Sandy Springs Homeownership Assessment and Policy Recommendations

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Executive Summary

The city of Sandy Springs hopes to preserve and develop more housing in its area to ensure that young adults with families and first-time homeowners set down roots in the city. Land prices have risen steadily in Sandy Springs, and the local government aims to introduce strategies and protections to maintain and develop affordable housing stock for this demographic. Entry-level homeownership opportunities are crucial to the continued vibrance of the community and for future growth. Without plentiful accessibly priced homes, the city's demographics will continue to skew towards older and wealthier residents, reducing the diversity and resilience of the community. This project analyzes the housing market of Sandy Springs using the American Community Survey (ACS) and Home Mortgage Disclosure Act (HMDA) data and recommends strategies for providing adequate homeownership opportunities to support the city's desired future residents. ACS data is used to examine changes that have occurred in the homeowner population in Sandy Springs between 2018 and 2022. To provide further insights into homeownership, the HMDA dataset shows the types of mortgage loan applicants in Sandy Springs in 2018 and 2022. This data illuminates specific challenges for young families and professionals in originating mortgages. The literature review and recommendations sections highlight potential policy action relating to the goal of increased homeownership for adults starting families and other early professionals in the city.

Introduction

Homeownership is integral to building wealth in the United States and is traditionally seen as emblematic of the "American dream." In the country's current economic positioning, the protection of various forms of homeownership is necessary to ensure that citizens can live in consistent housing, generate savings, and stabilize housing costs (Gura, 2001). First-time homeownership is critical to helping younger generations build a solid financial foundation. Further, growing cities across the country are experiencing rising land prices and need strategies to preserve various forms of housing to serve residents of all income levels. Understanding an area's housing supply and demand is key to supporting the community's health. With knowledge about their housing conditions, municipalities can implement strategies to support all community members, ensuring every resident has a decent place to live.

For many municipalities experiencing rapid growth, homeownership has become less realistic for low- and moderate-income families. Affordable housing policy is needed to ensure housing for the lowest income bracket and the working and professional classes. These expensive housing markets crowd out many types of residents, creating homogeneous communities segregated by income, which are unsustainable in the long run. Many municipalities are concerned with housing opportunities in their area and are looking for solutions to continue providing a diverse array of residential offerings.

The city of Sandy Springs, outside of Atlanta, Georgia, is one such community experiencing growing housing prices. Between 2010 and 2020, the median annual home price appreciation was 7.5% in the city (HR&A Advisors, Inc.) The city's 2020 housing assessment identified a

need for “entry-level” single-family homeownership opportunities, as the report found that 81% of attached and detached single-family homes were sold at prices above $400,000, which was unaffordable to most young households (HR&A Advisors, Inc.) The area’s high cost of living has led to more cost-burdened residents and fewer young residents settling in the city. As only wealthier and more established buyers can compete in the Sandy Springs housing market, the community is experiencing changes in resident demographics, with one of the fastest-growing groups in the area being homeowners over 55 years old (HR&A Advisors, Inc.)

Additionally, the city is a regional employment center, and more people commute into the city than out. The 2020 housing assessment found that only 6% of workers employed within the city live in Sandy Springs. With limited public transit accessibility and lessening low-cost renting opportunities, employers in the area face challenges recruiting workers for wages under $50,000 per year. These workforce recruitment issues could grow in the coming years if the city does not work to provide housing opportunities for residents of all income levels.

To address the city’s housing needs, Sandy Springs’ local government hopes to develop strategies to provide more entry-level homeownership accessibility. This report addresses policy related to this goal through a quantitative analysis of the Sandy Springs housing market. An examination of ACS data shows changes in the homeowner population between 2018 and 2022, while HMDA data provides details about the type of loan applicants applying for homes in Sandy Springs. An ordinary least squares regression using HMDA data provides insights about the relationship between loan origination and loan applicant characteristics. The results of these analyses show that both home prices and the older population in the city continue to rise (following the trend upward since 2011). Additionally, the HMDA data shows that younger homebuyers are purchasing less expensive homes than the city’s median home value. Using these data points and many others as evidence, this report concludes with policy options that Sandy Springs can consider to ensure young families and professionals can purchase homes within the city.

Literature Review

To reach their goals for accessible homeownership opportunities, Sandy Springs may implement new policies, revise ordinances, or change zoning requirements. The sections below explore the literature describing various tools to address homeownership needs, providing insight into the circumstances in which each strategy is most effective and realistic.

Land Use and Zoning for Affordability

National Trends

Across the country, municipalities are examining the quantity of their land zoned exclusively for single-family development. Notably, in 2018, Minneapolis eliminated the practice, and many other American cities have drastically reduced their single-family footprint, including Arlington, Gainesville, and Charlotte (Meyersohn, 2023). Opponents of widespread single-family zoning argue that the oversaturation of single-family zoning ensures that market-rate housing rarely

fully serves the middle class's demand. These perceived deficiencies drive the need for “missing middle housing,” with “entrances accessed directly from the street, modest yard space, and a lack of elevators” which can provide the same family-friendly residences as single-family detached homes while offering benefits from density, including decreased car use and emissions, safer streets with less car traffic, and lower housing costs (Wegmann, 2020). Exploring alternative options to strict single-family zoning can often present affordable housing and homeownership opportunities.

Building a larger quantity of accessibly priced homes requires adjustments from the local government. Many municipalities put in place regulatory barriers to building smaller and relatively inexpensive housing units. To remove obstacles, cities can modify pervasive single-family zoning to include other housing types while preserving the ambiance and environment in residential areas. Changing zoning to allow for townhomes, duplexes, and condos increases opportunities for affordable homeownership. For instance, Houston saw a rise in moderately priced townhomes after reducing minimum lot sizes citywide (Wegmann et al., 2023). Further, implementing increased land value taxes compared to structure taxes is an approach some American cities take to encourage more “intensive” land use and promote affordable density (Schuetz, 2020).

Conservation Subdivisions

One method of increasing housing options while retaining neighborhood character is the implementation of conservation subdivisions in strategic neighborhoods. These subdivisions set aside a particular portion of a lot as “undivided, permanently protected open space, while houses are clustered on the remainder of the property” (Wenger and Fowler, 2001). Proponents of conservation subdivisions cite benefits, including more green space, greater opportunity for neighborly interaction, more profitable development, and lower infrastructure maintenance costs (Southwestern Illinois Resource Conservation & Development, Inc., 2006; Wenger & Fowler, 2001). Implementing conservation subdivisions often requires municipalities to revise their zoning or subdivision codes to provide greater flexibility for neighborhood developers.

Although conservation subdivisions are frequently used to preserve greenspace and protect waterways, their design has also been used to create gentle density in traditional single-family neighborhoods. If conserved greenspace and landscape architecture are used strategically, conservation subdivisions can increase housing density and access to green space while preserving traditional neighborhood character. Residences may be clustered in one section of the subdivision with a tree line and green space surrounding the more densely developed areas. The scenic tracts encircling conservation subdivisions provide an amenity to adjacent neighborhoods without compromising the area's character.

East Lake Commons provides an example of a creatively designed conservation subdivision in the greater Atlanta area. The development “includes 67 market-rate townhomes, a community building, and a four-acre community farm,” preserving half of the subdivision as gardens and open space (Urban Land Institute, n.d.) During the early stages of the development process, local leaders expressed interest in the provision of “market-rate homes that targeted working

professionals” while also offering “community-based amenities in an urban context” (Urban Land Institute, n.d.) The site is designed to group private housing, plazas, and a community building in a clustered area, leaving the surrounding plots filled with green spaces and gardens. The architecture of the homes creates a residential ambiance, with private areas of the home (such as bedrooms) facing the more wooded or green areas and kitchens facing the central pathways in the community. Although the inclusion or addition of gardens and a community center may not be necessary in neighborhoods in Sandy Springs, the East Lake Commons site shows an example of conservation subdivisions’ utility in attractively providing gentle residential density.

Thoughtful Infill

Carefully designed infill developments can also provide housing density, which blends well with surrounding residences. Boston Commons in Texas is a recent example of a well-executed residential infill project. The 2022 development placed 15 new units in a historic neighborhood of San Antonio. The site includes eight structures “ranging from 800 to 1,600 sf, comfortably below the average size of historic homes in the area” (Parker, 2022). Despite offering a high level of density, all the site’s units are one or two stories. Further, the developer’s careful design choices help to integrate the eight structures into the existing neighborhood fabric seamlessly. The site’s aesthetic draws from neighboring properties. An adjacent historic home was under renovation during the site's development, and the architect of the Boston Commons project “collaborated closely on the viewshed, shared outdoor space, contextual integration” of the infill site and the historic home to create a cohesive environment (Parker, 2022). The thoughtful infill development exhibited in this case study provides a model for providing density while preserving neighborhood character.

Form-Based Code

Controlled Housing Size and Design

The local government of Sandy Springs has expressed concern regarding the number of single-family teardowns completed in recent years. These demolitions have made way for “McMansions” and increasingly expensive homes within the city. The title “McMansion” holds various definitions, but typically, it is a home that is “too big for the lot on which it sits” and “out of scale with the rest of the community” (Kending, 2004). These large homes change an area's landscape (often clearing many trees and creating more yard space) and the community culture. As more large homes conglomerate, the new owners may influence the neighborhood's attitude toward smaller, more affordable homes.

States and municipalities have used policies to regulate McMansions. Their strategies include adjustments to zoning regulations, controlled house size, controlled lot coverage, design review, demolition limits, and special permitting, among others (Nasar et al., 2007). In a 2007 nationwide survey of cities and communities with McMansions, over 20 communities said that “they had adopted new regulations or had adjusted their regulations over the last ten years to address oversized housing” (Nasar et al., 2007). These ordinances could be grouped into four types: citywide design review process including single-family development, citywide design review process (excluding single-family development), special district design review, and design

review process under study or rescinded. Specifically, these design reviews and ordinances included changes to FAR, building heights, mass controls, height, and setback regulations. Resident reactions to changes limiting the size and design of large homes vary by jurisdiction. In communities that attract many high-price homeowners who prioritize freedom of design, such policies may concern and deter potential buyers.

Variances for Renovation

When controlling home sizes and design through form-based code is not feasible, offering incentives to renovate residences rather than teardown existing structures is a useful alternative. In Sandy Springs' 2023 zoning update, the city council approved edits to variance standards, allowing greater flexibility in renovations. By offering variances so renovators may further encroach into front yards, buyers can now build structures (such as garages) that allow them to leave the home's primary structure intact. Expanding variance opportunities following the trends in homebuyer desires can help to incentivize renovation.

Long-Term Housing Affordability Strategies

Construction Subsidies

Although Sandy Springs does not currently operate a housing authority, if accessible homeownership is a long-term priority for the city, multiple federal programs could support local affordability. The federal government offers support for the construction of affordable single-family housing through the Department of Housing and Urban Development's (HUD) HOME Investment Partnership Program funds. In Georgia, the Community HOME Investment Program (CHIP) is a federally funded program that grants funding to "city and county governments, public housing authorities, and nonprofits to 1.) rehabilitate owner-occupied homes, and 2.) build and renovate affordable single-family homes for sale to eligible homebuyers" (Georgia Department of Community Affairs, 2018). When applying for a grant, applicants must provide the Georgia Department of Community Affairs (DCA) with a market analysis offering evidence of their area's need for affordable single-family homes and their "ability to sell to income-eligible homebuyers" (Georgia Department of Community Affairs, 2018).

Similarly, local organizations can raise funds to create municipality-oriented construction subsidy programs. Research from 2001 studied the areas around affordable housing developments with subsidized construction by local groups (the Nehemiah Program and the Partnership New Homes Program) in New York City. The properties surrounding such developments experienced increased price growth compared to their relative zip codes. The author's findings suggested that the affordable homeownership programs (using construction subsidies) contributed to this price increase (Ellen et al., 2001). Though construction subsidies of this form may not be feasible for Sandy Springs at this time, such programs can be considered in the city's long-term planning efforts.

Downpayment Assistance Programs

Downpayment assistance programs are another approach to increasing accessible homeownership for new buyers. In such programs, a subsidizing agency generally provides

buyers a sum to assist in their down payments but places a “soft second” mortgage on the property. The buyer is not typically required to pay anything towards the “soft second” mortgage if they meet the requirements of the subsidizing agency (such as occupying the house for a set number of years). Studies have found that this “soft second” mortgage can generate complexity in markets with rapidly increasing home values. For instance, if home values double in five years, the disincentive to resell from the “soft second” mortgage is weakened (Gura, 2001). Some down payment assistance programs may be structured to capture some of the equity gains in such situations.

Shared Equity Homeownership

Shared equity homeownership (SEH) is a family of strategies that can provide long-lasting affordability. In this approach, municipalities or organizations “use a subsidy (or inclusionary zoning) to bring homes down to a level affordable to the target income group and then to limit resale prices according to a formula designed to balance long-term affordability to the target group with an opportunity for owners to build assets” (Lubell, 2016). Policies in this vein include community land trusts, limited equity cooperatives, and deed-restricted homeownership (Davis, 2006; Lubell, 2016). Such methods are helpful protective measures to ensure stable and long-lasting affordability in an area. Lubell emphasizes that SEH strategies are not strictly defined, and many housing programs employ multiple methods in tandem (2013).

Funding sources for SEH programs can come from the federal, state, and local levels. In the past, programs have received dollars from sources including “federal HOME and CDBG funds, as well as state and local funds from bond issues, housing trust funds, and other sources'' (Lubell, 2013). Outside of government, funding can come from “philanthropic investments and investments by large institutional employers (like universities or hospitals)” (Lubell, 2013). Policies such as inclusionary zoning can also create implicit subsidies that do not require outside sources. The literature indicates that SEH is most feasible and beneficial in areas where home prices increase faster than incomes and households near 100 percent of AMI cannot purchase a home with support (Lubell, 2013). Lubell highlights that these community characteristics may be present in an entire municipality or specific subunits of an area. SEH programming should focus on those neighborhoods or smaller areas with a strong housing market (2013).

The long-term housing affordability strategies listed in this section require large-scale change and high organizational effort. These programs and policies can be considered in Sandy Springs' long-term planning deliberation but should be reviewed with complementary short-term approaches.

Key Questions

This report explores the three key questions:

1. What changes have occurred to the homeowner population in Sandy Springs between 2018 and 2022?
2. Does mortgage loan data reveal any challenges for young families and professionals in originating mortgages in Sandy Springs?

3. Which policy options can Sandy Springs consider and implement to ensure young families and professionals can purchase homes within the city?

Data and Methods

Housing Needs Assessments

HR&A Advisors completed a housing needs assessment for the City of Sandy Springs in 2020. The 2020 report and recent housing studies from other southeastern areas, including Hilton Head Island (2019) and Cherokee County (2020), illustrate methods to effectively analyze an area's housing market and extrapolate ideas about the city's future trends. The 2020 Sandy Springs study did not include policy recommendations; however, previous housing assessments from cities offer processes used to determine policies that will specifically address unique housing needs or challenges within a community.

Previous housing needs assessments analyze data from the American Community Survey (ACS), the U.S. Census, CoStar, and various other sources to understand an area's housing market and predict changes. Standard methodologies include analyzing a city, county, or area's trends over five to ten years. Multiple studies illustrated demographic trends using metrics such as median household income, ethnicity, and proportions of owner and renter occupancy (Bleakly Advisory Group, 2020; HR&A Advisors, Inc., 2020; LSA Planning, 2019). Overall market trends are often shown using data including housing cost burden, the amount of new construction and demolitions, the year existing properties were built, the number of rental deliveries and their respective absorption and vacancy, the proportion of residence types (such as multi-family vs. single family), and sales prices across housing types (Bleakly Advisory Group, 2020; HR&A Advisors, Inc., 2020; LSA Planning, 2019).

Census and American Community Survey

This analysis uses American Community Survey (ACS) data from the U.S. Census to provide context for the City of Sandy Springs housing market. The ACS tables provide a snapshot of the city population's demographic, physical, and economic characteristics, and housing market in 2022. Additionally, this study incorporates 2023 TIGER/Line Shapefiles for all census tracts in Georgia and for the city limits of Sandy Springs. A list of the ACS and Census data consulted for this report is included in the appendix in Table 12. The report includes relevant data from each ACS table in figures or tables.

Many figures in this paper rely on ACS 1-year estimates to show year-to-year changes. A limitation of this approach stems from the large margins of error present in 1-year estimates. Further, such estimates are more reliable when used to analyze a large population, but in this report, they are used to measure the characteristics of the city population (US Census Bureau, n.d.) Despite these limitations, the 1-year estimates help demonstrate current trends and create a snapshot of the most recent housing market conditions in Sandy Springs. This report's 2020

U.S. Census data is more reliable than the ACS data due to its larger sample size and higher response rate, but it only extends to 2020.

Home Mortgage Data Act

An analysis of Home Mortgage Disclosure Act (HMDA) data provides greater insight into the characteristics of individuals attempting to own homes in Sandy Springs. Using 2023 TIGER/Line Shapefiles and the GIS intersect tool, I created a list of census tracts partially or entirely within Sandy Springs city limits. I also collected HMDA data for Fulton County in 2018 and 2022. The HMDA datasets list the characteristics of every mortgage application in Fulton County, sharing characteristics about the applicant and the property of interest. I filtered the 2018 and 2022 HMDA datasets to only include the City of Sandy Springs census tracts (according to my GIS-derived list). Additionally, I filtered the HMDA set to exclude applications for investment properties and applications that individuals did not file. I only examined loan applications, ultimately resulting in loan origination or denial.

Using the filtered HMDA datasets, I examine various characteristics of mortgage applicants, including income, race, and price point. Further, I examine the rejected applications and compare the trends between the 2018 and 2022 datasets. To demonstrate the characteristics of each dataset (from 2018 and 2022), I created descriptive charts in R Studio and Excel to display trends visually. These figures illustrate the frequency of mortgage applications and rejections in 2018 and 2022 and separate these actions by characteristics such as the applicant's race, sex, or age group.

Regression

This report includes a regression analysis of HMDA data from Sandy Springs in 2022 to analyze the relationship between loan origination or denial and applicants' age, race, and income. To explore this relationship, I used RStudio to run three Ordinary Least Squares (OLS) regression models. The dependent variable in the three models is "Action Taken" which is a binary variable, with "1" indicating a loan origination and "0" indicating a loan denial. Using OLS with a binary dependent variable makes this regression a Linear Probability Model (LPM). When running an LPM, regression results refer to the probability that an outcome occurs (in this case, the probability that a loan originated). A challenge encountered when using LPMs is that "the true relationship between a binary outcome and a continuous explanatory variable is inherently nonlinear" (U.S. Department of Health & Human Services, 2014). Put simply, the probability of an event is always between 0% and 100%, but the simplified relationship employed in an LPM can sometimes yield predicted probabilities of less than 0% or greater than 100%. Values outside of the 0% to 100% range (or the 0 to 1 range when using fractions rather than percentages) are impossible in reality and thus can present an issue when interpreting LPM results.

Results

Market Conditions

While the Atlanta metro area population has grown over the past few years, the population of Sandy Springs has decreased slightly since 2020, dropping from 108,068 residents to 107,763 in 2022 (U.S. Census Bureau QuickFacts, n.d.) According to ACS 1-year estimates for the city, between 2018 and 2022, the total population in owner-occupied homes increased by 6,055 people, while the population in renter-occupied homes decreased by 7,640 (U.S. Census Bureau, n.d.) Sandy Springs has added more owners than renters, and the loss of renters aligns with the city's slight population loss. Further, between 2018 and 2022, the city's owner-occupied housing rate was 50.5% (U.S. Census Bureau QuickFacts, n.d.)

Although the city has lost renters, between 2018 and 2022, it retained many of its renting families. Table 1 below shows that the number of renting family households increased by 5% between 2018 and 2022, while the major decrease in renters stemmed from the loss of about 15% of nonfamily renter households. For owner-occupied households, the city increased the number of family households by 12% and the number of nonfamily households by 28%.

Table 1

Number of Family and Nonfamily Households

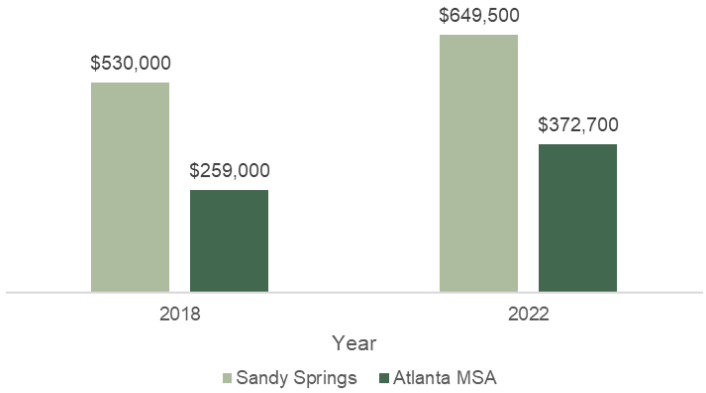
		2018	2022	% Change
Owner Occupied Households	**Family**	16,489	18,388	+ 12%
	Nonfamily households	7,469	9,579	+ 28%
Renter Occupied Households	**Family**	9,267	9,775	+ 5%
	Nonfamily households	14,521	12,393	- 15%

Median Housing Prices and Rents

Between 2018 and 2022, the median housing price in Sandy Springs consistently outnumbered the Atlanta MSA price (HR&A, 2020; U.S. Census Bureau, n.d.) See Figure 1 below to view the price comparison in 2018 and 2022. Additionally, according to the ACS 5-year estimates for 2018 to 2022, the median gross rent in Sandy Springs was $1,670, compared to $1,446 in the Atlanta-Sandy Springs-Roswell Metro Area.

Figure 1

Median Prices for Owner-Occupied Housing



Household Income

The portion of Sandy Springs residents with an income of more than $100,000 per year has grown between 2018 and 2022. The fraction of residents making more than $150,000 annually has increased by approximately 10%. The median income has also grown from $75,064 to $104,394. Meanwhile, the portion of the city population that makes between $25,000 and $74,999 has decreased. Overall, the city has seen increasing percentages of wealthier residents (see Table 5 in the Appendix).

Homeowner Characteristics

The median age group for homeowners in Sandy Springs is 55 to 59 years, and 74% of household owners are over 45. In contrast, 68% of renters are under the age of 45. Between 2017 and 2022, the age group that increased by the highest number of householders was the 45-54 bracket, which rose from 4506 householders to 6746 (as shown in Table 2 below). Notably, the number of householders 24 years old or younger increased threefold over this period, and significant growth is seen in the 25-34 age group as well. The only group that lost householders was the 75-84 group.

Table 2
Householder Age Groups

Householder Age	2017	2022	# Change	% Change
24 or under	41	170	129	315%
25 to 34	1758	3447	1689	96%
35 to 44	3308	3531	223	7%
45 to 54	4506	6746	2240	50%
55 to 59	2269	3559	1290	57%
60 to 64	2487	3232	745	30%
65 to 74	3913	4147	234	6%
75 to 84	2478	2192	-286	-12%
85 or over	366	943	577	158%

ACS data shows limited information regarding home purchasing and indicates that most homeowners in Sandy Springs purchased their homes with a primary mortgage alone. Around 18% of homeowners also obtained a home equity loan to accompany their primary mortgage.

Housing Costs

Households spending 30% or more of their annual income on their rent or mortgage are considered cost burdened. In 2018, approximately 40.8% of households in Sandy Springs were cost-burdened, while in 2022, the portion decreased to 39.5% of households. However, the portion of residents spending over 35% of their income on housing costs grew during the five years. Counting by household, in 2018, there were 9,452 cost-burdened households, compared to 8,444 in 2022. However, fewer households are included in the estimates for 2022, likely due to the population decrease in Sandy Springs). Additionally, the portion of residents who spend less than 15% of their income on gross rent increased between 2018 and 2022, illustrating the growing portion of high-income residents in the city.

Figure 2

Cost Burden in Sandy Springs (2018 and 2022)

According to ACS 5-year estimates for 2022, 56% of renters with incomes between $50,000-$74,999 in Sandy Springs are cost-burdened. For all income brackets below $50,000, the rate of cost burden is greater than 64%, with the highest being the $20,000 to $34,999 bracket (reporting that 99% are cost-burdened). As shown in Table 3, for all age groups except 35 to 64 years, the percentage of cost-burdened renters is over 37%. The youngest and oldest age groups are the most likely to be cost-burdened (as renters).

Table 3

Cost-Burdened Renters by Age Group

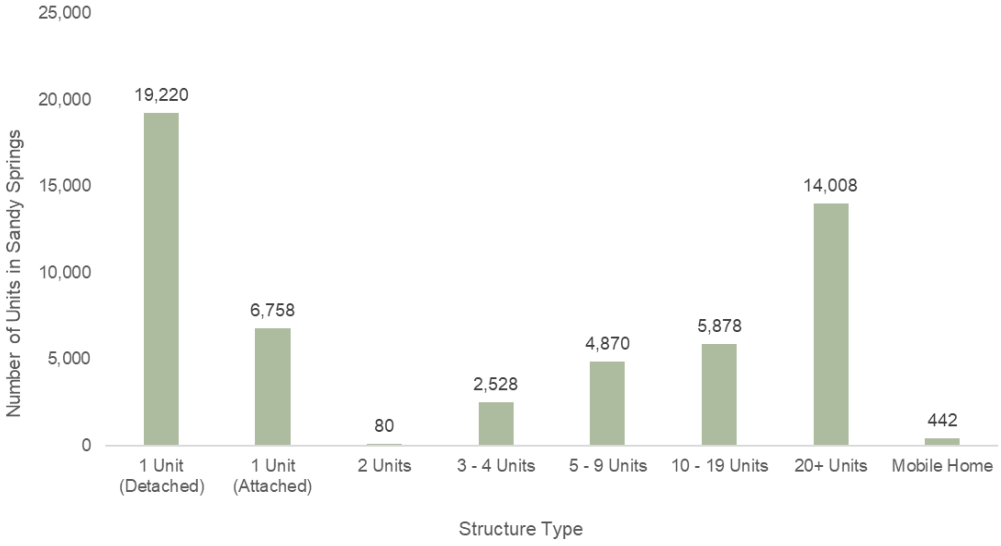
Age Group	Percent of Cost-
Householders under 24 years	58.5%
Householders 25 to 34 years	37.4%
Householders 35 to 64 years	31.9%
Householders 65 years and over	46.3%

Housing Structure Type

The housing market in Sandy Springs contains a majority of single-family and larger, 20+ unit multifamily complexes (in concentrated development corridors). Townhouses are becoming more popular, and new zoning changes will allow for the creation of more townhouse and cottage-court style residences in the coming years. The desire to preserve large single-family neighborhoods halts the construction of more mid-sized housing structures.

Figure 3

Housing Structure Types in Sandy Springs (2022)



Mortgage Originations and Denials

Overall, between 2018 and 2022, the number of mortgage originations and denials increased significantly (from 804 to 1998). The ratio of originations to denials remained consistent between the years, with originations hovering around 90% (see Table 1).

Figure 4

Total Mortgage Originations and Denials in Sandy Springs

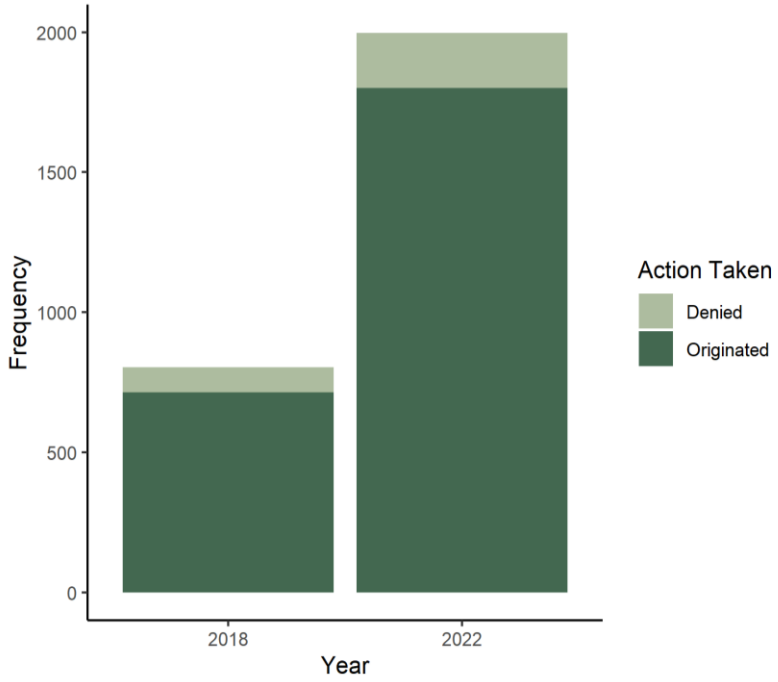


Table 4
Total Mortgage Originations and Denials in Sandy Springs

# of Denials	91 (11.3%)	197 (9.9%)
# of Originations	713 (88.7%)	1801 (90.1%)
	2018	**2022**

Applicant Age

As shown in Figure 5, the most common applicant age ranges across both years (2018 and 2022) were 25-34 and 35-44. In 2022, there were a greater portion of applicants aged 25-34 than in 2018 (by about 4.3%). Applicants in the 45-54 age range decreased their share over the four years, moving from 23.6% of applicants to 20.7% (see Table 5).

Figure 5
Applications by Age Group (Percentage)

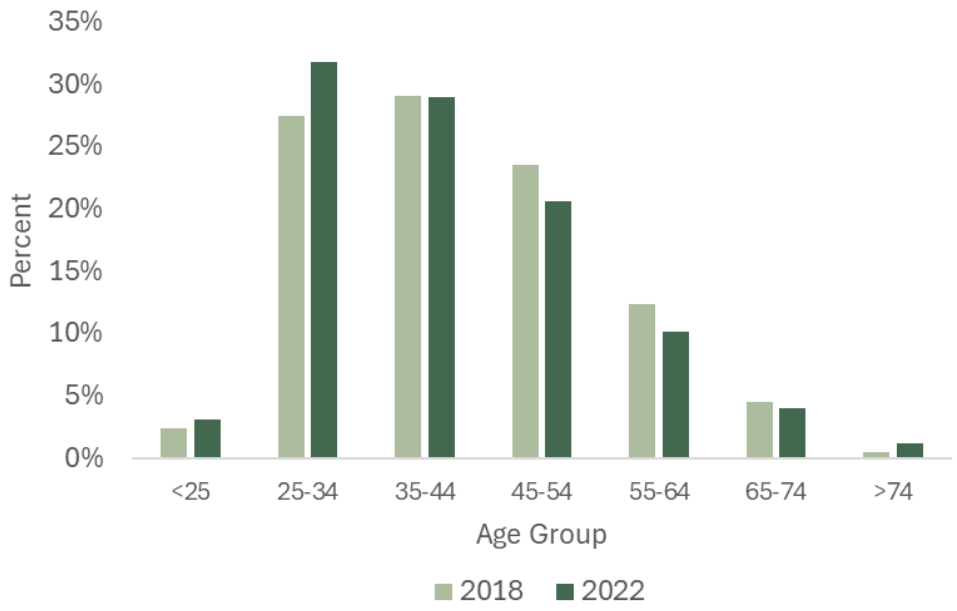


Table 5

Applications by Age Group (Percentage)

Year	<25	25-34	35-44	45-54	55-64	65-74	>74	Unknown
2018	2.4%	27.5%	29.1%	23.6%	12.4%	4.5%	0.5%	0.0%
2022	3.1%	31.8%	29.0%	20.7%	10.2%	4.0%	1.2%	0.1%

When comparing the rates of denial for each age group (see Table 6), the data reveals multiple differences between 2018 and 2022. Applicants aged 25-34 had a higher rate of denial in 2022, but slightly older applicants aged 35-44 had a lower rate of denial than in 2018. Applicants in age groups between 45-74 all experienced lower rates of denial in 2022. The rates for applicants over 74 and of unknown age are unreliable due to the low number of actions taken overall across both years.

Table 6

Denials by Applicant Age Groups (Percentage of Total Actions Taken in Year)

Age Group	2018 Denials	2022 Denials
<25	5.3%	4.8%
25-34	7.7%	9.6%
35-44	12.4%	9.3%
45-54	11.6%	10.2%
55-64	14.0%	11.8%
65-74	19.4%	12.7%
>74	25.0%	12.5%
Unknown	0.0%	0.0%

Applicant Income

The most common applicant income bracket in both 2018 and 2022 was applicants with annual incomes of 100-199 thousand dollars. The fraction of originations in each income group was remarkably similar in 2018 and 2022, with 27% of originations coming from the 0-99 income bracket and 31% from the 100-199 income bracket for both years. The only income bracket that changed its proportion of originations by more than 1% in the five-year period was the 500+ group, which grew by 2%.

Table 7 displays the yearly denial rates separated by income bracket. Notably, the three middle brackets (200-299, 300-399 400-499) experienced decreases in their fraction of denials after the five-year period. Denials increased slightly more than 3% for the 0-99 income bracket.

Table 7

Denials by Applicant Income Groups (Percentage of Total Actions Taken in Year)

Income	2018 Denials	2022 Denials	Change
0-99	13.1%	16.6%	+3.5%
100-199	7.7%	8.1%	+0.4%
200-299	12.8%	4.5%	-8.3%
300-399	10.7%	5.9%	-4.8%
400-499	16.1%	11.0%	-5.1%
500+	10.6%	8.6%	-2.0%

Applicant Race

Most applicants in the dataset drawn from HMDA listed their race as White. The second most common listing for applicants was “Information not provided”. The only groups with over 20 applicants in both 2018 and 2022 are those labeled Asian, Black or African American, Information not provided, and White. Table 8 shows denial rates for those four groups as well as the rate for other groups with fewer applicants. The ratio of denials to total applications decreased by 2-4% between 2018 and 2022 for all groups except for Black or African American applicants. The proportion of denials for Black or African American applicants increased by nearly 5% percentage points over the five-year period. Similarly, the proportion for other races increased from 11.8% to 18.9%, but there were fewer applications from other races (17 in 2018 and 37 in 2022) creating a more biased sample. The “Other” category includes applications from applicants who identified as American Indian or Alaska Native, Indian, Chinese, Guamanian or Chamorro, Korean, Native Hawaiian or Other Pacific Islander, Other Asian, and Vietnamese.\

Table 8

Select Denials by Applicant Race (Percentage of Total Actions Taken)

Applicant Race	2018 Denials	2022 Denials
Asian	10.2%	6.2%
Black or African American	13.8%	18.6%
Information not provided	14.3%	12.4%
Other	11.8%	18.9%
White	10.4%	7.4%

Young Applicant Property Value

Due to the city of Sandy Springs’ interest in promoting homeownership for first-time buyers and young families, boxplots of the property values of young homeowners are displayed in Figures 6

and 7. Some applications listed in the dataset did not include property values, and these rows were excluded from the figures below. As mentioned previously, the city of Sandy Springs' overall median home value in 2022 was $649,500. Shown below, the median property value for applicants under 40 years old was $595,000. For a slightly younger applicant group (under 30), the median dropped to $455,000, indicating that older buyers are purchasing many of the more expensive properties in the city.

Figure 6

Property Value for Applicants Under 40 Years Old (in 2022)

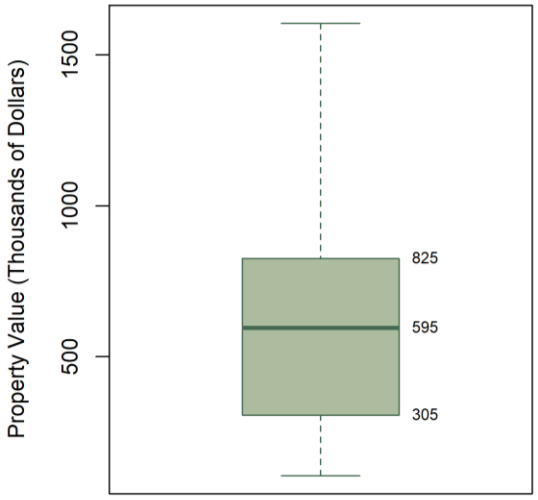


Figure 7

Property Value for Applicants Under 30 Years Old (in 2022)

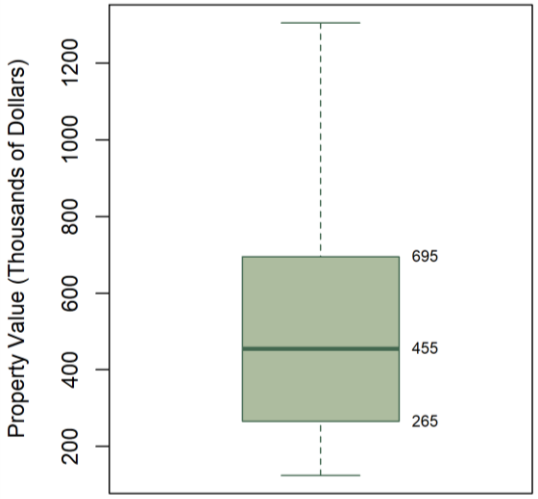


Table 9

Median Property Value by Age Group (in 2022)

Age Group	<25	25-34	35-44	45-54	55-64	65-74	>74	Unknown
Median Property Value (in Thousands)	$265	$495	$725	$725	$635	$655	$390	$2,880

Table 9 shows the median property value for each age group. Other than the unknown age category, the median values are highest for the 35-44 and 45-54 age groups and lowest for the under 25 and 25-34 ages groups.

Reasons for Denial

The HMDA dataset includes multiple variables explaining reasons for denial. Below, Figures 8 and 9 display the primary denial reason for all denied applicants in 2022 and 2018 respectively. In both years, the debt-to-income ratio is the most common denial reason. However, in 2018, the second highest reason was an incomplete credit application, while in 2022 collateral became much more frequently cited for denial. Further, in 2022, credit history was not cited nearly as frequently as in 2018.

Figure 8

Primary Reason for Loan Denials (2022)

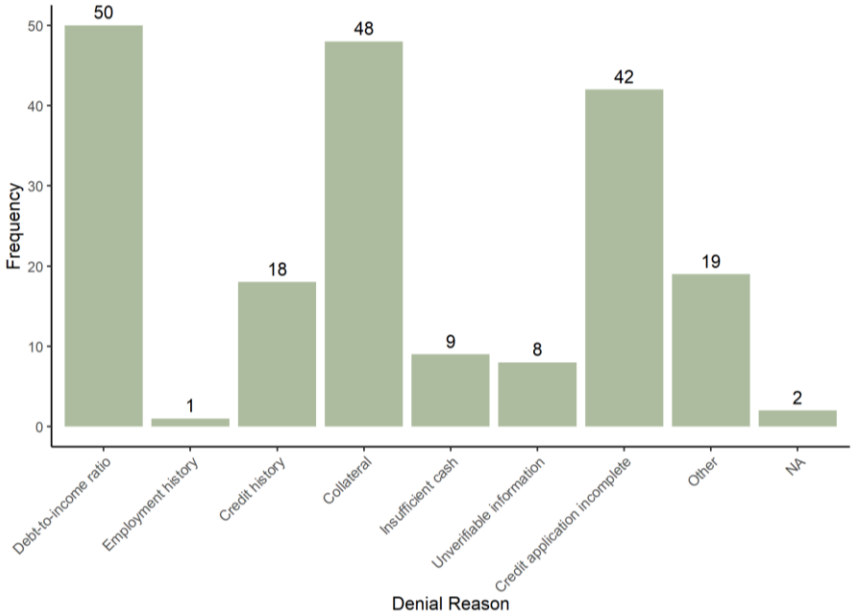
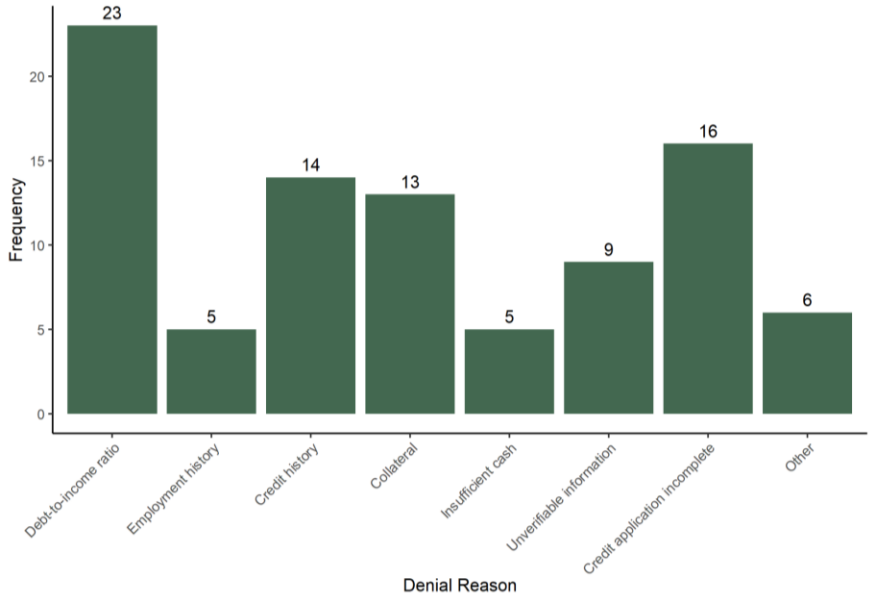


Figure 9

Primary Reason for Loan Denials (2018)



Reasons for loan denial according to applicant race provide insight into differences between race groups (see Figures 11 and 12 in the appendix). Notably, applicants listed as Black or African American were the only group in which credit history was commonly cited as the reason for denial. For applicants listed as Asian, debt-to-income ratio and incomplete credit applications were cited most frequently, while for White applicants, collateral and debt-to-income ratio were the leading reasons.

Regression Results

To further investigate the relationship between loan origination and applicant age, race, and income, this report includes a regression analysis of HMDA data from Sandy Springs in 2022. The regression uses “action taken” as the dependent variable (with “1”s representing a loan origination and “0”s representing a denial). Three ordinary least squares regression models were fitted with various combinations of independent variables, including the applicant’s debt-to-income ratio, age, race, and income. A complete list of variables used across the three models is provided in Table 10 below.

Table 10

Regression Variables

Variable Name	Description	Format
Action Taken	Dummy variable with 1 indicating an origination and 0 indicating a denial	Dummy
Age	Integer representing the primary applicant's age in years	Continuous
Age Groups	Dummy variables with 1 indicating the applicant's age falls within a given age group and 0 indicating the applicant's age does not fall within the given age group. The age groups are: < 25, 25-34, 35-44, 45-54, 55-64, 65-74, and ≥ 74	Dummy
Debt-to-Income Ratio	Fraction representing the primary applicant's debt-to-income ratio	Continuous
Income	Integer representing the primary applicant's income (in thousands of dollars)	Continuous
Income Groups	Dummy variables with 1 indicating the applicant's income falls within a given income group and 0 indicating the applicant's age does not fall within the given income group. The income groups (in thousands of dollars) are: 0-99,100-199, 200-299, 300-399, 400-499, ≥ 500	Dummy
Property Value	Integer representing the value of the property intended for purchase with the mortgage loan (in dollars)	Continuous
Race Groups	Dummy variables with 1 indicating the applicant's race is identified as a given racial group and 0 indicating the applicant's race is not identified as a given racial group. The race groups are: White, Black or African American, Asian, Other Race, and Not Identified	Dummy

The most simplified model used a dependent variable of "Action Taken" and the independent variables "Age," "Debt-to-Income Ratio," "Income," "Property Value," and "Race Groups." The age group model used the same format as the simple model but substituted the dummy variables for "Age Groups" for the continuous "Age" variable. Similarly, the third model used the same format as the simple model but substituted the dummy variables for "Income Groups" for the continuous "Income" variable. Regression results from the first and second models are shown in Tables 17 and 18 in the appendix. The simple model and the model using "Age Groups" are only shown in the appendix because they did not yield significant findings. In the second model, when separating the applicants by age group, none of the age groups showed a

statistically significant relationship to “Action Taken”. The third regression yielded the highest R-squared and the most notable results, which are shown below and described in greater detail. See the results of the third model, labeled the “Income Groups Regression,” in Table 11 below.

Table 11

Income Groups Regression Results

Term	Coefficient	Coefficient as Percentage	P-Value	Significance
(Intercept)	1.083	1.08%	0.000	✷✷✷
Debt-to-Income Ratio	- 0.005	- 0.5%	0.000	✷✷✷
Age	- 0.001	- 0.1%	0.148	
Income Group: 0-99	0.036	3.6%	0.334	
Income Group: 100-199	0.090	9%	0.007	✷✷
Income Group: 200-299	0.097	9.7%	0.003	✷✷
Income Group: 300-399	0.065	6.5%	0.057	▪
Income Group: 400-499	0.012	1.2%	0.769	
Property Value	0.000	0%	0.052	▪
Race Group: White	- 0.040	- 4.1%	0.337	
Race Group: Black or African	- 0.140	- 14%	0.002	✷✷
Race Group: Asian	- 0.063	- 6.3%	0.169	
Race Group: Not Identified	- 0.083	- 8.3%	0.055	▪

Significance codes: ✷✷✷ < 0.001 < ✷✷ < 0.01 < ✷ 0.05 < ▪ < 0.1

Multiple R-squared: 0.06402 Adjusted R-squared: 0.05819

N = 1940

The use of OLS with a binary dependent variable (“Action Taken”) makes this regression an LPM. As explained in the data and methods section, a challenge encountered with using LPM is that the use of a binary dependent variable can yield predicted values that are not between 0 and 1. In the “Income Group Regression" shown above, while no predicted values are near zero, 347 out of 1940 predicted values are near 1 (values greater than 0.97). The median predicted value is 0.91, and the maximum is 1.1. This maximum value is an unrealistic prediction, as it is impossible for an event (in this case, a loan origination) to reach a likelihood of 1.1 (or 110%). These challenges with the LPM must be considered when interpreting the results.

The Income Group Regression model yielded a low R-squared, suggesting that the model does not comprehensively explain the variability in applicants' originations and denials. Further, the model did not show a significant correlation between applicant age and mortgage loan decision outcomes. However, the model provides insights into certain factors influencing approval outcomes. Debt-to-income ratio is a key variable used to determine loan eligibility and, thus, is an effective explanatory variable in loan decision-making. The model identifies a higher debt-to-income ratio as correlating with a lower likelihood of origination. Specifically, the model shows that a point increase in the debt-to-income ratio is associated with a decrease in the likelihood of 0.5% that the loan originated.

The regression results also show that an applicant's race identified as Black or African American is associated with lower rates of origination (and, conversely, higher denial rates). The coefficient indicates that applicants identified as Black or African American are associated with a 14% decrease in the probability that the loan originated. It is crucial to acknowledge that the dataset lacks information on applicants' credit history or credit scores, which are key determinants in lending decisions. The absence of this data limits the model's predictive accuracy and overall explanatory power. Further, it is possible that certain types of applicants are more likely to have excellent or poor credit history, and without this information, the regression may offer inaccurate results. Applications without an identified race were also shown to have a significant correlation with action taken, with the negative coefficient indicating lower rates of origination.

The model results also indicate that certain income groups were associated with higher likelihoods of origination. Both the 100-199 and the 200-299 income groups showed positive coefficients around or over 0.09 that were statistically significant. This indicates that applicants in the 100-199 income group are associated with a 9% increase in the probability that the loan originated, and applicants in the 200-299 income group are associated with a 9.7% increase in the probability that the loan originated. The 300-399 income group was also statistically significant (though less so) with a slightly lower coefficient of 0.065 (indicating a 6.5% increase in the probability that the loan originated). Property value was also statistically significant, but the coefficient is 2.58×10^{-8}, meaning that every increase in property value of $100,000 is associated with a 0.3% increase in the likelihood of origination. As this effect is extremely minimal, the model does not show a strong relationship between the likelihood of origination and property value.

Discussion

Market Conditions

Loss of Renter Population

In recent years, Sandy Springs has undergone a unique population shift. From 2011 to 2018, the city population "grew at a faster rate than North Atlanta and the MSA" yet in the following five years, the population declined (HR&A, 2020). Despite this loss of population, between 2018 and 2022, the number of mortgage originations and denials increased significantly. This

correlates with the city's increase in total population living in owner-occupied homes. These data points show that Sandy Springs' loss of population is due to the loss of renters rather than homeowners. The emigration of renters is likely due to the city's high rent prices (in comparison with metro area rents), relatively low rental supply, and changes in workplace practices. Rental options are constrained, as much of the city is zoned to preserve single-family housing, limiting the development potential of multi-family buildings that could offer lower rents. Further, the city experienced enormous growth in the renter population between 2011 and 2018, driven by young professionals aiming to live near employment opportunities. After the COVID-19 pandemic, shifting work practices such as hybrid and remote work may have decreased interest in living near office spaces.

Further, low-income renters face displacement concerns with few affordable options. The prior housing report stated, "Renters earning less than $50K annually are leaving Sandy Springs due to increasing housing costs and decreasing housing supply below 80% AMI" (HR&A, 2020). The loss of more residents making between 25 to 100 thousand dollars in 2022, indicates that housing costs are still too high to support many renters, causing them to seek more affordable units elsewhere. The lack of affordable housing supply is due in part to limited development opportunities, and the Sandy Springs City Council approved code updates in December 2023 to attempt to promote greater flexibility for developers.

Demographic Shift Toward Higher-Income Residents

The city's demographics are shifting, and higher-income individuals comprise a growing number of residents. The median income of Sandy Springs has continued to rise for over a decade and has remained significantly higher than the median income of the metro area. Residents making less than $75,000 annually decreased between 2018 and 2022 (see Table 16 in the Appendix). As the higher-income residents tend to be older, the increasing incomes and lack of affordable housing options can leave the city with a diminished young population. In 2022, the median homeowner age group was 55-59 years old. Meanwhile, 68% of renters were under 45 years old. To attract younger professionals and homeowners and balance an aging population, more affordable housing options are needed.

Housing Affordability

The majority of Sandy Springs renters making less than $75,000 annually are cost burdened. Further, renters under 35 years old or over 64 are the most likely to be cost-burdened. As rents have continued to increase in the city, with rates higher than in the metro area, Sandy Springs has become less financially feasible for younger professionals. If the city aims to draw in the new generation of young professionals, lower rents are necessary. Additionally, median home prices have steadily risen and outpaced the metro area as well. Between 2018 and 2022, the median home price in Sandy Springs rose from $530,000 to $649,500. This price is 74% higher than the median price in the Atlanta metro area ($372,700). Many homes in Sandy Springs are not within the price range of early professionals or families with young children, and this will have demographic effects on the city in the coming years.

The 2023 code updates include provisions reducing barriers to developing townhomes, age-restricted multi-unit apartments, cottage court homes, and ADUs. The emphasis on townhomes reflects the city's dedication to creating affordable homeownership opportunities. However, the update did not include changes allowing for significantly more multi-family, stacked developments in high-density corridors or large-scale increases in the number of neighborhoods in which denser owner-occupied units are feasible. Although it is challenging to foster consensus over increased multi-family, the City Council was able to make changes allowing for multi-story office buildings to be converted to age-restricted multi-unit housing for senior citizens. Although this update may help to recycle unused office space, it does not address the issue of a lessening population of younger residents and less established professionals. Greater changes to zoning will be necessary to create an environment conducive to affordable housing.

Mortgage Loan Applications

Age

The mortgage loan data from 2018 and 2022 reinforces the suggestion of the previous housing study that Sandy Springs will need to provide a greater number of residences at a price point feasible for younger purchasers. Younger applicants are increasing slightly, but in 2022, younger applicants had a slightly higher rate of denial than in 2018. Applicants in age groups over 45 all experienced lower rates of denial in 2022. Further, younger homebuyers are buying cheaper homes. The median property value for applicants under 40 years old was $595,000 compared to the overall median of $649,500. For applicants under 30, the median dropped to $455,000, indicating that older buyers are purchasing many of the more expensive properties in the city. Homeownership opportunities for units selling for less than $500,000 are needed to maintain or increase young homeownership.

Race

The predominant racial groups identified in the HMDA data are Asian, Black or African American, and White (otherwise there were few applicants, or no information provided). Table 9 shows denial rates for those four groups. The ratio of denials to total applications decreased by 2-4% between 2018 and 2022 for all groups except for Black or African American applicants. The proportion of denials for Black or African American applicants increased by nearly 5% percentage points over the five-year period.

Regression

The regression results showed positive indicators for the state of young home ownership. Age and likelihood of origination did not appear to have a statistically significant relationship, indicating that young buyers may not be at a disadvantage solely due to their age group. Further, buyers with incomes between $100,000 to $299,000 were associated with an increased likelihood of loan origination. As many first-time buyers are younger and may have slightly lower incomes than older buyers, the success of origination for this income range is a positive sign for young home purchasers. The results also indicated that applicants identified as Black or African American were associated with lower rates of origination. This metric offers an opportunity for

growth if reasons for denial can be identified and managed to allow for greater Black homeownership in the city.

Recommendations

Land Use and Zoning Changes

Although the residents of Sandy Springs are committed to maintaining protected neighborhoods that provide a traditional residential ambiance, there is room for gently increased density in many areas throughout the city. As Sandy Springs has recently allowed flexibility to incentivize the development of townhomes, cottage-court, and shared-court residences in Residential Urban (RU) districts, these updates can be extended to a greater area of the city, increasing opportunities for affordable home ownership. Transitioning the bordering areas of strategically chosen Residential Estate (RE) and Residential Detached (RD) districts to allow for such uses is an opportunity to provide density that is cohesively integrated into the surrounding areas. Border lots in RD districts that are adjacent to higher density areas such as Residential Multifamily (RM) and Residential Townhouse (RT) may be considered for increased development flexibility in anticipation of the next city comprehensive plan. Particularly in areas near commercial uses, increased density bordering RD and RT neighborhoods can cohesively mesh with existing uses while improving access to community amenities for new residents. Further, expanding the coverage of RT and RU districts as much as possible will offer increased opportunities for affordable homeownership.

Conservation Subdivisions and Thoughtful Infill

The cottage court and shared court development patterns may also be used within conservation subdivisions or infill developments to promote higher-density residences that blend into RD and RE districts. The placement of such subdivisions can be used as buffering zones between district types (e.g., a subdivision could be located in plots situated between RT and RD) or within RD neighborhoods when appropriate. Form-based code can help support a shared aesthetic between higher-density developments enmeshed within or near protected neighborhoods. As shown in the case study of Boston Commons in San Antonio, careful choices regarding home exteriors can create a seamless integration of density in residential neighborhoods.

Lot Sizes and Redevelopment

To preserve affordability in chosen neighborhoods, Sandy Springs could adopt regulations limiting redevelopment size. To avoid teardowns that lead to “McMansions”, the city can consider redevelopment guidelines that create a maximum FAR discrepancy between the original structure and the new structure or generally limit new structures’ FAR or dimensions. Further, the city can consider approaching the issue of oversized redevelopments using stormwater ordinances to limit the characteristics of teardowns by including requirements regarding a new build’s permitted amount of impervious surfaces, maximum yard slopes, and other metrics relating to water runoff (Chicago Metropolitan Agency for Planning, 2013).

Separately, when approaching the next city comprehensive plan, local officials can also assess the possibility of reducing the minimum lot size in strategically defined RD districts. The use of minimum lot sizes often raises prices as buyers are forced “to purchase larger, more expensive parcels” and fewer homes may be built in a given area (Staveski and Horowitz, 2023). As Sandy Springs has already taken action to reduce lot sizes for townhomes, a similar reduction can be explored in certain RD districts.

Long-Term Affordability Policy

In the coming years, the city of Sandy Springs should consider developing institutional capacity to leverage federal funding for affordable rental units and owner-occupied units. The HOME Investment Partnership Program and CHIP (in Georgia) provide opportunities for municipalities to build their affordable housing stock with the support of the federal government. Passing over these programs eventually may present a missed opportunity to attract new residents to the city, continue sustainable growth, and maintain young homeownership.

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Appendix

Table 12

Community Survey and US Census Tables Consulted

Source	Year	Type	Location	Table
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	S1903
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	B07013
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	S2501
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	S2504
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	S2506
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	DP04
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	S1101
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	S2502
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	S2507
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	S1903
American Community Survey	2022, 2018	1-Year Estimates	City of Sandy Springs	S1901
American Community Survey	2022, 2017	1-Year Estimates	City of Sandy Springs	B25009
U.S. Census	2020	n/a	Georgia Census Tracts	H1
U.S. Census	2020	n/a	Georgia Census Tracts	H10

Table 13

Primary Reason for Loan Denial by Applicant Race (2022)

Reason	Asian	Black or African	White	Information not
Debt-to-income ratio	**38%**	19%	25%	29%
Employment history	0%	0%	1%	0%
Credit history	0%	**23%**	6%	4%
Collateral	13%	23%	28%	24%
Insufficient cash	0%	9%	4%	4%
Unverifiable	13%	2%	4%	4%
Credit application	**38%**	15%	22%	20%
Other	0%	9%	11%	13%

Table 14

Median Household Income by Age Of Householder (2022)

Age Group	Median Income
15 to 24 years	59,964
25 to 44 years	97,739
45 to 64 years	144,714
65 years and over	74,251

Table 15

Movement In and Out of Sandy Springs (2022)

Moving Action	Number of Residents
Moved within same county:	5,779
Householder lived in owner-occupied housing units	2,468
Householder lived in renter-occupied housing units	3,311
Moved from different county within same state:	3,945
Householder lived in owner-occupied housing units	884
Householder lived in renter-occupied housing units	3,061
Moved from different state:	9,453
Householder lived in owner-occupied housing units	1,429
Householder lived in renter-occupied housing units	8,024
Moved from abroad:	1,467
Householder lived in owner-occupied housing units	380
Householder lived in renter-occupied housing units	1,087

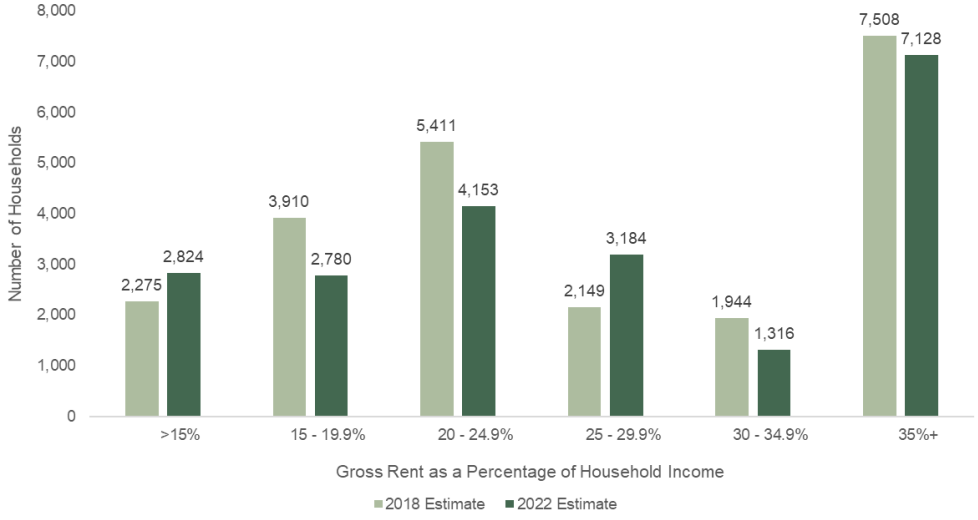
Table 16

Income in the Past 12-Months of Sandy Springs Residents

Year	2018	2022	% Change
Less than $10,000	4.20%	5.50%	+ 1.3%
$10,000 to $14,999	1.30%	2.80%	+ 1.5%
$15,000 to $24,999	3.20%	5.10%	+ 1.9%
$25,000 to $34,999	6.50%	3.60%	- 2.9%
$35,000 to $49,999	10.20%	5.60%	- 4.6%
$50,000 to $74,999	24.60%	14.70%	- 9.9%
$75,000 to $99,999	11.80%	11.20%	- 0.6%
$100,000 to $149,999	12.60%	15.90%	+ 3.3%
$150,000 to $199,999	6.80%	11.70%	+ 4.9%
$200,000 or more	18.90%	23.90%	+ 5.0%
Median income (dollars)	75,064	104,394	+ 39.07%
Mean income (dollars)	134,935	168,247	+ 24.69%

Figure 10

Cost Burden in Sandy Springs by Household (2018 and 2022)



Mortgage Originations and Denials

Figure 11

Mortgage Originations and Denials by Applicant Race (2022)

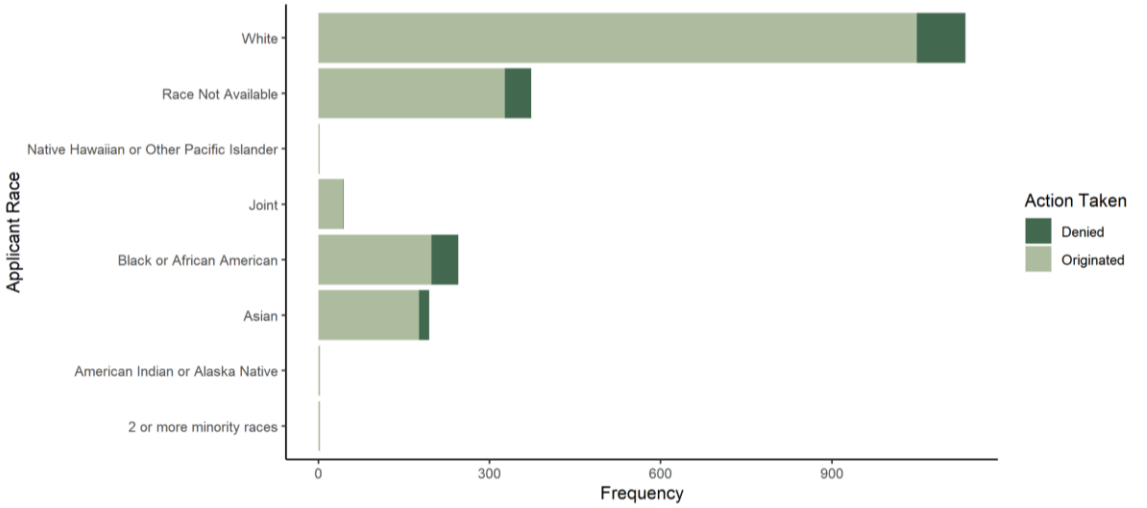


Figure 12

Mortgage Originations and Denials by Applicant Race (2018)

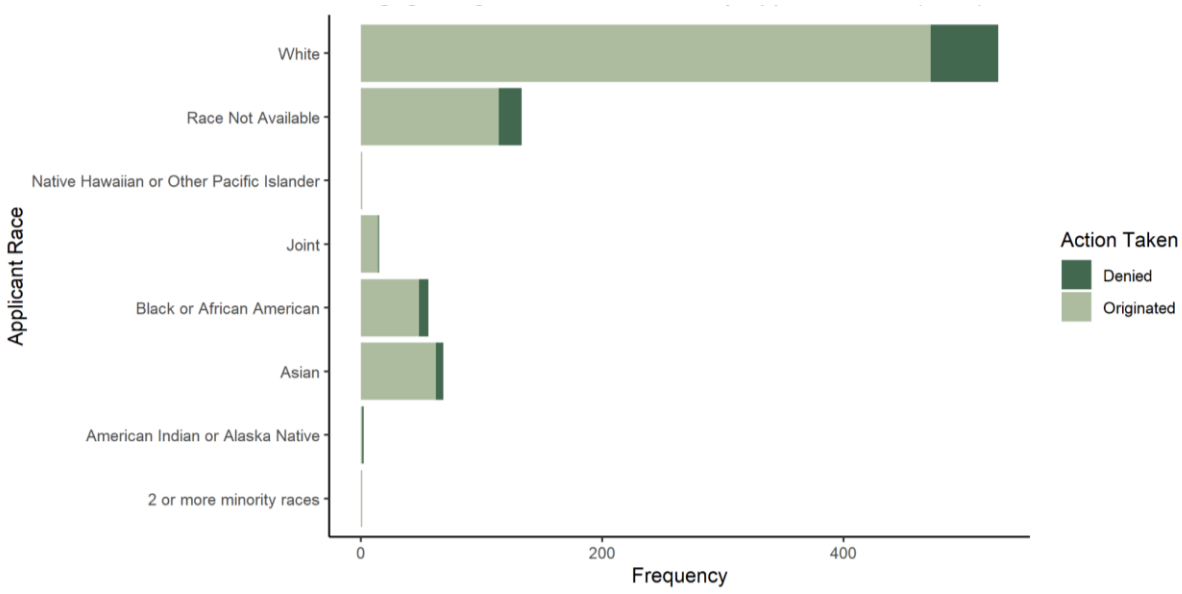


Table 17

Simple Regression Results

Term	Estimate	Standard	P-Value	Significance
(Intercept)	1.166208	0.050355	6.47E-105	✷✷✷
Debt-to-Income Ratio	-0.00492	0.000635	1.47E-14	✷✷✷
Age	-0.00082	0.000541	0.130863	
Income	-1.03E-05	1.02E-05	0.309682	
Property Value	1.74E-08	1.09E-08	0.108634	
Race Group: White	-0.04818	0.041498	0.245779	
Race Group: Black or African	-0.1528	0.044942	0.000688	✷✷✷
Race Group: Asian	-0.06642	0.045727	0.14652	
Race Group: Not Identified	-0.08778	0.043381	0.043173	✷

Significance codes: ✷✷✷ < 0.001 < ✷✷ < 0.01 < ✷ 0.05 < ▪ < 0.1

Multiple R-squared: 0.05301 Adjusted R-squared: 0.04909

N = 1940

Table 18

Age Group Regression Results

Term	Estimate	Standard	P-Value	Significance
(Intercept)	1.102534	0.07799	3.03E-43	✶✶✶
Debt-to-Income Ratio	-0.00492	0.000636	1.62E-14	✶✶✶
Age Group: < 25	0.094256	0.072685	0.194868	
Age Group: 25-34	0.031606	0.063558	0.619053	
Age Group: 35-44	0.037282	0.063852	0.559366	
Age Group: 45-54	0.029993	0.064402	0.641476	
Age Group: 55-64	0.014862	0.065976	0.821799	
Age Group: 65-74	0.001945	0.071155	0.978196	
Income	-1.02E-05	1.02E-05	0.31663	
Property Value	1.66E-08	1.12E-08	0.138412	
Race Group: White	-0.04921	0.041585	0.236848	
Race Group: Black or African	-0.15523	0.04509	0.000588	✶✶✶
Race Group: Asian	-0.06747	0.045812	0.140972	
Race Group: Not Identified	-0.09028	0.043482	0.038009	✶

Significance codes: ✶✶✶ < 0.001 < ✶✶ < 0.01 < ✶ 0.05 < ▪ < 0.1

Multiple R-squared: 0.05419 Adjusted R-squared: 0.04781

N = 1940