in remote working have made Millennials reevaluate their housing choices based on convenience regarding proximity to jobs, school, and amenities. Many Millennial-aged interviewees explained that their residential decisions were strongly motivated by proximity-related factors prior to the hit of the pandemic. An ASU real estate and land development professor said that Millennials prefer shorter commutes, which highly affects their housing choices. An ASU student explains:

*I originally wanted to be as close to campus as possible, because I don't have a car... I ride my bike everywhere...I wanted to have access to the Orbit bus (i.e., free neighborhood circulator shuttle) or just a bus to get to campus really easily, but with that in mind, I really regret not moving, because school is mostly online. (Zoom interview, December 28, 2020)*

After the hit of COVID-19, proximity to school and jobs was not a priority anymore. The interview participants expressed their interest in urban environments, connectivity, access to transit, access to public spaces, etc. However, many stated that they now prefer areas where they can still benefit from all these features without necessarily being close to school or jobs. Westlake (2021) raises an important point about the long-term implications for moving and relocation during the pandemic, especially since the future of COVID, remote working, and online learning is still uncertain. Though none of this research's participants mentioned a long-term residential choice, such as

buying a home during the pandemic, it is worth mentioning that decisions to move far away from school and jobs could be a temporary short-term consideration.

The remote working trend has led to a decline in independent living and thus an increase in multi-generational housing. Forty percent of the Millennials who participated in this study claimed that they moved or are planning to move in with their parents and/or family members at some point because of the pandemic. An ASU student said: “*A lot of my friends... a lot of my classmates have just moved back home out of Tempe*”( Zoom email, December 21, 2020). Fry et al.'s (2020)'s study shows a large increase in the share of young adults (aged 18-to 29 years) living with parents and family members after the hit of COVID. The number has gone up by 2.6 million from February 2020 to July 2020, surpassing the peak of young adults living with family members during the Great Depression (Fry et al., 2020). A planner put this into context and claimed:

*I think we'll see more multi-generational housing...where you have...the parents in the house and the kids move in and they start their families. We'll see more and more of that because I feel like that's a kind of a trend that's pressing. Especially with housing affordability becoming an issue. It's not easy for Millennials to purchase homes so they might like the neighborhood they grew up in. So they just moved in with their parents. (Zoom interview, December 28, 2020)*

Surprisingly, the pandemic has also led to a trend of Baby Boomers taking up residence with their adult children. The factors that are fueling this pattern include the desire to stay close to family and ease of caretaking (i.e., adult children taking care of

their aging parents and Baby Boomers taking care of their grandchildren). A Millennial-aged participant explains:

*My mom is 65...she basically came out to live with us...she sold her house before COVID...January, February...She was thinking about getting a condo in New Jersey because she's very independent...Obviously, we wanted her to come out here, but COVID made it happen so much faster. So it was basically COVID...With my mom being here, she doesn't go anywhere. And we're all contributing more towards meals and she helps a lot with my daughter so I can work. Which is crazy. Because with COVID, I can't send her to daycare. And I think that...right now, what you realize is that you can't travel back and forth so often to see family. (Zoom interview, January 2021)*

In the same context, school and daycare closures have pushed many working parents with children, especially those who are nonwhite and have low educational attainment, to rely on grandparents for help during the pandemic (Feintzeig, 2020).

The situation for attempting adults, (i.e., Millennials starting to settle down and seeking homeownership and parenthood; Ehlenz et al., 2020) is somewhat different. A 34-year-old interviewee said: *“I'm technically a Millennial, but there's kind of a big gap there to Millennials as well”* (Zoom interview, January 2021). Attempting adult participants claimed that their priorities changed once they had children. An interviewee shared his unique experience as a parent to an autistic child and noted that they prefer dense urban environments, but what matters the most for their family, even during the

COVID crisis, is school ratings and autism services, which are unfortunately only available in suburban areas.

### 5.3.2. *Increased desire for larger homes*

Space was another feature that characterized Millennials' housing preferences in the COVID era. The pandemic has accelerated the transition to telecommuting, but at the same time, it has revealed the limitations of completing work tasks at home. While some were able to afford the luxury of having accommodations that allowed them to have an office space at home, many noted that they have been converting their bedroom into a workplace, which made them realize that they need a bigger home. Espinosa (2020) reports that white Gen Xers are the most likely to have a formal office space at home. Further, a large share of Millennials has been using their living room, bedroom, and kitchen table to work remotely. A Millennial-aged participant, working remotely, stated that they wanted “*a little bit more space*” since their “*desk setup would be a little bit more comfortable than the current situation right now*” (Zoom interview, January 4, 2021). A Phoenix real estate agent also highlighted the increased demand for home office space across the board.

Many interviewees expected an increase in single-family housing demand and suburbanization, especially since Millennials do not need to be close to school or jobs as much and the benefits that downtown has to offer (e.g., amenities, vibrant environments, and street-level activities beyond the 9-to-5 workday) are not very relevant now with all health restrictions and six-foot social distancing requirements. Additionally, as 76 percent of Millennials (mostly emerging adults) are pet-parents (YPULSE, 2020a), many

participants expressed their desire to have yards or outdoor spaces in their home where their pets can play. An ASU student said:

*I have a dog that comes in to play because he wants a yard, and I want a yard for him. And he is honestly probably my biggest concern when I come to... looking at houses. And I know that there's memes about ...Millennials working hard so that their dogs can have the yards they deserve. And that is how I feel about him.*

(Zoom interview, January 7, 2021)

However, affordability remains the biggest obstacle for Millennials seeking to move to bigger homes. Most Millennial-aged interviewees mentioned affordability as a priority in residential choices. The PMA has long been affordable. Yet, the situation has changed in the last decade. Home prices are going up and rents are rising rapidly because of the lack of housing supply (Reagor, 2021). The combination of the affordability crisis and COVID externalities (e.g., job loss) hinder Millennials from moving to bigger homes with more space and additional structures.

Figure 14 shows that the number of Millennials experiencing job loss started going up in April 2020 and reached 684 per mille in July 2020. The increase in unemployment rates in the PMA is partially due to COVID- related business shut down orders. For instance, restaurants, bars, cafes, retail trade, and hospitality services, which compensate a high share of young adult workers, were the hardest hit industries in the PMA since they had to close or faced slower business (Kochhar & Barroso, 2020; Totiyapungprasert, 2020). This situation, in turn, resulted in job losses for many

Millennials (Kochhar & Barroso, 2020). The numbers dropped in mid-May, as some businesses started to reopen and experienced a big bump from mid-June, 2020 to August 2020, partially due to business closure again. The decline starting from August could be explained by the close-to-back-to-normal situation. However, the numbers are still relatively high compared to the pre-COVID period (Household Pulse Survey, 2020).

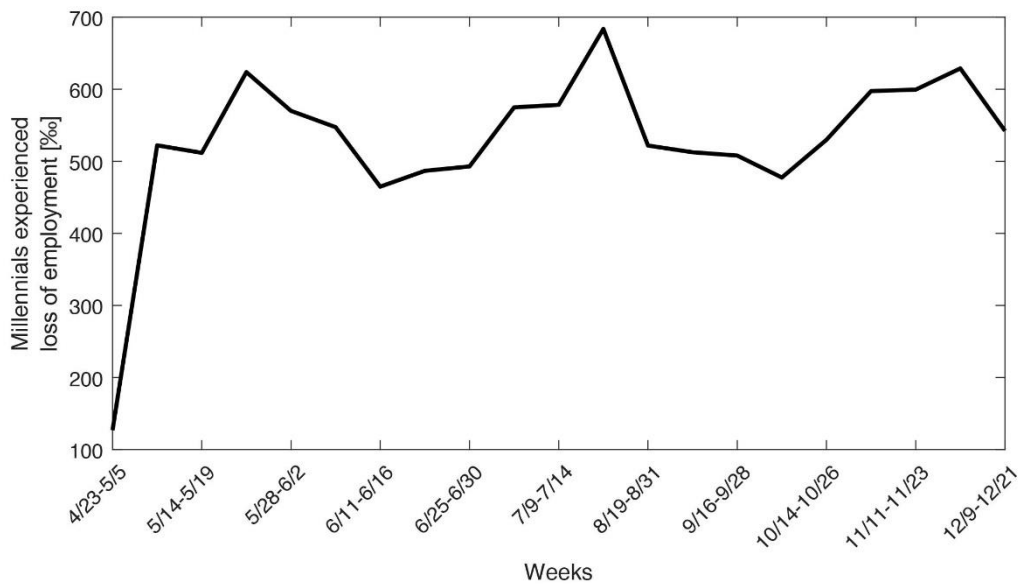


Figure 14. Rate of PMA Millennials Who Experienced Loss of Employment per 100,000 Millennials (Apr, 2020-Dec, 2020)  
Data source: Household Pulse Survey (2020)

The COVID-19 crisis has also exacerbated housing insecurity. Many Millennials living in the Phoenix area had issues ensuring next month’s mortgage or rent payments, especially with the high rates of unemployment (see Figure 15). The rate of PMA Millennials who had no confidence paying next month’s mortgage and rent payments reached over 500 and 400 per mille in May 2020, respectively (Household Pulse Survey, 2020). Figure 15 shows chaotic changes because of the continuous closure and reopening of businesses in the study area. Another factor that could explain the changes is the

COVID-19 relief stimulus payments authorized by the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) and offered to individuals, families, and businesses (see Figure 8). It is also worth mentioning that housing insecurity among Millennials has increased in the PMA, as the rate of adults facing risks of eviction increased significantly from 14 per mille in August, 2020 to 70 per mille in December, 2020 (Household Pulse Survey, 2020). Figure 16 demonstrates that the risk of eviction dropped significantly in August, which could be explained by the COVID-relief stimulus payments and/or eviction rules issued by the state of Arizona (AZcourts, 2021). Yet, the rate of Millennials at risk of eviction experienced a continuous increase since September 2020.

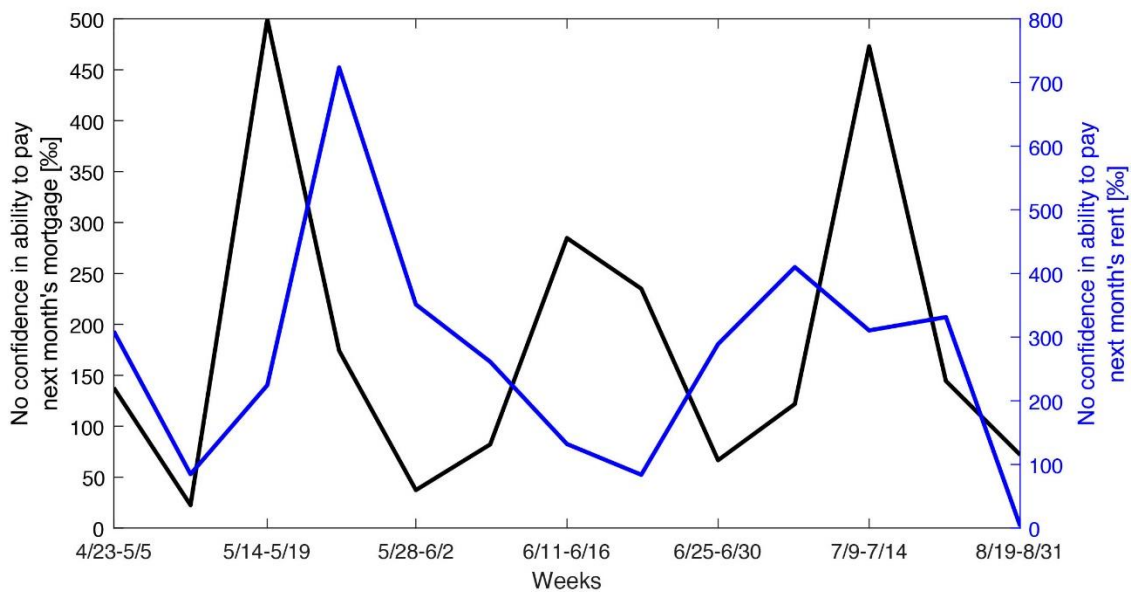


Figure 15. Rate of PMA Millennials Who Have No Confidence in their Ability to Pay Next Month's Mortgage and Rent per 100,000 Millennial Homeowners and Renters (Apr, 2020-Aug, 2020)  
 Data source: Household Pulse Survey (2020); American Community Survey 5-Year Estimate (2019)



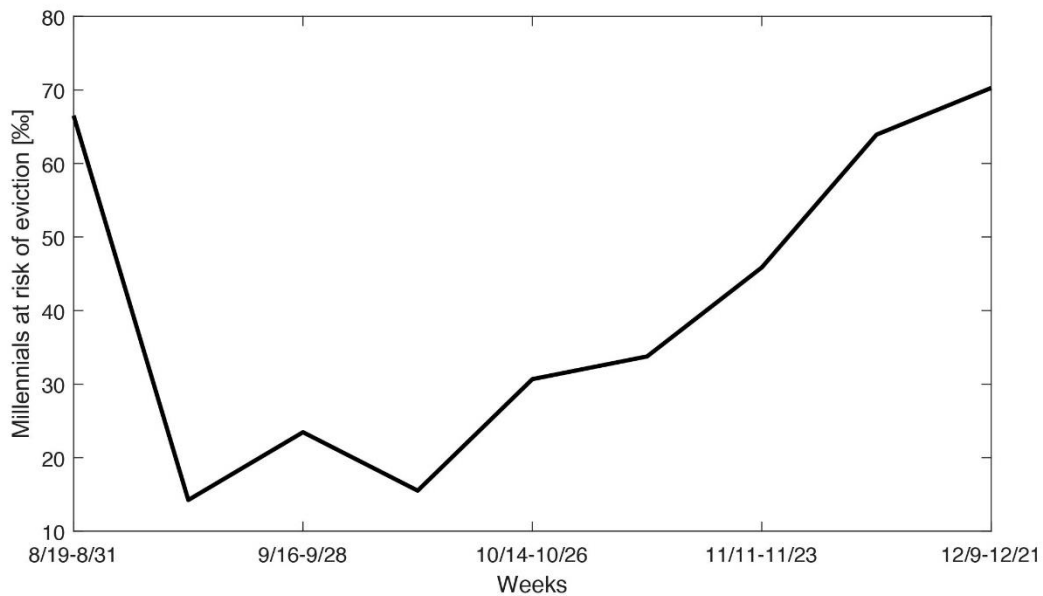


Figure 16. Rate of PMA Millennials at Risk of Eviction per 100,000 Millennial Renters (Aug, 2020-Dec, 2020)  
 Data source: Household Pulse Survey (2020); American Community Survey 5-Year Estimate (2019)

Overall, the COVID crisis has increased Millennials’ desire to have larger homes with work and outdoor spaces. However, the affordability crisis remains the main push factor related to their residential mobility decisions. Similarly, the high unemployment and eviction risk rates associated with the pandemic have widened the housing insecurity issues among the millennial generational cohort.

*5.3.3. Privacy, flexibility, and comfort: emerging housing criteria for Millennials in the COVID-era*

5.3.3.1. Privacy

Privacy emerged as a common preference among Millennials. The concept of privacy is defined in this study as the desire for less social interaction and the need for

designated self-spaces in the home (i.e., spaces such as yards to be used by one individual and/or member of the same family).

Millennials, prior to the COVID crisis, were attracted to “inside/out” lifestyles and housing with common spaces such as outdoor living rooms, yoga studios, and barbeque zones (Pfeiffer et al., 2019). A Millennial-aged ASU student said: *“What drove us to the house itself...are amenities...the gym... pool in the summers that we were able to use, and just gathering spaces... We were able to use them pre-COVID; obviously, post-COVID those amenities kind of changed”* (Zoom interview, December 20, 2020). Yet, Millennials have started rethinking their choices and became more interested in bringing the “outside in” after the hit of the pandemic. A participant said that they cannot go back to an arrangement where they have to share the place with other people unless they’re extremely strict and careful. Another participant added that during the pandemic they came to the conclusion that they would like to live alone in the next step of their life, especially since living with roommates being home all the time does not let them enjoy their own space. A few other participants expressed the need for more privacy, which made them decide to live alone during the pandemic. Also, a large portion of Millennial-aged interviewees expressed their desire to have private yards and outdoor spaces. A Millennial-aged participant stated:

*I think something I would look into is maybe a little outdoor space that is more private. Our current outdoor space is kind of...a shared courtyard...and I would like to... sit out and talk to people but...it's obviously not the smartest idea now, but a little privacy would be probably nice.* (Phone interview, January 13, 2021)

Surprisingly, one participant shared a different COVID crisis experience and said:

*I liked the idea of living with roommates more, ironically, because I realized living with my family that it was important to me to have people around... Ordinarily, I kind of like to live alone. But because it is not a great time to socialize, and go out and hang out with people, you kind of have to rely on who you live with. So it was a little bit more of an incentive to me than usual to live with roommates. (Phone interview, January 4, 2021)*

#### 5.3.3.2. Flexibility

Flexibility was another highly mentioned characteristic in terms of Millennials' housing preferences in the COVID-era. This research defines flexibility as the ability to adapt to housing needs including the possibility of expansion and/ or physical change.

Millennials, especially new home buyers, are seeking flexible environments that allow for additional structures. A Phoenix real estate agent highlighted the increased demand for accessory structures and additional guest houses and said:

*Since many areas of homes in the Phoenix metro prohibit multi-family activity on properties zoned for single-family housing, I think we will see more Millennials gravitating towards areas with zoning that allows them to have the flexibility of having accessory structures and rental units. (Zoom interview, January 7, 2021)*

PMA areas with a great share of households with children and new identity communities referring to fast-growing areas which are building or reinventing their

identities (e.g., Mesa, Buckeye, and Cave Creek) are the most likely to have flexible regulations allowing for additional units (Pfeiffer, 2015). The high demand for fixer-upper homes among PMA Millennials after the hit of the pandemic, as highlighted by a Phoenix real estate agent, demonstrates the flexibility and adaptability of the Millennial generation, especially since emerging and attempting adults consistently love to put their own stamp on their homes (Pfeiffer et al., 2019).

#### 5.3.3.3. Comfort

Comfort was the final feature observed in PMA residential preferences in the wake of the COVID crisis. This study defines the theme of comfort as satisfaction with housing characteristics (e.g., surrounding environment, amenities, etc.) and absence of factors, such as noise.

The start of the pandemic prompted Millennials' lifestyle changes (e.g., online learning, telecommuting, social restrictions, etc.) and made them spend more time at home, which in turn, made them consider features that were not a priority in the pre-COVID era. Millennials targeted apartment buildings and mixed-use properties prior to the hit of the pandemic. Yet, many interviewees expressed reservations about multi-family housing because of factors such as noise, common amenities, and shared elevators. In this context, a planner claimed that Millennials are attracted to housing with access to nature to avoid the city airplane and traffic noise. An ASU student added that having neighbors above and/or below can be inconvenient during a health crisis, as they make unwanted noise. A real estate agent noted that most Millennials searching for homes prefer housing without elevators because of their fear of COVID infection.

Correspondingly, a few Millennial interviewees expressed their interest in in-unit laundry machines to avoid social interaction and well-functioning air conditioners so they can be more comfortable spending time at home.

Further, Millennials, pre-pandemic, valued constant connectivity and housing that provides access to high-quality technology (Pfeiffer et al., 2019). All interviewees stated that they value technological features such as stronger internet, access to high-speed cables, and touchless services; however, many claimed that new technologies are a package deal that comes with the home and not necessarily an added value they think about separately.

On the whole, Millennials are rethinking and evaluating their housing preferences amid the COVID pandemic. Telecommuting, online learning, and stay-at-home orders are factors that made Millennials reconsider some housing preferences, such as proximity to jobs and school. On the flip side, privacy, flexibility, and comfort are emerging preferences that might shape the future residential decisions of the Millennial generation.

#### **5.4. Millennials vs Non-Millennials' housing preferences**

This study has also explored non-Millennials, including Gen Zers (i.e., those born between 1997 and 2012; Bialik & Fry, 2020) and Gen Xers' housing preferences to understand the trends that are unique to Millennials. Evidence suggests that Gen Z and Millennials share many similarities in terms of residential preferences. As a digital generation that values constant connectivity (Parker & Igielnik, 2020), Gen Zers, pre-pandemic, were highly attracted to homes with smart infrastructure and access to high-speed internet (Hommati, 2021). The COVID pandemic has increased Gen Zers'

residential preferences for connected housing, especially since the time they spent on digital devices and online media went up significantly during the outbreak (Hirsch, 2021). For instance, TikTok (i.e., a social media platform for sharing short videos) Gen Z users have increased by 23 percent from February 2019 to January 2020 (YPULSE, 2020b). In this context, a Gen Z interviewee explained *“I moved to my other house... during COVID because I definitely needed a strong WI-FI...and I had a pretty good WI-FI there”* (Zoom interview, January 3, 2021). Gen Xers interviewees have also highlighted the importance of high-speed internet in their daily life in the COVID era. An interviewee said:

*COVID does make me realize that connection and internet are so critical to remote type work. And if I were to stay in this type of work, that would be a factor in my housing considerations...One of the things I have noticed...is Satellite Internet... People doing innovative things...So I definitely have caught myself thinking about those things more.* (Zoom interview, January 6, 2021)

Similarly, some Gen Z participants expressed the desire for more privacy and interest in living alone. A Gen Z interviewee stated, *“I still have reservations about moving back into student housing or some sort of dense multifamily housing...until at least things are a little bit more under control”* (Zoom interview, December 21, 2020). Besides, concerns about housing price and affordability were also a common attribute that Gen Z mentioned in their interview responses. All Gen Z participants said that their

key residential priorities included cheap and affordable housing. An interviewee claimed that their income is limited, which in turn, limits their housing options. They stated:

*I paid my way through college... so I'm on a scholarship, but for housing ...I have to pay out of pocket for that. So I usually look for a cheap option...nothing fancy but... affordable.... So those are kind of the main criteria, I guess, for why I chose to live where I live. (Zoom interview, December 21, 2020)*

Affordability concerns could be exacerbated for Gen Z, especially since they were hit hard by the pandemic and the increased unemployment rates. A Pew Research study (2020) demonstrated that half of the older segment of Gen Zers (aged 18 to 23) reported that they or a household member experienced or expected a job loss during the pandemic.

Gen X participants, in contrast, were more interested in home/neighborhood quality and less worried about home prices. When asked about the characteristics that motivated their residential choices, a Gen X participant explained:

*Definitely not affordability. This place was actually several hundred dollars more a month than I had budgeted for... so when I'm looking for a place, there are a bunch of characteristics that I was looking for... One location, prime location. I like the area ...Location to the freeways...close to Mill Avenue, close to the zoo, close to the airport, all that good stuff. And then. I feel that if I'm going to live in a place that you want it to feel like home, you want it to be someplace that you want... That you're going to enjoy. And there are only two places that I went and*

*viewed where I was like, I like this place, feels like home. I could live here. This one was actually more expensive, but the other one had some weird things about it that I didn't want to change. (Zoom interview, December 22, 2020)*

However, the pandemic’s economic impacts could affect Gen X's affordability considerations in terms of housing preferences. As Figure 17 shows, PMA Gen Xers were also significantly hit by the high unemployment rates partially caused by the pandemic. The rate of Gen Xers who experienced loss of employment reached 584 per mille in June (Household Pulse Survey, 2020).

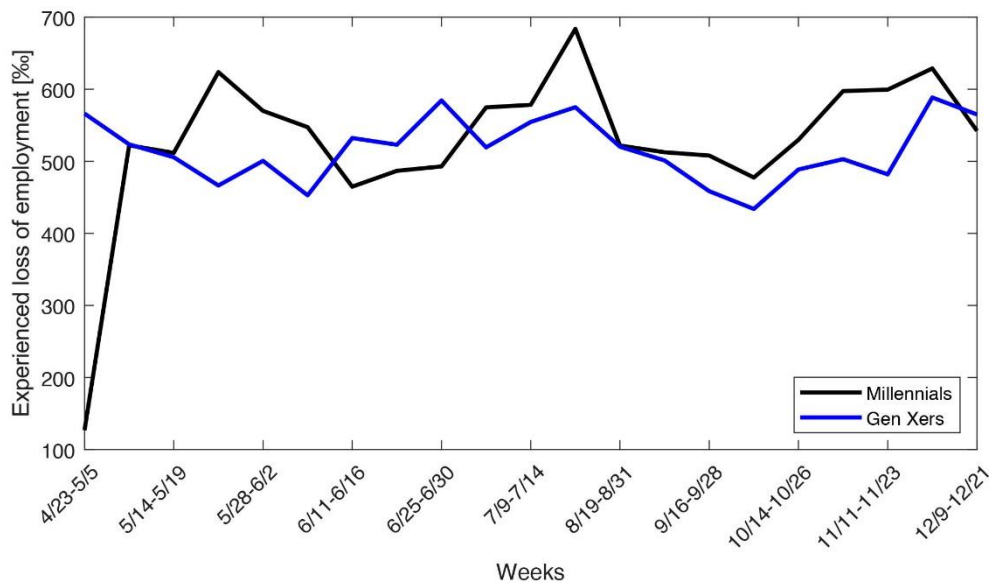


Figure 17. Rate of PMA Millennials and Gen Xers who Experienced Loss of Employment per 100,000 Millennials and Gen Xers (Apr, 2020-Dec, 2020)  
Data source: Household Pulse Survey (2020)

Overall, the pandemic has strengthened the similarities between Gen Z and Millennials in terms of housing preferences, including constant connectivity. The desire for connected homes has also increased among PMA Gen Xers, especially since telecommuting has become the new normal for this generation. However, considerations



of privacy and comfort, as long-term housing preferences, have only emerged among Millennials. While Gen Zers expressed their desire for private spaces, this residential choice was mainly motivated by their fear of COVID infection.

### **5.5. Implications for the future of the PMA**

The new trends in Millennials' housing preferences in the COVID era could have several implications for the future of the PMA. While these implications are uncertain, the COVID pandemic may result in longer-lasting effects. This section highlights some of the potential implications for social equity because of the increased risks of eviction in the study area and provides some insights about the regional housing market.

First, many Millennial participants have expressed their desire to move to the suburbs in order to have access to larger homes and nature. A Phoenix planner explained that Phoenix is already too suburban and predicted continued suburbanization. Similarly, some sustainability students are questioning the habitability of the PMA in the years to come. One of them stated:

*I think that as more places offer telecommuting options ...for as convenient cities are, a lot of people would choose to live outside of them. If their jobs were available in rural areas where they can have larger homes, maybe it could be a different sort of environment for raising a family. And then there's closer access to ...recreation opportunities". (Zoom interview, January 8, 2021)*

On the flip side, many Millennials claimed that the COVID-situation is temporary and that downtown and dense urban environments are still attractive to them. A

community and economic development planner noted that demand for downtown Phoenix has not experienced a significant decline and that the benefits it offers, such as access to transit, walkability, and cultural nodes, make it a very desirable and attractive area for Millennials. In the same context, a Millennial-aged planning student explained:

*I think that any impacts on people's movement will be short-term. I think in the long term, young people are still going to want to live in more urban environments closer to other young people...In the future, we'll look back and notice that there really was no migration... If there is any sort of impact, I think it'll be temporary. Because even friends that I have that live in larger cities, they spent maybe a couple of months at home, but have since returned back to their places where they live... I have a couple of friends that live in New York City that have just gotten back. They've been back since August. And they're not going into work. but they're... still enjoying a lot of ...the positive sides of living there. They still...go out to the parks, and there's plenty of stuff to do. (Zoom interview, January 8, 2021)*

A real estate and development professor at ASU claimed that the PMA should be considered as a whole when thinking about the impacts of Millennials' housing preferences in a post-COVID era. The professor stated that, unlike San Francisco or New York where density is considerably high, the PMA offers a less dense downtown living experience that attracts out-of-state migrants. Therefore, even if PMA Millennials move to the suburbs, patterns will balance out. A Phoenix planner added:

*I feel COVID may cause a high supply in the metro area mixed with low demand and high demand in the suburban area with a low supply. The Phoenix housing market seems to always find a way to balance itself out. (Email interview, January 25, 2021)*

Second, areas in the PMA that have been slow to recover after the Great Recession (e.g., Southeast Valley) are experiencing increased housing development activity, especially since remote working is becoming more popular, as a real estate agent claimed. Since Phoenix is experiencing issues in terms of lack of housing supply (Boehm, 2021) and relatively high home values (Zillow, 2021), the rise of housing development can help with the affordability crisis and thus provides more opportunities for Millennials seeking to buy their first homes and looking for rental properties with additional accommodations. Further, since the pandemic has increased Millennials' demand for flexible housing and additional structures, areas with flexible zoning and reduced restrictions will attract more attention.

Further, some Millennial-aged students expressed concerns about how less affluent communities may be experiencing the pandemic. a Millennial-aged student shared his perspective on low-income communities and the homeless population stating:

*I have a house with air conditioning. I can't imagine what people without housing were doing because everything anyone wants to do, whether that costs money or is free, was closed during COVID...like movie theaters, malls, swimming pools, libraries. Everything was closed down...At least I have my house to shelter in. But*

*what happens to people who don't have houses? They just have to be out...it was a record-breaking heatwave...and a lot of the community centers where people without housing could go for air conditioning are now closed. (Zoom interview, December 28, 2020)*

In this context, evidence suggests that insufficient housing quality might increase low-income communities, including the homeless population's exposure to health risks during a global pandemic (Lima et al., 2020). The number of people experiencing homelessness in the PMA has been growing in the COVID era (Maricopa Association of Governments, 2020) and deaths related to inappropriate housing conditions reached more than 500 homeless in 2020 (Boehm, 2020). Thus, a call to action is warranted.

## CHAPTER 6

### DISCUSSION AND CONCLUSION

Residential mobility patterns are driven by push and pull factors that determine whether and where individuals move. The COVID pandemic has impacted housing needs and experiences. It has also revealed new priorities and challenges. In turn, the health concerns, stay-at-home orders, and changes in lifestyles because of factors such as increased telecommuting and school closures made people rethink and reevaluate their residential choices, including location, type, and amenities preferences. The emerging housing trends have also affected the real estate market, contributing to substantial shifts and dynamics.

This research narrows the gap in the literature about emerging housing preferences in the COVID era by (i) exploring Millennials' changing residential trends in the midst of the pandemic and (ii) the implications for social equity and the regional housing market through a case study of the PMA. The findings show that the pandemic made Millennials reconsider many of their residential preferences. First, proximity to school, work, and amenities was no longer among Millennials' top priorities, especially since online learning and remote working has become the new normal. Second, Millennials have been pulled toward larger homes with private outdoor spaces during the pandemic, as they needed office spaces and areas to practice social/physical distancing. Finally, flexibility and comfort have emerged as some of the main pull factors in Millennials' housing considerations amid the health crisis, which can result in higher

demand for areas with flexible zoning and fewer restrictions for additional structures. In contrast, Millennials have been pushed away from (i) buildings with common areas, such as elevators, shared pools, laundry facilities, gyms, etc., (ii) dense urban living because of COVID transmission fear, and (iii) areas where housing prices are relatively high, especially since affordability is a major concern in Millennials' residential decisions. This study has also shed light on the expected continued sprawl in the PMA, which could result from Millennials' increased demand for suburban single-family housing because of the preferences that the COVID pandemic has created (i.e., desire for bigger home with outdoor areas and access to nature) and/or Millennials' adaptation to changing housing needs as they reach lifecycle milestones, such as marriage and parenthood.

Overall, scholars, pre-pandemic, suggested that Millennials are highly attracted to buildings that offer an “inside/out” lifestyle and semi-private spaces where they can enjoy daily activities (Pfeiffer et al., 2019). Yet, the pandemic has shifted this trend. Millennials in the COVID era showed a greater desire for bringing the “outside in”. In contrast, some pre-pandemic residential choices have continued. These preferences include the desire for constant connectivity (Pfeiffer et al., 2019) that have increased because of the emerging remote working trends. In comparison with research on residential choice at the onset of the COVID pandemic, the findings of this work confirm many early predictions. Many researchers expected (i) an increased desire for privacy and larger homes, (ii) more interest in walkable environments, and (iii) a greater need for housing with access to technological devices and services. These preferences were reflected in the interview responses related to the key emerging housing choices in the COVID era, as many

participants expressed their desire for homes with office spaces, private outdoor areas, access to nature, and high-speed internet. The research has also revealed new residential preferences that the pandemic created, including comfort considerations and multigenerational housing trends with Millennials and Gen Zers moving in with their parents and Baby Boomers taking up residence with their adult children.

To further discuss the findings of this research, the following sections (i) expand on the relevance of the concept of flexibility discussed in the findings as an emerging housing preference, (ii) offer insights about the PMA urban growth, (iii) address implications for planning, and (iv) provide directions for future research.

### **6.1. Integrating flexibility into housing**

Many scholars have examined flexibility in housing as a valuable tool for community development. The ability to change housing design based on personal choices contributes to improved well-being (Veitch & Gifford, 1996). Similarly, flexible housing provides affordable options, especially for low-income communities given its lower value (Howe, 1990).

The COVID pandemic has magnified the importance of flexibility in housing, as individuals, including Millennials, needed to adapt to lifestyle changes related to quarantine, working from home, having family members move in, and/or living with roommates who are home all day. The extent to which housing characteristics are meeting the emerging needs and housing requirements is debatable, especially since the demand for fixer-upper homes and locations that allow for additional structures/units is significantly increasing. These areas are most likely to be located in single-family

housing neighborhoods (Howe, 1990), new identity communities, and localities with a high concentration of families with children (Pfeiffer, 2015). Yet, it is essential for planners and developers to put more effort into integrating flexibility in housing and land use considerations across the Phoenix region, including downtown. Multifunctionality, modifiability, adjustability, and capacity for expansion are attributes that would contribute to individuals' ability to adapt to lifecycle stages, but more importantly to sudden shifts that can arise from health/economic crises and changing events. This makes reflecting on flexible housing benefits significantly needed.

## **6.2. Rethinking PMA's urban growth**

Rethinking urban growth in the PMA is warranted. Developers were targeting urban centers to support the demand in Phoenix's downtown market in the pre-COVID-era (Ehlenz et al., 2020). Yet, the pandemic has triggered some Millennials' interest in less dense, suburban environments. As a result, developers could redirect their housing investments towards suburban areas to keep up with the increased demand, which in turn, would create accelerated suburbanization.

PMA is already synonymous with sprawl. It is worth noting that suburbanization has heightened environmental concerns related to water scarcity (Wentz & Gober, 2007), increased energy use (Mounir et al., 2019), declined air quality (Doran et al., 2003), increased temperatures related to the urban heat island effect (Chow et al., 2012), and reduction of native biodiversity (Grimm et al., 2008). PMA sprawl has also contributed to a greater car dependency and increase in traffic congestion, which can be associated with human health risks (Hoehne et al., 2019). At the same time, this research has revealed



that some residential preferences have remained consistent, such as the desire for walkable environments and access to nature. In this context, a potential antidote to the emerging interest in suburban environments could be the further incorporation of New Urbanism principles (Ellis, 2002) in the PMA urban area, such as walkability and proximity to public spaces. Pedestrianization and mixed-used environments could satisfy some of Millennials and other generations' needs and preferences and thus encourage them to remain in and/or move to urban centers. In this context, some scholars highlighted the importance of the concept of a “15-min city” to create a better integrated urban fabric and improved quality of life in the post-COVID era (Pisano, 2020).

### **6.3. Diversity defines Millennials**

Diversity defines Millennials as a generation, as they are demographically, socially, and economically different (Bialik & Fry, 2020; Ehlenz et al., 2020; Frey, 2016; Y. Lee et al., 2019; U.S. Census Bureau, 2015); in turn, Millennial residential choices are equally diverse. The research findings have also demonstrated a high diversity among the interview participants. Therefore, researchers, planners, and developers should be sensitive to the implications of racial and ethnic disparities in wealth gaps, opportunity structures, and individuals' lifestyles and thus provide a variety of housing options that satisfy diverse needs and preferences.

It is also important to note that this research highlights perspectives from a small sample of Millennials in the PMA. The interviewees are not representative of the generational cohort at large and a larger sample would be needed to generalize the trends observed. In this context, future research should rely more on longitudinal studies and

consider, if using interviews as a method, including questions about income, culture, housing habits (i.e., how and when each space is used), and lifestyle (e.g., desire for stability vs flexibility), among others. These elements would help develop a better understanding of factors shaping residential preferences and decisions.

While this research provides insights about non-Millennials' housing preferences in the COVID era, there is significant value in future research looking at similarities and differences between Millennials and other generations in terms of residential decisions and housing preferences. The findings of this work demonstrate that Millennials' preferences have converged with Gen Z, as their desire for constant connectivity has increased after the hit of COVID. Further, Millennials' housing needs have converged with Gen X, especially since the pandemic has created a strong interest in larger homes with access to nature. In contrast, the pandemic has created a greater desire for privacy and comfort among Millennials while Gen Z has only expressed reservations about common areas. Affordability, in turn, remains a greater concern for Millennials and Gen Zers as compared to Gen Xers. Overall, this research indicates some convergence and divergence of Millennials' housing preferences with and from other generations, yet the sample of Gen Z and Gen X participants is relatively small, which makes in-depth comparative studies critical.

Given that the COVID pandemic is still an ongoing crisis, it would also be fruitful for researchers to explore housing preferences post-COVID. Many households moved to the suburbs because they did not need to be close to their job; will they return back once in-person work will be required? Will the desire for private spaces last when COVID is

no longer a threat? Will Millennials' emerging preferences for larger homes with access to nature persist once downtown activities return to business as usual? Will Millennials change neighborhoods by advocating for changes in line with their preferences? A follow-up study would be necessary to answer these questions and examine housing trends after school/amenities reopening and vaccination of a large portion of U.S. residents. This will also provide a more accurate reflection on the short- vs long-term impacts of the pandemic on residential mobility.

This research is not reflective of all Millennials' residential experiences in the COVID era, but it does demonstrate some of the key emerging trends in housing preferences in response to the pandemic and its impacts on the working and living patterns. The implications for the future of equity issues, urban structure, and the housing market offer insights into how planners, developers, and decisionmakers should increase cities' preparedness for global health and economic crisis.

Further, the overall pandemic effect is still uncertain and ambiguous. Researchers are currently lacking a holistic understanding of how the future will look like and while some preferences are more likely to persist in the long term, others are expected to be temporary. Similarly, the pandemic is presenting an unprecedented uncertainty in terms of housing, especially since future residential preferences and choices could evolve or change as the COVID crisis wears on. The findings of this research will depend on the broader impacts of the pandemic and the magnitude of an array of inter-related factors, including the future of telecommuting, shopping behaviors, travel restrictions, social and

political acceptance of events and gatherings, and the extent to which social/physical distancing will remain a habit.

## REFERENCES

- Abramian, A. (2020). Rent Prices Are Falling in Some of the City's Swankiest Buildings. *CityThink Los Angeles Magazine*. <https://www.lamag.com/citythinkblog/los-angeles-rent-prices-luxury/>
- Alexander, S. (2020). San Francisco's 35% Plunge in Rents Shows Effects of Tech Fleeing City. *CityLab*. <https://www.bloomberg.com/news/articles/2020-12-08/san-francisco-apartment-rents-drop-35-as-tech-embraces-remote-work-during-covid>
- American Community Survey 5-Year Estimate. (2010). *Demographic and Housing Characteristics*. U.S. Census Bureau. <https://data.census.gov/cedsci/>
- American Community Survey 5-Year Estimate. (2019). *Demographic and Housing Characteristics*. U.S. Census Bureau. <https://data.census.gov/cedsci/>
- Arizona Department of Health Services. (2021). *COVID-19 Data*. <https://www.azdhs.gov/>
- Arnett, J. J. (2007). Suffering, Selfish, Slackers? Myths and Reality about Emerging Adults. *Journal of Youth and Adolescence*, 36(1), 23–29. <https://doi.org/10.1007/s10964-006-9157-z>
- Arnett, J. J., & Mitra, D. (2020). Are the Features of Emerging Adulthood Developmentally Distinctive? A Comparison of Ages 18–60 in the United States. *Emerging Adulthood*, 8(5), 412–419. <https://doi.org/10.1177/2167696818810073>
- azcentral. (2021a). *Arizona Landlords Who Received Grants to Help With Non-Paying Tenants Filed Hundreds of Evictions Anyway*. <https://eu.azcentral.com/story/news/local/arizona/2021/03/25/arizona-landlords-grants-help-nonpaying-renters-evicted-tenants/6892630002/>
- azcentral. (2021b). *Gov. Doug Ducey Lifts All Remaining COVID-19 Restrictions on Arizona Businesses and Events*. <https://www.azcentral.com/story/news/local/arizona-health/2021/03/25/gov-ducey-lifts-all-covid-19-restrictions-arizona-businesses/6999060002/>
- azcentral. (2021c). *More Help for Arizona Renters: CDC Eviction Moratorium Extended Until June 30*. <https://eu.azcentral.com/story/news/local/phoenix/2021/03/29/eviction-moratorium-extended-for-arizona-renters-until-june-30/7047229002/>
- AZcourts. (2021). *COVID-19 Processing Eviction Matters*. <https://www.azcourts.gov/selfservicecenter/Landlord-Tenant-Disputes-Eviction->

## Actions/COVID-19-Processing-Eviction-Matters

- azgovernor. (2019a). *Maricopa County #1 In U.S. For Population Growth*. Azgovernor.Gov. <https://azgovernor.gov/governor/news/2019/04/maricopa-county-1-us-population-growth>
- azgovernor. (2019b). *Phoenix Metro Area Leads Nation For New Jobs Created*. Azgovernor.Gov. <https://azgovernor.gov/governor/news/2019/07/phoenix-metro-area-leads-nation-new-jobs-created#:~:text=Leading sectors for employment growth,%2C>” said Governor Doug Ducey.
- azgovernor. (2021). *Executive Orders*. <https://azgovernor.gov/executive-orders>
- Bates, M. (2020). *COVID-19 Crisis Has Shifted How Millennials Shop For Homes*. Mortgageorb. <https://mortgageorb.com/covid-19-crisis-has-shifted-how-millennials-shop-for-homes?fbclid=IwAR13ngDOTwcnAcGbPFi8LLvBJF0cCnIAI0VSrQtYbUeyA4ui4B-C2bFfErw>
- Becker, J. (2017). *Why Millennials Are Trending Toward Minimalism*. Becoming Minimalist. <https://www.becomingminimalist.com/millennials/>
- Benfer, E. A., Vlahov, D., Long, M. Y., & Walker-Wells, E. Pottenger, J. L. Gonsalves, G. Keene, D. E. (2021). Eviction, Health Inequity, and the Spread of Covid-19: Housing Policy as a Primary Pandemic Mitigation Strategy. *Journal of Urban Health*, 1–12. <https://doi.org/10.1007/s11524-020-00502-1>
- Bialik, & Fry. (2019). *Millennial Life: How Young Adulthood Today Compares With Prior Generations*. Pew Research Center. <https://www.pewresearch.org/social-trends/2019/02/14/millennial-life-how-young-adulthood-today-compares-with-prior-generations-2/>
- Bialik, K., & Fry, R. (2020). *Millennial Life: How Millennials Compare with Prior Generations*. Pew Research Center. <https://www.pewresearch.org/social-trends/2019/02/14/millennial-life-how-young-adulthood-today-compares-with-prior-generations-2/>
- Boehm, J. (2020). A Wake-Up Call’: 500 Homeless People Died in Metro Phoenix in First 9 Months of 2020. *Azcentral*. <https://eu.azcentral.com/in-depth/news/local/phoenix/2020/12/17/exceptionally-deadly-2020-homeless-people-phoenix-area/5872993002/>
- Boehm, J. (2021). “It’s a Crisis”: 65% of Phoenix Residents Can’t Afford Housing. *Azcentral*. <https://eu.azcentral.com/story/news/local/phoenix/2020/04/06/arizona-housing-market-majority-phoenix-residents-struggling-afford/4951603002/>

- Bortz, D. (2020). How the Pandemic Is Persuading Millennials to Leave the City and Make Living in the Suburbs . . . Cool? *Money*. <https://money.com/coronavirus-millennials-homebuying-suburbs/>
- Boschman, S., Kleinhans, R., & van Ham, M. (2017). Ethnic Differences in Realising Desires to Leave Urban Neighbourhoods. *Journal of Housing and the Built Environment*, 32(3), 495–512. <https://doi.org/10.1007/s10901-016-9524-3>
- Brandt, E. (2017). *Millennials Are Ready for Self-Driving Cars*. The Drive. <http://www.thedrive.com/sheetmetal/15406/millennials-are-ready-for-self-driving-cars>
- Centers for Disease Control and Prevention (CDC). (2020). *First Travel-related Case of 2019 Novel Coronavirus Detected in United States*. <https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html>
- Chen, S., & Franklin, S. (2020). Real Estate Prices Fall Sharply in New York. *The New York Times*. <https://www.nytimes.com/2020/07/02/realestate/coronavirus-real-estate-price-drop.html>
- Choi, J., Cramer, R., Addo, F., & Campbell, C. (2019). *The Emerging Millennial Wealth Gap*. <https://www.newamerica.org/millennials/reports/emerging-millennial-wealth-gap/the-emerging-millennial-wealth-gap-opening-note/>
- Choi, J., Zhu, J., Goodman, L., Ganesh, B., & Strochak, S. (2018). *Millennial Homeownership*. [https://www.urban.org/sites/default/files/publication/98729/millennial\\_homeowners\\_hip\\_0.pdf](https://www.urban.org/sites/default/files/publication/98729/millennial_homeowners_hip_0.pdf)
- Chow, W. T. L., Brennan, D., & Brazel, A. J. (2012). Urban Heat Island Research in Phoenix, Arizona. *Bulletin of the American Meteorological Society*, 93(4), 517–530. <https://doi.org/10.1175/BAMS-D-11-00011.1>
- Circella, G., Alemi, F., Tiedeman, K., & Org, E. (2017). *What Affects Millennials' Mobility? PART II: The Impact of Residential Location, Individual Preferences and Lifestyles on Young Adults' Travel Behavior in California*. <https://escholarship.org/uc/item/5kc117kj>
- City of Phoenix. (2021). *COVID-19 Assistance*. <https://www.phoenix.gov/>
- Clark, W. A. V. (2012). Residential Mobility and the Housing Market. *The Sage Handbook of Housing Studies*, 66–83. [https://books.google.com/books?hl=fr&lr=&id=F-tvjpKJriEC&oi=fnd&pg=PA66&dq=Residential+mobility+and+the+housing+market&ots=noYZxpskyQ&sig=kNJAD9vGQWQJvTQgR--aGQ2-ntg#v=onepage&q=Residential mobility and the housing market&f=false](https://books.google.com/books?hl=fr&lr=&id=F-tvjpKJriEC&oi=fnd&pg=PA66&dq=Residential+mobility+and+the+housing+market&ots=noYZxpskyQ&sig=kNJAD9vGQWQJvTQgR--aGQ2-ntg#v=onepage&q=Residential%20mobility%20and%20the%20housing%20market&f=false)

- Clark, W. A. V., & Onaka, J. L. (1983). Life Cycle and Housing Adjustment as Explanations of Residential Mobility. *Urban Studies*, 20(1), 47–57. <https://doi.org/10.1080/713703176>
- Conroy, D. A., Hadler, N. L., Cho, E., Moreira, A., MacKenzie, C., Swanson, L. M., Burgess, J. H., Arnedt, T. A., & Goldstein, C. A. (2021). The Effects of COVID-19 Stay-At-Home Order on Sleep, Health, and Working Patterns: a Survey Study of US Health Care Workers. *Journal of Clinical Sleep Medicine*, 17(2), 185–191. <https://doi.org/10.5664/jcsm.8808>
- Conway, M. W., Salon, D., Silva, D. C. da, & Mirtich, L. (2020). How Will the COVID-19 Pandemic Affect the Future of Urban Life? Early Evidence from Highly-Educated Respondents in the United States. *Urban Science*, 4(4), 50. <https://doi.org/https://doi.org/10.3390/urbansci4040050>
- Coulter, R., & Scott, J. (2015). What Motivates Residential Mobility? Re-Examining Self-Reported Reasons for Desiring and Making Residential Moves. *Population, Space and Place*, 21(4), 354–371. <https://doi.org/10.1002/psp.1863>
- Cramer, R., Addo, F. R., Campbell, C., Choi, J., Cohen, B. J., Cohen, C., Emmons, W. R., Fowler, M., Garon, T., Hipple, L., Hodgson, J., Kent, A. H., Mckernan, S., Medenica, V. E., Melford, G., Miller, B., Rademacher, I., Ratcli, C., Ricketts, L. R., ... Lykes, J. (2019). The Emerging Millennial Wealth Gap. *New America*, October, 111–124. [https://d1y8sb8igg2f8e.cloudfront.net/documents/The\\_Emerging\\_Millennial\\_Wealth\\_Gap\\_4y0UuVQ.pdf](https://d1y8sb8igg2f8e.cloudfront.net/documents/The_Emerging_Millennial_Wealth_Gap_4y0UuVQ.pdf)
- D’Lima, W., Lopez, L. A., & Pradhan, A. (2020). *Covid-19 and Housing Market Effects: Evidence from US Shutdown Orders*. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3647252](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3647252)
- DES. (2021). *DES Services Related to COVID-19*. Arizona Department of Economic Security. <https://des.az.gov/>
- Dimock, M. (2019). *Defining generations: Where Millennials end and Generation Z begins*. Pew Research Center. <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>
- Doran, J. C., Berkowitz, C. M., Coulter, R. L., Shaw, W. J., & Spicer, C. W. (2003). The 2001 Phoenix Sunrise Experiment: Vertical Mixing and Chemistry During the Morning Transition in Phoenix. *Atmospheric Environment*, 37(17), 2365–2377. [https://doi.org/10.1016/S1352-2310\(03\)00134-1](https://doi.org/10.1016/S1352-2310(03)00134-1)
- Drucker, Z. (2020). *The COVID-19 Effect on San Francisco’s Housing and Rental Market*. Sf.Citi. <https://sfcity.org/news/the-covid-19-effect-on-san-franciscos-housing-and-rental-market/>



- Dunton, G. F., Wang, S. D., Do, B., & Courtney, J. (2020). Early Effects of the COVID-19 Pandemic on Physical Activity Locations and Behaviors in Adults Living in the United States. *Preventive Medicine Reports*, 20, 101241. <https://doi.org/https://doi.org/10.1016/j.pmedr.2020.101241>
- Egunjobi, J. P. (2020). The Perception of Covid-19 as a Fear Factor in the Preparation for the Pandemic Aftermath. *Nairobi: Researchgate*, 10. [https://www.researchgate.net/publication/340607042\\_THE\\_PERCEPTION\\_OF\\_COVID-19\\_AS\\_A\\_FEAR\\_FACTOR\\_IN\\_THE\\_PREPARATION\\_FOR\\_THE\\_PANDEMIC\\_AFTERMATH](https://www.researchgate.net/publication/340607042_THE_PERCEPTION_OF_COVID-19_AS_A_FEAR_FACTOR_IN_THE_PREPARATION_FOR_THE_PANDEMIC_AFTERMATH)
- Ehlenz, M. M., Pfeiffer, D., & Pearthree, G. (2020). Downtown Revitalization in the Era of Millennials: How Developer Perceptions of Millennial Market Demands are Shaping Urban Landscapes. *Urban Geography*, 41(1), 79–102. <https://doi.org/10.1080/02723638.2019.1647062>
- Elliott, C., & William, R. I. (2014). *Making it Millennial: Public Policy and the Next Generation*. Deloitte. <https://www2.deloitte.com/insights/us/en/industry/public-sector/making-it-millennial.html>
- Ellis, C. (2002). The New Urbanism: Critiques and Rebuttals. *Journal of Urban Design*, 7(3), 261–291. <https://doi.org/10.1080/1357480022000039330>
- Espinosa, C. (2020). *How Americans Are Converting Home Spaces Into Workspaces*. MReport. <https://themreport.com/news/10-26-2020/how-americans-are-converting-home-spaces-into-workspaces>
- Feintzeig, R. (2020). *The Grandparents Who Dropped Everything to Help Out During Covid*. The Wall Street Journal. <https://www.wsj.com/articles/the-grandparents-who-dropped-everything-to-help-out-during-covid-11609117200>
- Fitzpatrick, K. M., Drawve, G., & Harris, C. (2020). Facing new fears during the COVID-19 pandemic: The State of America’s mental health. *Journal of Anxiety Disorders*, 75(August), 102291. <https://doi.org/10.1016/j.janxdis.2020.102291>
- Florida, R. (2019). Young People’s Love of Cities Isn’t a Passing Fad. *Citylab*. <https://www.bloomberg.com/news/articles/2019-05-28/u-s-millennials-really-do-prefer-cities>
- Florida, R. (2020). The Forces That Will Reshape American Cities. *CityLab*. <https://www.bloomberg.com/news/features/2020-07-02/how-coronavirus-will-reshape-u-s-cities>
- Frey, W. H. (2016). *Diversity Defines the Millennial Generation*. The Avenue: Brookings Institute. <https://www.brookings.edu/blog/the-avenue/2016/06/28/diversity-defines->

the-millennial-generation/

- Frey, W. H. (2018). *The Millennial Generation: A Demographic Bridge to America's Diverse Future*. Metropolitan Policy Program at Brookings. <https://www.brookings.edu/research/millennials/>
- Fry, R. (2020). *Millennials Overtake Baby Boomers as America's Largest Generation*. Pew Research Center. <https://www.pewresearch.org/fact-tank/2020/04/28/millennials-overtake-baby-boomers-as-americas-largest-generation/>
- Fry, R. (2021). *Amid a Pandemic and a Recession, Americans Go on a Near-Record Homebuying Spree*. Pew Research Center. <https://www.pewresearch.org/fact-tank/2021/03/08/amid-a-pandemic-and-a-recession-americans-go-on-a-near-record-homebuying-spree/>
- Fry, R., Passel, J., & Cohn, D. (2020). *A Majority of Young Adults in the U.S. Live With their Parents for the First Time Since the Great Depression*. Pew Research Center. <https://www.pewresearch.org/fact-tank/2020/09/04/a-majority-of-young-adults-in-the-u-s-live-with-their-parents-for-the-first-time-since-the-great-depression/>
- Fulton, W., Hazle, S., Choudary, W., & Sherman, S. (2020). *The Urban Sun Belt: An Overview*. <https://scholarship.rice.edu/handle/1911/108797>
- Gaber, J. (2020). *Qualitative Analysis for Planning & Policy: Beyond the Numbers* (Routledge). [https://books.google.com/books?hl=fr&lr=&id=tuHcDwAAQBAJ&oi=fnd&pg=PT6&dq=Qualitative+analysis+for+planning+%26+policy+2007&ots=j4MIKXpvBX&sig=7lB5ypv2CXXqm1HhDXddc5Q60dc#v=onepage&q=Qualitative analysis for planning %26 policy 2007&f=false](https://books.google.com/books?hl=fr&lr=&id=tuHcDwAAQBAJ&oi=fnd&pg=PT6&dq=Qualitative+analysis+for+planning+%26+policy+2007&ots=j4MIKXpvBX&sig=7lB5ypv2CXXqm1HhDXddc5Q60dc#v=onepage&q=Qualitative+analysis+for+planning+%26+policy+2007&f=false)
- Galster, G. C., & Killen, S. P. (1995). The Geography of Metropolitan Opportunity: A Reconnaissance and Conceptual Framework. *Housing Policy Debate*, 6(1), 7–43. <https://doi.org/10.1080/10511482.1995.9521180>
- Galster, G., Freiberg, F., & Houk, D. L. (1987). Racial Differentials in Real Estate Advertising Practices: an Exploratory Case Study. *Journal of Urban Affairs*, 9(3), 199–215. <https://doi.org/10.1111/j.1467-9906.1987.tb00476.x>
- Garcia, J. C. (2015). *The Rise of the Millennial Cohort: A Case Study of the Effects on San Francisco's Rental Housing Market* [The University of Texas at Austin]. <https://repositories.lib.utexas.edu/handle/2152/46727>
- Geist, C., & Mcmanus, P. A. (2008). Course : Motivations and Implications. *Population, Space and Place*, 14, 283–303.
- Giustiniano, L., e Cunha, M. P. Simpson, A. V., Rego, A., & Clegg, S. (2020). Resilient

Leadership as Paradox Work: Notes from COVID-19. *Management and Organization Review*, 16(5), 971–975. <https://doi.org/10.1017/mor.2020.57>

Greater Phoenix Economic Council. (2021). *Industries in Greater Phoenix*. <https://www.gpec.org/>

Greenspan, H. . (2021). *Chicago Rents Fell 12% in 2020. For Renters, it 'Restores Your Faith in Humanity.'* *For Landlords, 'it's a Huge Hit.'* CHICAGO TRIBUNE. <https://www.chicagotribune.com/real-estate/ct-re-chicago-rent-drop-0108-20210111-r4v4wkwn5bmlhvtizlqd3oesu-story.html>

Grimm, N. B., Faeth, S. H., Golubiewski, N. E., Redman, C. L., Wu, J., Bai, X., & Briggs, J. M. (2008). Global Change and the Ecology of Cities. *Science*, 319(5864), 756–760. <https://doi.org/10.1126/science.1150195>

Haag, M. (2020). New Yorkers Are Fleeing to the Suburbs: 'The Demand Is Insane.' *The New York Times*, 20–23. <https://www.nytimes.com/2020/08/30/nyregion/nyc-suburbs-housing-demand.html?fbclid=IwAR0nQE129h09OnrQ5N2Gkn0UoPPRkIBYYBP5P1XJfKMfunce0udQvTEryVo>

Hern, A. (2020). *Covid 19 Could Cause Permanent Shift Towards Home Working*. The Guardian. <https://www.theguardian.com/technology/2020/mar/13/covid-19-could-cause-permanent-shift-towards-home-working>

Hess, J. A. (2020). *How Millennials' Financial Futures Have Been Impacted by Pandemic Unemployment*. CNBC.Com. <https://www.cnbc.com/2020/09/17/how-millennials-have-been-impacted-by-pandemic-unemployment.html>

Hirsch, S. (2021). *The Pandemic Has Changed How Each Generation Consumes Media*. Dmcity. <http://dmcity.org/the-pandemic-has-changed-how-each-generation-consumes-media>

Hoehne, C. G., Chester, M. V., Fraser, A. M., & King, D. A. (2019). Valley of the Sun-Drenched Parking Space: The Growth, Extent, and Implications of Parking Infrastructure in Phoenix. *Cities*, 89(August 2018), 186–198. <https://doi.org/10.1016/j.cities.2019.02.007>

Hoffower, H. (2019). *Millennials Are Flooding Into These 25 US Cities to Find Good Jobs and Earn More Money*. Pear Companies. <https://pearl-companies.com/https-www-businessinsider-com-cities-millennials-moving-good-jobs-salaries-2019-2/>

Hommati. (2021). *From Their Stark Values To High-Tech Housing Preference, These Are The Housing Demands Of Generation*. Wwww.Hommati.Com. <https://www.hommati.com/blog/how-generation-z-will-change-the-housing-market-forever>

- Household Pulse Survey. (2020). *Coronavirus Data*. U.S. Census Bureau.  
<https://www.census.gov/programs-surveys/household-pulse-survey/data.html>
- Howe, D. A. (1990). The Flexible House Designing for Changing Needs. In *Journal of the American Planning Association* (Vol. 56, Issue 1, pp. 69–77).  
<https://doi.org/10.1080/01944369008975746>
- Hoyt, L. T., Cohen, A. K., Dull, B., Maker Castro, E., & Yazdani, N. (2021). “Constant Stress Has Become the New Normal”: Stress and Anxiety Inequalities Among U.S. College Students in the Time of COVID-19. *Journal of Adolescent Health, 68*(2), 270–276. <https://doi.org/10.1016/j.jadohealth.2020.10.030>
- Hsieh, H. F., & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research, 15*(9), 1277–1288.  
<https://doi.org/10.1177/1049732305276687>
- Hubbard, K. (2020). New York City’s Falling Rents Reflect the Pain of COVID-19. *U.S. News*. <https://www.usnews.com/news/cities/articles/2020-10-15/new-york-citys-falling-rents-reflect-the-trauma-of-covid-19>
- Hunter, B. (2020). How Housing Choices For Millennials Could Change In A Post-Coronavirus World. *Forbes*.  
[https://www.forbes.com/sites/bradhunter/2020/04/07/how-will-housing-choices-for-millennials-change-in-the-next-normal/?sh=7c2fe24b30cc&fbclid=IwAR0IpMJNyG5RO\\_9d3Rx2m\\_jaWHWGpxX4cyL8iCpur3PSuUP-IVbYX1igQf4](https://www.forbes.com/sites/bradhunter/2020/04/07/how-will-housing-choices-for-millennials-change-in-the-next-normal/?sh=7c2fe24b30cc&fbclid=IwAR0IpMJNyG5RO_9d3Rx2m_jaWHWGpxX4cyL8iCpur3PSuUP-IVbYX1igQf4)
- Jansen, S. J. T. (2020). Urban, Suburban or Rural? Understanding Preferences for the Residential Environment. *Journal of Urbanism, 13*(2), 213–235.  
<https://doi.org/10.1080/17549175.2020.1726797>
- John, S. (2019). *9 Mind-Blowing Facts About the Millennial Housing Market*. Business Insider. [https://www.businessinsider.com/millennials-housing-market-affordable-rent-2019-6?fbclid=IwAR1wfZwCUHjs\\_nmWUmagvoMXSFKwIe1OwROYf8ijQR7Wm\\_x\\_Ic8y4IVeorA](https://www.businessinsider.com/millennials-housing-market-affordable-rent-2019-6?fbclid=IwAR1wfZwCUHjs_nmWUmagvoMXSFKwIe1OwROYf8ijQR7Wm_x_Ic8y4IVeorA)
- Joseph, A. (2020). *Millennials are Projected to Buy the Most Houses this Year — this is How they Can Prepare for It*. <https://www.cnbc.com/2020/02/04/millennials-to-buy-the-most-houses-this-year-how-they-can-prepare.html>
- Kassing, B. J. (2020). *What Do Millennial Homebuyers Want Post- Pandemic ?*  
<https://bdmag.com/what-do-millennial-homebuyers-want-post-pandemic/>
- Kaufman, H. (2020). *‘It Was Kind of a Smack in the Face’: Millennials Find Search for Starter Homes Even More Competitive in the COVID Era*. The Boston Globe.

[https://www.bostonglobe.com/2020/09/14/metro/it-was-kind-smack-face-millennials-find-search-starter-homes-even-more-competitive-covid-era/?fbclid=IwAR32\\_BgNjqbnVvTIUcFffoNqAZfNOEnCGC99h7CcHA\\_eWYP-pitAXRR4\\_RQ](https://www.bostonglobe.com/2020/09/14/metro/it-was-kind-smack-face-millennials-find-search-starter-homes-even-more-competitive-covid-era/?fbclid=IwAR32_BgNjqbnVvTIUcFffoNqAZfNOEnCGC99h7CcHA_eWYP-pitAXRR4_RQ)

- Kingsella, K. (2019). *Why Policy Makers Are Beginning to Tackle Exclusionary Zoning Across the U.S.* <https://www.upforgrowth.org/news/why-policy-makers-are-beginning-tackle-exclusionary-zoning-across-us>
- Klein, N. J., & Smart, M. J. (2017). Millennials and Car Ownership: Less Money, Fewer cars. *Transport Policy*, 53, 20–29. <https://doi.org/10.1016/j.tranpol.2016.08.010>
- Kochhar, R., & Barroso, A. (2020). *Young Workers Likely to Be Hard Hit as COVID-19 Strikes a Blow to Restaurants and Other Service Sector Jobs*. Pew Research Center. <https://www.pewresearch.org/fact-tank/2020/03/27/young-workers-likely-to-be-hard-hit-as-covid-19-strikes-a-blow-to-restaurants-and-other-service-sector-jobs/>
- Lak, A., Asl, S. S., & Maher, A. (2020). Resilient Urban Form to Pandemics: Lessons From COVID-19. *Medical Journal of the Islamic Republic of Iran*, 34(1), 1–9. <https://doi.org/10.34171/mjiri.34.71>
- Lee, H. (2020). Are Millennials Coming to Town? Residential Location Choice of Young Adults. *Urban Affairs Review*, 56(2), 565–604. <https://doi.org/10.1177/1078087418787668>
- Lee, Y., Circella, G., Mokhtarian, P. L., & Guhathakurta, S. (2019). Heterogeneous Residential Preferences Among Millennials and Members of Generation X in California: A Latent-Class Approach. *Transportation Research Part D: Transport and Environment*, 76(October), 289–304. <https://doi.org/10.1016/j.trd.2019.08.001>
- Lerner, B. M. (2020). *One Home, a Lifetime of Impact*. The Washington Post. <https://www.washingtonpost.com/business/2020/07/23/black-homeownership-gap/?arc404=true>
- Lima, N. N. R., de Souza, R. I., Feitosa, P. W. G., de Sousa Moreira, J. L., da Silva, C. G. L., & Neto, M. L. R. (2020). People Experiencing Homelessness: Their Potential Exposure to COVID-19. *Psychiatry Research*, 288, 112945. <https://doi.org/10.1016/j.psychres.2020.112945>
- Los Angeles Times. (2021). *Tracking Coronavirus Vaccinations in California*. [https://www.latimes.com/projects/california-coronavirus-cases-tracking-outbreak/covid-19-vaccines-distribution/?fbclid=IwAR3qj7WalLFsKm5fM-ASRRNIRHUZtoBZGQzRYKBGk-\\_IL\\_3OpIGGT762Ejc#county-comparison](https://www.latimes.com/projects/california-coronavirus-cases-tracking-outbreak/covid-19-vaccines-distribution/?fbclid=IwAR3qj7WalLFsKm5fM-ASRRNIRHUZtoBZGQzRYKBGk-_IL_3OpIGGT762Ejc#county-comparison)
- Lowrey, A. (2020). No Millennials Don't Stand a Chance. *The Atlantic*. <https://www.theatlantic.com/ideas/archive/2020/04/millennials-are-new-lost->

generation/609832/

- Lu, M. (1998). Analyzing Migration Decisionmaking: Relationships between Residential Satisfaction, Mobility Intentions, and Moving Behavior. *Environment & Planning A*, 30(8), 1–473. <https://doi.org/10.1068/a301473>
- Maliki, N. Z., Abdullah, A., & Bahauddin, A. (2015). Recalling the Transitional Space: City Home and Kampung Home. *Procedia - Social and Behavioral Sciences*, 170, 605–612. <https://doi.org/10.1016/j.sbspro.2015.01.062>
- Malizia, E. (2020). *Millennial Preferences in the 2020s*. Newcities. [https://newcities.org/the-big-picture-millennial-preferences-in-the-2020s/?fbclid=IwAR3D6yKa4iCjZEiXke1k7vhyKe74UsBS-t8-Umyg5ZpNpVL1\\_4bdaJx5PSg](https://newcities.org/the-big-picture-millennial-preferences-in-the-2020s/?fbclid=IwAR3D6yKa4iCjZEiXke1k7vhyKe74UsBS-t8-Umyg5ZpNpVL1_4bdaJx5PSg)
- Maricopa.gov. (2021). *MARICOPA COUNTY COVID-19 VACCINE DATA*. <https://www.maricopa.gov/5671/Public-Vaccine-Data>
- Maricopa Association of Governments. (2020). *Homelessness Data*. Azmag. <https://www.azmag.gov/Programs/Homelessness>
- McDonald, N. C. (2015). Are Millennials Really the “Go-Nowhere” Generation? *Journal of the American Planning Association*, 81(2), 90–103. <https://doi.org/10.1080/01944363.2015.1057196>
- Messerli, K. (2020). *Could COVID-19 Become a Driving Force of Millennial Homeownership?* Housingwire. <https://www.housingwire.com/articles/could-covid-19-become-a-driving-force-of-millennial-homeownership/>
- Moos, M., Pfeiffer, D., & Vinodrai, T. (Eds. . (2017). *The Millennial City: Trends, Implications, and Prospects for Urban Planning and Policy*. (Routledge). [https://books.google.fr/books?hl=en&lr=&id=qFoPEAAAQBAJ&oi=fnd&pg=PP1&ots=TRJMT081y5&sig=gZCcnIOaRtmwG-coBvdhmHs\\_\\_Pg&redir\\_esc=y#v=onepage&q&f=false](https://books.google.fr/books?hl=en&lr=&id=qFoPEAAAQBAJ&oi=fnd&pg=PP1&ots=TRJMT081y5&sig=gZCcnIOaRtmwG-coBvdhmHs__Pg&redir_esc=y#v=onepage&q&f=false)
- Mounir, A., Mascaro, G., & White, D. D. (2019). A Metropolitan Scale Analysis of the Impacts of Future Electricity Mix Alternatives on the Water-Energy Nexus. *Applied Energy*, 256(August), 113870. <https://doi.org/10.1016/j.apenergy.2019.113870>
- Mountain, T. P., Cao, X., Kim, N., & Gutter, M. S. (2020). Millennials’ Future Homeownership and the Role of Student Loan Debt. *Family and Consumer Sciences Research Journal*, 49(1), 5–23. <https://doi.org/10.1111/fcsr.12374>
- Mulder, C. H. (2007). Choice : a Challenge for New Research. *Population, Space and Place*, 13(April), 265–278.

- Myers, D. (2016). Peak Millennials: Three Reinforcing Cycles That Amplify the Rise and Fall of Urban Concentration by Millennials. *Housing Policy Debate*, 26(6), 928–947. <https://doi.org/10.1080/10511482.2016.1165722>
- Nanda, A., Thanos, S., Valtonen, E., Xu, Y., & Zandieh, R. (2020). Forced Homeward: the COVID-19 Implications for Housing. *The Town Planning Review*. <https://doi.org/10.3828/tpr.2020.79>
- Okulicz-Kozaryn, A., & Valente, R. R. (2019). No Urban Malaise for Millennials. *Regional Studies*, 53(2), 195–205. <https://doi.org/10.1080/00343404.2018.1453130>
- Osili, U. O., Clark, C. J., & Han, X. (2019). Heterogeneity and Giving: Evidence from US Households Before and After the Great Recession of 2008. *American Behavioral Scientist*, 63(14), 1841–1862. <https://doi.org/10.1177/0002764219850859>
- Out Of Reach National Low Income Housing Coalition. (2020). *Housing-Related Data*. National Low Income Housing Coalition. <https://reports.nlihc.org/oor>
- Paris, E. (2019). Millennials With Families Are Leaving Major Cities For The Suburbs, Transforming Them Into ‘Hipsturbia.’ *Forbes*. <https://www.forbes.com/sites/ellenparis/2019/10/31/millennials-with-families-are-leaving-major-cities-for-the-suburbs-transforming-them-into-hipsturbia/?sh=1ecc49456746>
- Parker, K., & Igielnik, R. (2020). *On the Cusp of Adulthood and Facing an Uncertain Future: What We Know About Gen Z So Far*. Pew Research Center. <https://www.pewresearch.org/social-trends/2020/05/14/on-the-cusp-of-adulthood-and-facing-an-uncertain-future-what-we-know-about-gen-z-so-far-2/>
- Pew Research Center. (2020). *Most Americans Say Coronavirus Outbreak Has Impacted Their Lives*. <https://www.pewsocialtrends.org/2020/03/30/most-americans-say-coronavirus-outbreak-has-impacted-their-lives/>
- Pfeiffer, D. (2015). Retrofitting suburbia through second units: lessons from the Phoenix region. In *Journal of Urbanism* (Vol. 8, Issue 3, pp. 279–301). <https://doi.org/10.1080/17549175.2014.908787>
- Pfeiffer, D., Pearthree, G., & Ehlenz, M. M. (2019). Inventing What Millennials Want Downtown: Housing the Urban Generation in Low-Density Metropolitan Regions. *Journal of Urbanism*, 12(4), 433–455. <https://doi.org/10.1080/17549175.2019.1626267>
- Phinney, R. (2013). Exploring Residential Mobility Among Low-Income Families. *Social Service Review*, 87(4), 780–815. <https://link.springer.com/article/10.1007/s10901-016-9524-3>

- Pinalcountyaz.gov. (2021). *COVID-16 Vaccine*.  
<https://www.pinalcountyaz.gov/PUBLICHEALTH/CORONAVIRUS/Pages/Vaccine.aspx>
- Pisano, C. (2020). Strategies for Post-COVID Cities: An Insight to Paris En Commun and Milano 2020. *Sustainability*, 12(15), 5883. <https://doi.org/10.3390/su12155883>
- Quigley, J. M., & Weinberg, D. H. (1977). Intra- Urban Residential Mobility: A Review and Synthesis. *International Regional Science Review*, 2(1), 41–66.  
<https://doi.org/10.1177/016001767700200104>
- Raymond, E. L., Dill, J., & Lee, Y. (2018). Millennial First-Time Homebuyers and Location Choice. *Journal of Planning Education and Research*.  
<https://doi.org/10.1177/0739456X18807751>
- Reagor, C. (2020a). *Metro Phoenix Homebuyers Shouldn't Expect Prices to Fall in 2021. Here's Why*. Azcentral. <https://eu.azcentral.com/story/money/real-estate/catherine-reagor/2021/01/17/metro-phoenix-homebuyers-dont-expect-prices-to-fall-in-2021-heres-why/4161456001/>
- Reagor, C. (2020b). *Metro Phoenix Median Home Price Hits New Record, Thanks to Out-of-State Buyers*. Azcentral. <https://eu.azcentral.com/story/money/real-estate/catherine-reagor/2020/11/01/phoenix-area-median-home-price-hits-new-record-thanks-out-state-buyers/6064705002/>
- Reagor, C. (2021). New Residents Push Up Metro Phoenix Home Prices, Rents. *Azcentral*. <https://www.azcentral.com/story/money/real-estate/catherine-reagor/2021/02/07/new-residents-push-up-metro-phoenix-home-prices-rents/4378075001/>
- Reagor, C., & Boehm, J. (2020). *A Nightmare for Too Many': Hundreds of Arizona Renters May Have Been Wrongfully Evicted During Pandemic*. USA Today. <https://www.usatoday.com/story/news/nation/2020/11/18/despite-federal-law-protecting-them-hundreds-renters-may-have-been-wrongfully-evicted-during-pandemi/6338228002/>
- Rossi, P. H., & Shlay, A. B. (1982). Residential Mobility and Public Policy Issues:“Why Families Move.” *Journal of Social Issues*, 38(3), 21–34.
- Rothstein, R. (2017). *The Color of Law: A Forgotten History of How our Government Segregated America* (Liveright).  
[https://books.google.fr/books?hl=fr&lr=&id=SdtDDQAAQBAJ&oi=fnd&pg=PT4&dq=Rothstein+the+Color+of+Law&ots=RLSv8SjPwK&sig=\\_jIUyiMu\\_iPo-MFifnIFAdQegWI&redir\\_esc=y#v=onepage&q=Rothstein+the+Color+of+Law&f=false](https://books.google.fr/books?hl=fr&lr=&id=SdtDDQAAQBAJ&oi=fnd&pg=PT4&dq=Rothstein+the+Color+of+Law&ots=RLSv8SjPwK&sig=_jIUyiMu_iPo-MFifnIFAdQegWI&redir_esc=y#v=onepage&q=Rothstein+the+Color+of+Law&f=false)



- Sanders, R. L. (2020). *Evictions are Still Happening in Arizona. But They've Dramatically Dropped*. Arizona Republic. <https://www.azcentral.com/story/money/business/consumers/2020/05/24/renters-still-being-evicted-arizona-heres-why/3118505001/>
- Schmidt, S. (2020). *The Impact of COVID-19 on Millennials and Gen Z Consumers*. Market Research. <https://blog.marketresearch.com/the-impact-of-covid-19-on-millennials-and-gen-z-consumers>
- Scommegna, P. (2020). *Coronavirus Stress and Fear Could Take a Toll on Our Health*. Population Reference Bureau. <https://www.prb.org/coronavirus-stress-and-fear/>
- Shashkevich, A. (2018). Millennials Hope to Reach Life Milestones by the Same Age as other Generations. *Stanford*. <https://news.stanford.edu/press-releases/2018/02/12/millennials-want-marry-buy-homes-time-generations/>
- Shertzer, A., Twinam, T., & Walsh, R. P. (2021). Zoning and Segregation in Urban Economic History. *Regional Science and Urban Economics*, 103652. <https://doi.org/10.1016/j.regsciurbeco.2021.103652>
- Singh, P., Singh, S., Sohal, M., Dwivedi, Y. K., Kahlon, K. S., & Sawhney, R. S. (2020). *Psychological Fear and Anxiety Caused by COVID-19: Insights From Twitter Analytics*. 54, 102280.
- Small, M. L. (2009). "How Many Cases Do I need?": On Science and the Logic of Case Selection in Field-Based Research. *Ethnography*, 10(1), 5–38. <https://doi.org/10.1177/1466138108099586>
- Smith, K. (2020). *NAR Study: Millennials Drive the Desire for Bigger Homes*. Florida Realtors. <https://www.floridarealtors.org/news-media/news-articles/2020/10/nar-study-millennials-drive-desire-bigger-homes>
- Snyder, I., & Lum, J. (2021). *Phoenix-Area Housing Market Booming as Many Pay Far Over Selling Price*. FOX10 Phoenix. <https://www.fox10phoenix.com/news/phoenix-area-housing-market-booming-as-many-pay-far-over-selling-price>
- South, S. J., & Crowder, K. D. (1998). Housing Discrimination and Residential Mobility: Impacts for Blacks and Whites. *Population Research and Policy Review*, 17(4), 369–387. <https://doi.org/10.1023/A:1005917328257>
- Speare, A. (1974). Residential Satisfaction as an Intervening Variable in Residential Mobility. *Demography*, 11(2), 173–188. <https://doi.org/10.2307/2060556>
- Sturtevant, L. (2020). *Looking Ahead: Post-COVID-19 Housing Preferences*. Virginia REALTORS. <https://virginiarealtors.org/2020/07/01/looking-ahead-post-covid-19-housing-preferences/>

- Swanson, B. (2015). *What Do Millennials Want from Housing?* Housingwire.  
<https://www.housingwire.com/articles/32865-what-do-millennials-want-from-housing/>
- Taylor, P. L. (2020). Is New York City’s Real Estate Market Really Tanking? I Asked Three Experts For The Brutal Truth. *Forbes*.  
<https://www.forbes.com/sites/petertaylor/2020/10/28/is-new-york-citys-real-estate-market-really-tanking-i-asked-three-experts-for-the-brutal-truth/?sh=3150ef4716b8>
- Texas Department of State Health Services. (2021). *COVID-19 Vaccine in Texas*.  
<https://www.dshs.texas.gov/covidvaccine/>
- The Eviction Lab. (2021). *Eviction Filings in Maricopa County, AZ*. Evictionlab.Org.  
<https://evictionlab.org/eviction-tracking/phoenix-az/>
- The New York Times. (2021a). *F.A.Q. on Stimulus Checks, Unemployment and the Coronavirus Plan*. <https://www.nytimes.com/article/coronavirus-stimulus-package-questions-answers.html>
- The New York Times. (2021b). *The Covid-19 Pandemic*. Www.Nytimes.Com.  
[https://www.nytimes.com/news-event/coronavirus?name=stylIn-coronavirus&region=TOP\\_BANNER&block=storyline\\_menu\\_recirc&action=click&pgtype=Interactive&impression\\_id=&variant=1\\_Show](https://www.nytimes.com/news-event/coronavirus?name=stylIn-coronavirus&region=TOP_BANNER&block=storyline_menu_recirc&action=click&pgtype=Interactive&impression_id=&variant=1_Show)
- Tiebout, C. M. (1956). A Pure Theory of Local Expenditures. *Journal of Political Economy*, 64(5), 416–424. <http://www.jstor.org/stable/1826343>
- Tieperman, A. (2019). *I’m 29, and I Love Spending Time With My 55-Year -Old Parents*.  
[https://www.yahoo.com/lifestyle/im-29-love-spending-time-221600987.html?guccounter=1&guce\\_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce\\_referrer\\_sig=AQAAAG0LfhZiI6hVty3b79jRHJZj91etJjJ2bgsoxKR9pQ41a1Nf6p38DtgmT1yH9pLb\\_pp2oQp0tOOD-h4-PB1cUDTZFLix0mvyzfVmS1](https://www.yahoo.com/lifestyle/im-29-love-spending-time-221600987.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAG0LfhZiI6hVty3b79jRHJZj91etJjJ2bgsoxKR9pQ41a1Nf6p38DtgmT1yH9pLb_pp2oQp0tOOD-h4-PB1cUDTZFLix0mvyzfVmS1)
- Totiyapungprasert, P. (2020). *From Restaurant Scandals to CSAs, Here Are the Biggest Metro Phoenix Food Stories of 2020*. Azcentral.  
<https://www.azcentral.com/story/entertainment/dining/2020/12/31/biggest-phoenix-restaurant-stories-2020/3947655001/>
- Trible, H. B. (2015). *Emerging Adulthood : Defining the Life Stage and its Developmental Tasks*. 2(Educational Specialist), 1–87.
- Tufts, A. (2019). Here’s Why More Millennials are Moving to Phoenix. *Azbigmedia*.  
<https://azbigmedia.com/business/workforce/heres-why-more-millennials-are-moving-to-phoenix/>
- Twenge, J. M., Campbell, W. K., & Freeman, E. C. (2012). Generational Differences in

- Young Adults' Life Goals, Concern for Others, and Civic Orientation, 1966-2009. *Journal of Personality and Social Psychology*, 102(5), 1045–1062. <https://doi.org/10.1037/a0027408>
- U.S. Bureau of Labor Statistics. (2019). *Household data*. <https://www.bls.gov/news.release/empsit.toc.htm>
- U.S. Census Bureau. (2015). *Millennials Outnumber Baby Boomers and Are Far More Diverse*. <https://www.census.gov/newsroom/press-releases/2015/cb15-113.html>
- U.S. Census Bureau. (2019). *Demographic and Housing Characteristics*. <https://data.census.gov/cedsci/>
- Veitch, J. A., & Gifford, R. (1996). Choice, Perceived Control, and Performance Decrements in the Physical Environment. *Journal of Environmental Psychology*, 16(3), 269–276. <https://doi.org/10.1006/jevp.1996.0022>
- Vogels, E. (2019). *Millennials Stand Out for Their Technology Use, but Older Generations also Embrace Digital Life*. Pew Research Center. <https://www.pewresearch.org/fact-tank/2019/09/09/us-generations-technology-use/>
- Wentz, E. A., & Gober, P. (2007). Determinants of Small-Area Water Consumption for the City of Phoenix, Arizona. *Water Resources Management*, 21(11), 1849–1863. <https://doi.org/10.1007/s11269-006-9133-0>
- West, S. (2018). Meeting Millennial Expectations In These Four Areas Of Technology. *Forbes*. <https://www.forbes.com/sites/forbestechcouncil/2018/06/28/meeting-millennial-expectations-in-these-four-areas-of-technology/?sh=760bef8b4ffc>
- Westlake, J. (2021). *Should You Relocate? What to Consider if You're Thinking of Moving (More than Temporarily) During the Pandemic*. Themuse. <https://www.themuse.com/advice/relocate-move-during-coronavirus-pandemic>
- Wheeland, M. (2016). *End of the road: Uber and Millennials Help US Cities Cut Car Addiction*. The Guardian. <https://www.theguardian.com/sustainable-business/2016/may/31/uber-millennials-us-cities-cars-austin-lyft>
- Williams, C. (2020). *Pandemic Pushing Some Millennials to Look Into Homeownership*. Morning Consult. [https://morningconsult.com/2020/09/28/millennials-economy-homeownership/?fbclid=IwAR3AZIMBjNDVkBcfGro\\_KtGWXnD-ktSARMW7g4YrbSz1ZiqTCgAgNhkY7Q](https://morningconsult.com/2020/09/28/millennials-economy-homeownership/?fbclid=IwAR3AZIMBjNDVkBcfGro_KtGWXnD-ktSARMW7g4YrbSz1ZiqTCgAgNhkY7Q)
- World Health Organization. (2020). *COVID-19 Public Health Emergency of International Concern (PHEIC) Global Research and Innovation Forum*. [https://www.who.int/who-documents-detail/covid-19-public-health-emergency-of-international-concern-\(pheic\)-global-research-and-innovation-forum](https://www.who.int/who-documents-detail/covid-19-public-health-emergency-of-international-concern-(pheic)-global-research-and-innovation-forum)

- Worldmeters.info. (2021). *Coronavirus update*.  
<https://www.worldometers.info/coronavirus/>
- Xu, Y., Johnson, C., Bartholomae, S., O'Neill, B., & Gutter, M. S. (2015).  
Homeownership Among Millennials: The Deferred American Dream? *Family and  
Consumer Sciences Research Journal*, 44(2), 201–212.  
<https://doi.org/10.1111/fcsr.12136>
- Yoruk, B. (2020). *Early Effects of the COVID-19 Pandemic on Housing Market in the  
United States*. <http://dx.doi.org/10.2139/ssrn.3607265>
- YPULSE. (2020a). *76% of Millennials Are Pet Parents—Here's What They've Been  
Buying for Them*. [https://www.ypulse.com/article/2020/08/24/76-of-millennials-are-  
pet-parents-heres-what-theyve-been-buying-for-them/](https://www.ypulse.com/article/2020/08/24/76-of-millennials-are-pet-parents-heres-what-theyve-been-buying-for-them/)
- YPULSE. (2020b). *TikTok's Massive Growth Among Gen Z & Millennials in 3 Charts*.  
[https://www.ypulse.com/article/2020/02/19/tiktoks-massive-growth-among-gen-z-  
millennials-in-3-  
charts/?fbclid=IwAR3uarKYew7H0av38ENhbLKbt1Uw9gMC7P9Mj7cv\\_0jnDkfjC  
X6-Bn-kcis](https://www.ypulse.com/article/2020/02/19/tiktoks-massive-growth-among-gen-z-millennials-in-3-charts/?fbclid=IwAR3uarKYew7H0av38ENhbLKbt1Uw9gMC7P9Mj7cv_0jnDkfjCX6-Bn-kcis)
- Zillow. (2020). *Housing Data*. Zillow.Com. <https://www.zillow.com/research/data/>
- Zillow. (2021). *Housing Data*. Zillow.Com. <https://www.zillow.com/research/data/>

APPENDIX A  
INTERVIEW INSTRUMENTS

## Millennials/Non-Millennials interview instrument

### Introduction

1. What interested you in speaking with me today?
2. The COVID-19 pandemic has affected people's lives in many ways. Has COVID affected your life? If so, how?

### Impact of COVID on housing preferences

3. What neighborhood were you living in in February 2020?
  - a. Can you tell me the nearest major cross streets of your home?
  - b. What type of house were you living in?
  - c. Was your home rented or owned?
  - d. Was anyone else living in the same home? If so, who?
  - e. How did you end up living in that home and neighborhood?
4. Are you currently living in the same neighborhood?

If YES, move to question 6

- a. When did you move?
  - b. Can you tell me the nearest major cross streets of your home?
  - c. What type of house are you living in?
  - d. Is your home rented or owned?
  - e. Is anyone else living in the same home? If so, who?
  - f. How did you end up living in that home and neighborhood?
5. Have you lived anywhere else aside from the homes at [cross streets]?

If, SO (for each additional home)

- a. Can you tell me the nearest major cross streets of your home?
  - b. What type of house were you living in?
  - c. Was your home rented or owned?
  - d. Was anyone else living in the same home? If so, who?
  - e. How did you end up living in that home and neighborhood?
6. Are you considering moving within the next year? If so, where? What's motivating you to make a move?

7. There is a lot of debate right now about how COVID is affecting people's choices about where to live. Do you think that COVID will change the housing preferences of people from your generation?

- a. If so, how in particular?
- b. If not, what makes you feel that way?

#### Household characteristics

Now, I'd like to learn more about your current household characteristics. Let me know if you would prefer not to answer a question, and we will skip it.

8. Do you identify with any particular racial or ethnic group? If so, what?

9. What year were you born?

#### Conclusion

We're almost done. I just have a few questions before we conclude.

10. Is there anything we haven't talked about related to housing preferences that you think would be important for me to know?

11. Would you be available to participate in a follow-up interview if needed? If so, what is the best way to contact you?

12. Do you know of anyone else who might be interested in participating in this interview? If so, could you share their contact information with me?

13. Do you have any questions for me before we conclude the interview?

14. Are you interested in reviewing a summary of the findings or a copy of my thesis?

15. Where would you like me to send your \$20 gift card?

Thank you so much for participating in this interview. It was very helpful to get your perspectives on people's housing preferences in the COVID era.

## Planners and/or social justice/housing advocates interview instrument

### Introduction

1. What interested you in speaking with me today?
2. The COVID-19 pandemic has affected people's lives in many ways. Have you observed COVID affecting the community you serve? If so, how?

### Impact of COVID on housing preferences

3. There is a lot of debate right now about how COVID is affecting people's choices about where to live. Do you think that COVID will change Millennials' housing locational preferences?
  - a. If so, how in particular?
  - b. If not, what makes you feel that way?
4. Do you think that COVID will change Baby Boomers, Gen X, and Gen Z housing locational preferences?
  - a. If so, how in particular?
  - b. If not, what makes you feel that way?
5. Do you think that COVID will change the type of homes that Millennials will rent/buy?
  - a. If so, how in particular?
  - b. If not, what makes you feel that way?
6. Do you think that COVID will change the type of homes that Baby Boomers, Gen X, and Gen Z will rent/buy?
  - a. If so, how in particular?
  - b. If not, what makes you feel that way?
7. Do you think that Millennials will look for/ need any new features in their homes?
  - a. If so, what features in particular?
  - b. If not, what makes you feel that way?
8. Do you think that Baby Boomers, Gen X, and Gen Z will look for/ need any new features in their homes?



- a. If so, what features in particular?
- b. If not, what makes you feel that way?

Impact of the new trends and patterns on the Metro region and its housing market

Now, I'd like to talk about how you think the patterns you're observing might affect the Phoenix metro and its housing market

9. What migration patterns among Millennials do you expect? (e.g. Back-To-The-City movement and suburbanization)

10. What migration patterns among Baby Boomers, Gen X, and Gen Z do you expect?

11. Do you think that these patterns will change where housing is being built in the Phoenix Metro?

- a. If so, how in particular?
- b. If not, what makes you feel that way?

12. Do you think that the new housing trends and patterns would have an impact on low-income communities (i.e., people with an annual income of \$50,000 for a family of four and under)?

- a. If so, how in particular?
- b. If not, what makes you feel that way?

13. Do you think that the new housing trends and patterns would affect other social/demographic groups?

- a. If so, how in particular?
- b. If not, what makes you feel that way?

14. Do you think that COVID will affect the housing market including supply, demand, and housing prices in the Phoenix Metro in the short-term?

- a. If so, how in particular?
- b. If not, what makes you feel that way?

15. Do you think that COVID will affect the housing market including supply, demand, and housing prices in the Phoenix Metro in the long-term?

- a. If so, how in particular?
- b. If not, what makes you feel that way?

## Conclusion

We're almost done. I just have a few questions before we conclude.

16. Is there anything we haven't talked about related to people's housing preferences that you think would be important for me to know?

17. Would you be available to participate in a follow-up interview if needed? If so, what is the best way to contact you?

18. Do you know of anyone else who might be interested in participating in this interview? If so, could you share their contact information with me?

19. Do you have any questions for me before we conclude the interview?

20. Are you interested in reviewing a summary of the findings or a copy of my thesis?

Thank you so much for participating in this interview. It was very helpful to get your perspectives on people's housing preferences in the COVID era.

## Real estate agents interview instrument

### Introduction

1. What interested you in speaking with me today?
2. The COVID-19 pandemic has affected people's lives in many ways. Have you observed COVID affecting the community you serve? If so, how?

### Impact of COVID on housing preferences

I am interested in understanding how people's habits and preferences searching for housing may be staying the same vs. changing during the COVID era.

3. What Millennial habits and preferences are staying the same, if any? What changes have you observed, if any?
4. Do you think that these habits and preferences will persist in the long-term?
  - a. If so, how in particular?
  - b. If not, what makes you feel that way?
5. What Baby Boomers, Gen X, and Gen Z habits and preferences are staying the same, if any? What changes have you observed, if any?
6. Do you think that these habits and preferences will persist in the long-term?
  - a. If so, how in particular?
  - b. If not, what makes you feel that way?

### Impact of the new trends and patterns on the housing market

7. Do you see Millennials' housing preferences affecting the Phoenix Metro's housing market in the short term?
  - a. If so, how in particular?
  - b. If not, what makes you feel that way?
8. Do you see Millennials' housing preferences affecting the Phoenix Metro's housing market in the long term?
  - a. If so, how in particular?
  - b. If not, what makes you feel that way?

## Conclusion

We're almost done. I just have a few questions before we conclude.

9. Is there anything we haven't talked about related to people's housing preferences that you think would be important for me to know?

10. Would you be available to participate in a follow-up interview if needed? If so, what is the best way to contact you?

11. Do you know of anyone else who might be interested in participating in this interview? If so, could you share their contact information with me?

12. Do you have any questions for me before we conclude the interview?

13. Are you interested in reviewing a summary of the findings or a copy of my thesis?

Thank you so much for participating in this interview. It was very helpful to get your perspectives on people's housing preferences in the COVID era.

APPENDIX B  
RECRUITMENT MATERIALS

## Millennials/non-Millennials' recruitment script

Subject line for emails: Invitation to participate in research on Phoenix Metro Millennials 'Housing Preferences in the COVID Era

Hi,

My name is Rababe Saadaoui and I am a graduate student under the direction of Dr. Deirdre Pfeiffer in the School of Geographical Sciences and Urban Planning at Arizona State University. This research is part of my thesis for my Master of Urban and Environmental Planning degree.

I am recruiting individuals who are 18 years or older to participate in an interview on this topic. I would very much like to include your perspective in this study. The interview can be conducted via Zoom, over the phone, or through email. The interview should take about 30 to 45 minutes. I would like to audio record this interview, if done over phone or through Zoom. The interview will not be recorded without your permission. The audio recording will be deleted at the conclusion of this research study.

Information provided will be confidential. Please let me know if you are interested in participating in an interview. Your participation in this research study is voluntary. Upon successful completion of the interview, you will receive a \$20 gift card.

Please feel free to contact me with any questions or concerns either by email at [rsaadaou@asu.edu](mailto:rsaadaou@asu.edu) or by phone at (480) 208-4992. Also, please let me know if you know of others who may be interested in participating in this research.

Thank you very much for your consideration of this opportunity. I look forward to hearing from you.

Rababe Saadaoui

Planners/social justice and housing advocates/real estate recruitment script

Subject line for emails: Invitation to participate in research on Phoenix Metro Millennials' Housing Preferences in the COVID Era

Hi,

My name is Rababe Saadaoui and I am a graduate student under the direction of Dr. Deirdre Pfeiffer in the School of Geographical Sciences and Urban Planning at Arizona State University. This research is part of my thesis for my Master of Urban and Environmental Planning degree.

I am recruiting individuals who are 18 years or older to participate in an interview on this topic. I would very much like to include your perspective in this study, given your [DESCRIBE ROLE OR EXPERTISE]. The interview can be conducted via Zoom, over the phone, or through email. The interview should take about 15 to 20 minutes. I would like to audio record this interview, if done over phone or through Zoom. The interview will not be recorded without your permission. The audio recording will be deleted at the conclusion of this research study. Information provided will be confidential. Please let me know if you are interested in participating in an interview. Your participation in this research study is voluntary.

Please feel free to contact me with any questions or concerns either by email at [rsaadaou@asu.edu](mailto:rsaadaou@asu.edu) or by phone at (480) 208-4992. Also, please let me know if you know of others who may be interested in participating in this research.

Thank you very much for your consideration of this opportunity. I look forward to hearing from you.

Rababe Saadaoui

## Social Media Post

Earn \$20 by sharing your experiences in the housing market

Are you interested in participating in a study on how people's housing preferences are changing in the Phoenix Metro, with an interest in understanding how preferences differ across generations? And are you at least 18 years old? If you answered "yes", you are invited to participate in a research study conducted by Rababe Saadaoui, a graduate student under the direction of Dr. Deirdre Pfeiffer in the School of Geographical Sciences and Urban Planning at Arizona State University. You will be asked to participate in a 30 to 45 minutes interview via Zoom, over the phone, or through email. Participation is voluntary. For more information, please feel free to contact Rababe Saadaoui by email at [rsaadaou@asu.edu](mailto:rsaadaou@asu.edu) or by phone at (480) 208-4992. Also, please let me know if you know of others who may be interested in participating in this research.



APPENDIX C  
CONSENT FORMS

## Millennials/Non-Millennials consent script

Thank you for taking the time to speak with me about your perspectives on Phoenix Metro Millennials' Housing Preferences in the COVID era. My name is Rababe Saadaoui and I am a graduate student under the direction of Dr. Deirdre Pfeiffer in the School of Geographical Sciences and Urban Planning at Arizona State University. This research is part of my thesis for my Master of Urban and Environmental Planning degree.

Before we begin the interview, I would like to go over the purpose of the research, what we're going to be talking about, and how the information will be used.

The COVID-19 pandemic is changing people's living and working patterns. I am currently studying whether the pandemic is affecting Millennials' housing and neighborhood preferences in the Phoenix Metropolitan Area. In this research, Millennials are defined as those born between 1981 and 1996. The questions that I will ask you today address your perspectives on Millennial housing trends in the COVID era and the push and pull factors shaping them. The pre-COVID era is defined as the period prior to March 2020 and the COVID era is March 2020 and after.

The interview should last about 30 to 45 minutes. You have the right not to answer any question, and to stop participation at any time. Your participation in this research is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. There are no foreseeable risks or discomforts to your participation. You must be 18 years old or older to participate in this interview. I would like to audio record this interview. The interview will not be recorded without your permission. Please let me know if you do not want the interview to be recorded; you also can change your mind after the interview starts, just let me know. The audio recording will be deleted at the conclusion of this research study. I may contact you to participate in a follow-up interview in order to clarify the points discussed in this interview if needed.

Your name and all information obtained in the interview will be strictly confidential. The results of this study may be used in reports, presentations, or publications but your name will not be used. You will have the opportunity to review a summary of the findings and/or a draft copy of the thesis before it is published if you would like to. Upon successful completion of the interview, you will receive a \$20 gift card.

If you have any questions concerning the research study, please contact me at [rsaadaou@asu.edu](mailto:rsaadaou@asu.edu) or (480) 208-4992 or contact Dr. Deirdre Pfeiffer at [deirdre.pfeiffer@asu.edu](mailto:deirdre.pfeiffer@asu.edu) or (323) 333-6783. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

Do you have any questions about who I am, what the study is about, or how the interview will go today?

Do you still wish to participate in the interview?

Planners/Social Justice and Housing Advocates/Real Estate Agents consent script

Thank you for taking the time to speak with me about your perspectives on Phoenix Metro Millennials' Housing Preferences in the COVID era. My name is Rababe Saadaoui and I am a graduate student under the direction of Dr. Deirdre Pfeiffer in the School of Geographical Sciences and Urban Planning at Arizona State University. This research is part of my thesis for my Master of Urban and Environmental Planning degree.

Before we begin the interview, I would like to go over the purpose of the research, what we are going to be talking about, and how the information will be used.

The COVID-19 pandemic is changing people's living and working patterns. I am currently studying whether the pandemic is affecting Millennials' housing and neighborhood preferences in the Phoenix Metropolitan Area. In this research, Millennials are defined as those born between 1981 and 1996. The questions that I will ask you today address your perspectives on Millennial housing trends in the COVID era and the push and pull factors shaping them. The pre-COVID era is defined as the period prior to March 2020 and the COVID era is March 2020 and after.

The interview should last about 15 to 20 minutes. You have the right not to answer any question, and to stop participation at any time. Your participation in this research is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. There are no foreseeable risks or discomforts to your participation. You must be 18 years old or older to participate in this interview.

I would like to audio record this interview. The interview will not be recorded without your permission. Please let me know if you do not want the interview to be recorded; you also can change your mind after the interview starts, just let me know. The audio recording will be deleted at the conclusion of this research study. I may contact you to participate in a follow-up interview in order to clarify the points discussed in this interview if needed.

Your name and all information obtained in the interview will be strictly confidential. The results of this study may be used in reports, presentations, or publications but your name will not be used. You will have the opportunity to review a summary of the findings and/or a draft copy of the thesis before it is published if you'd like to.

If you have any questions concerning the research study, please contact me at [rsaadaou@asu.edu](mailto:rsaadaou@asu.edu) or (480) 208-4992 or contact Dr. Deirdre Pfeiffer at [deirdre.pfeiffer@asu.edu](mailto:deirdre.pfeiffer@asu.edu) or (323) 333-6783.

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects

Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

Do you have any questions about who I am, what the study is about, or how the interview will go today?

Do you still wish to participate in the interview?

APPENDIX D  
IRB APPROVAL

EXEMPTION GRANTED

[Deirdre Pfeiffer](#)

[CLAS-SS: Geographical Sciences and Urban Planning, School of \(SGSUP\)](#)

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[deirdre.pfeiffer@asu.edu](mailto:deirdre.pfeiffer@asu.edu)

Dear [Deirdre Pfeiffer](#):

On 12/18/2020 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Have Millennials' Housing Preferences Changed in the COVID Era? A Case of the Phoenix Metropolitan Area
Investigator:	<a href="#">Deirdre Pfeiffer</a>
IRB ID:	STUDY00013065
Funding:	Name: Fulbright Foundation
Grant Title:	
Grant ID:	
Documents Reviewed:	<ul style="list-style-type: none"> <li>• Millennials_interview_instrument_12-14-2020.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li> <li>• Participant_consent_script 1_12-16-2020.pdf, Category: Consent Form;</li> <li>• Participant_consent_script 2_12-16-2020.pdf, Category: Consent Form;</li> <li>• Pfeiffer CITI Certificate 2020.pdf, Category: Other;</li> <li>•</li> <li>Phoenix_metro_millennials_housing_preferences_in_the_COVID_Era_IRB_12-16-2020.pdf, Category: IRB Protocol;</li> <li>• Planners_social_justice_housing_advocates_interview_instrument_12-14-2020.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li> <li>• Real_estate_agents_interview_instrument_12-14-2020.docx.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li> <li>• Recruitment_methods_advertisement_12-14-2020.pdf, Category: Recruitment Materials;</li> </ul>

	<ul style="list-style-type: none"><li>• Recruitment_methods_email 1_12-16-2020.pdf, Category: Recruitment Materials;</li><li>• Recruitment_methods_email 2_12-16-2020.pdf, Category: Recruitment Materials;</li><li>• Saadaoui CITI Certificate 2020.pdf, Category: Other;</li></ul>
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The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 12/18/2020.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

If any changes are made to the study, the IRB must be notified at [research.integrity@asu.edu](mailto:research.integrity@asu.edu) to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.

Sincerely,

IRB Administrator

cc: Rababe Saadaoui  
Deirdre Pfeiffer  
Rababe Saadaoui



APPENDIX E  
STUDY AREA CHARACTERISTICS

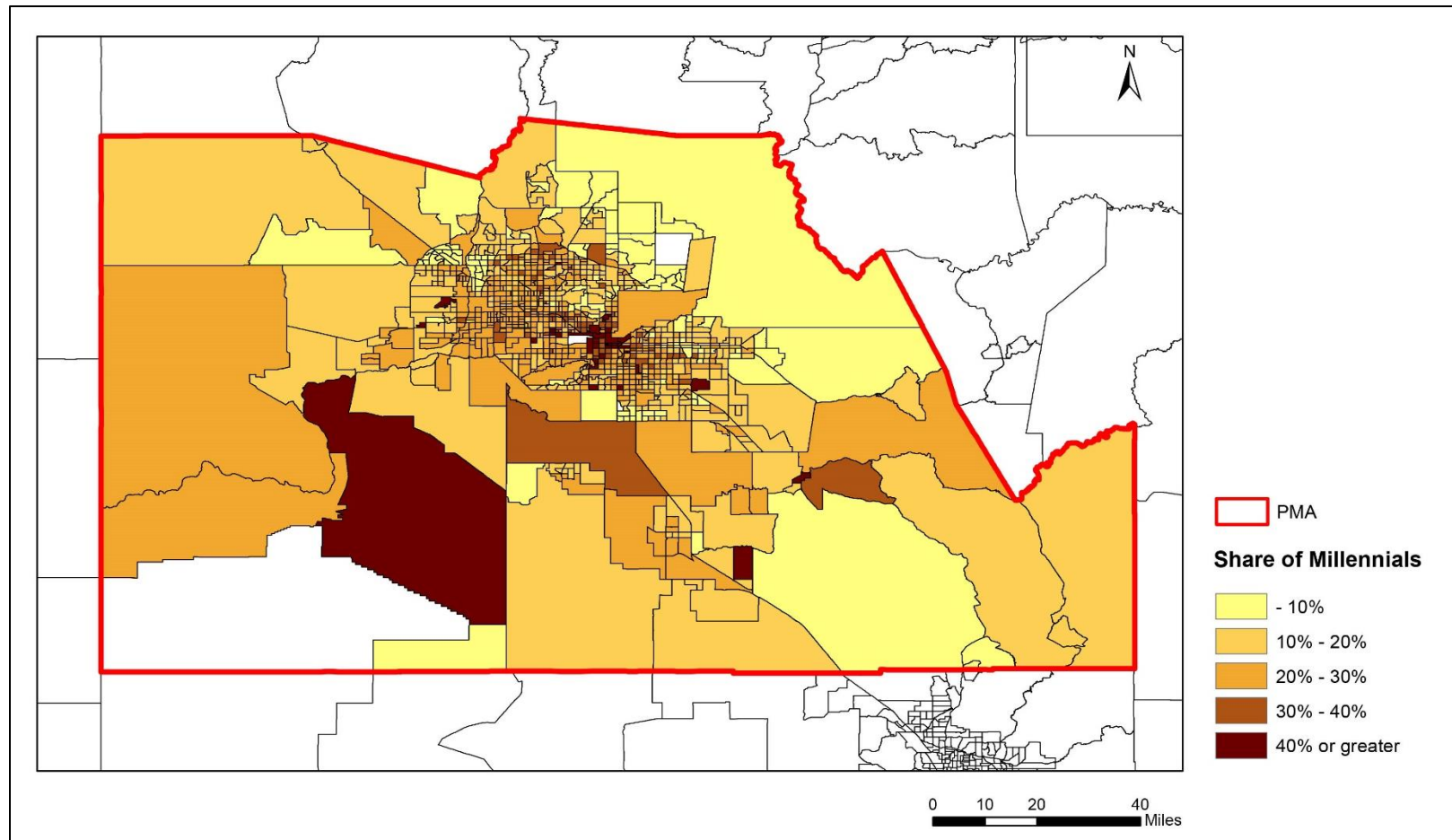


Figure 18. Millennials' Distribution in the PMA by Census Tract (2019)  
Data source: American Community Survey 5-Year Estimate (2019)

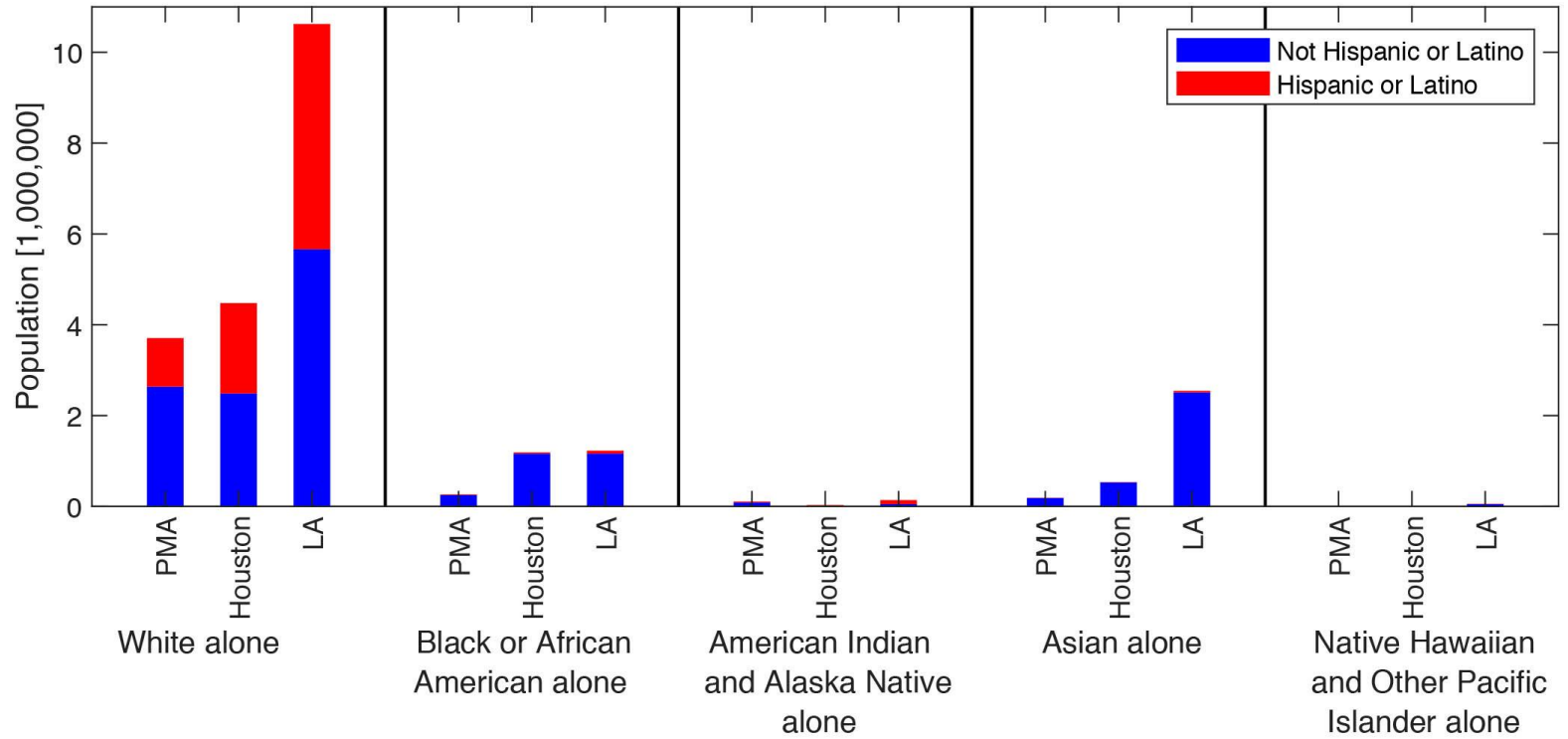


Figure 19. PMA, Greater Houston, and Greater LA Millennials by Race in 2019  
 Data source: American Community Survey 5-Year Estimate (2019)