



Estimating Future Housing Demand in Dane County

2050 REGIONAL DEVELOPMENT FRAMEWORK

Supporting Information



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Executive Summary

If you've traveled around the greater Madison region recently, you have undoubtedly seen many new apartment buildings under construction. You may have wondered, why are so many apartments being built? Are there really enough people to fill up all these apartments?



This report explores the reasons why we see more apartments and fewer single-family homes going up and whether this shift is likely to continue. Key takeaways from the report are:

- **Fewer households can afford new single-family houses.** The cost of new single-family homes is far outpacing incomes, leaving a smaller pool of buyers. That means more renters and higher demand for apartments. The legacy of historic racial discrimination and a trend toward fewer family households with children also contribute to shrinking the pool of home buyers.
- **This trend is likely to continue** for a couple of reasons. One, incomes are unlikely to start rising faster than housing prices. Two, aging baby boomers will soon be over 75 years of age and thus more likely to down-size from single-family homes, further increasing demand for multi-family housing. Three, most population growth will be comprised of people of color who often have less wealth due to historic housing discrimination.
- **However, most households still prefer single-family homes** according to national surveys. Covid and telecommuting have increased

demand for larger homes in outlying communities. At the same time, people want to be close to workplaces, services, and amenities, even if that means buying a smaller home or renting.

- **Communities can help make homeownership more affordable** by allowing and encouraging smaller homes. Communities are already starting to allow more small-lot single-family homes that are affordable to a wider range of people. Other options such as town homes, accessory dwelling units, and condominiums are also needed. Building such housing close to jobs, services, shops, and amenities can add value and reduce transportation costs.

And the question of whether all these apartments will fill up? According to just-released population estimates from the Wisconsin Department of Administration, more than 20,000 people were added to Dane County over the last couple years. This is a significant increase from the 7,000 people added per year during the 2010s. With another 200,000 people expected to join the Dane County community by 2050, an estimated 100,400 new housing units will be needed to accommodate continued growth.



Introduction

The Regional Development Framework is a guide for the physical development of the region in coming decades. To prepare the guide, CARPC staff, working with partner agencies and municipalities, estimated population, household, and employment growth from 2020 to 2050. The next step was to allocate that growth – in the form of residential and business buildings – across the region to reflect Framework goals and objectives and local comprehensive plans.

To allocate households within residential buildings it was also necessary to reflect realistic estimates of the types of housing units likely to be built. Demand for different types and locations of housing will drive construction. Thus, staff analyzed the factors that may influence future demand for different types of housing and drew observations based on that analysis. This report presents that analysis and those observations.

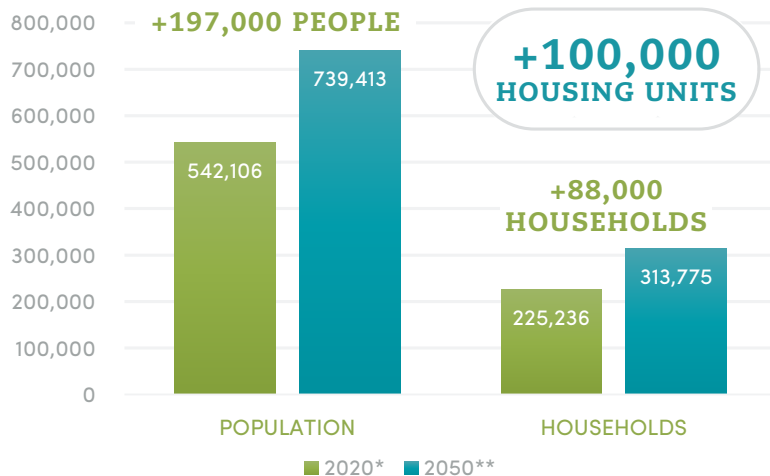
This report considers the likely mix of housing types that will be developed in coming decades by examining housing, demographic, and economic trends, population and household

projections, and national housing and community preference surveys. It focuses on the percent of single-family detached housing that will be built because this type of housing has distinctly different land use outcomes than attached and multi-family housing, and because more data is available related to single-family housing and homeownership.

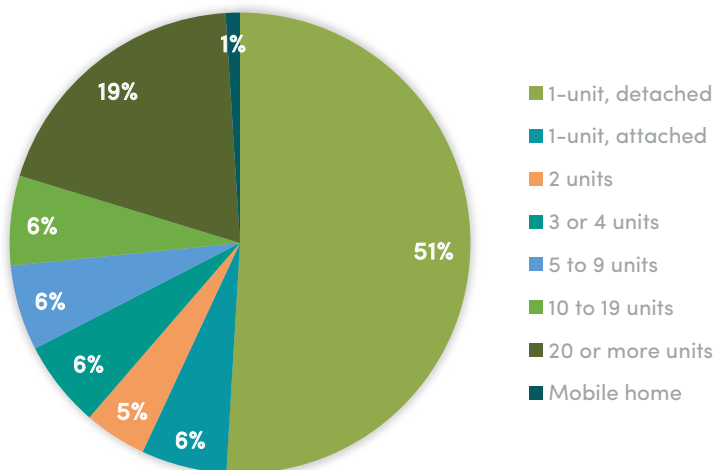
This report first estimates the total number of housing units needed to accommodate population growth. Then it looks at trends in housing construction and characteristics of households including age, composition, and incomes. It also reviews national housing studies and surveys that shed light on consumer preferences. The report then presents observations.

Housing Units Needed 2020 to 2050

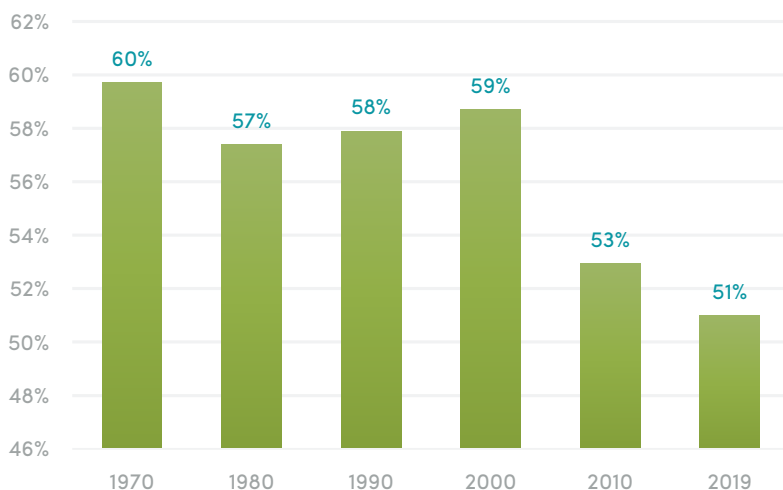
The first step in estimating demand for different types of housing is to project the total number of housing units needed to accommodate projected population growth.

CHART 1 | Dane County, WI Projections

SOURCE: *CARPC, **Woods & Poole

CHART 2 | Dane County Housing Units by Type (2019)

SOURCE: ACS 1-Year Estimates (Table CP04)

CHART 3 | Dane County Single-Family Detached Units

SOURCE: CARPC Data Book and ACS 1-Year Estimates (Table CP04)

CARPC projects the 2050 population of Dane County to be 739,400, an increase of 197,300 from 2020. CARPC also projects the county to have 313,800 households by 2050, an increase of 88,500.

To accommodate those 2050 households with an average vacancy rate of 3% (blend of 5% rental and 1.5% owner vacancy), the county will need 323,200 housing units.

Regions experience a loss of housing units over time due to factors such as demolitions and fires. Dane County's average annual housing loss is estimated at 0.19%. Applying this rate to the most recent count of housing units in the county yields a loss of 14,100 units by 2050.

The total number of additional units needed to accommodate population and housing growth, then, is:

Total Units Needed in 2050: 323,200

Minus 2019 Units (census): 236,900

Plus 2019 to 2050 unit loss: 14,100

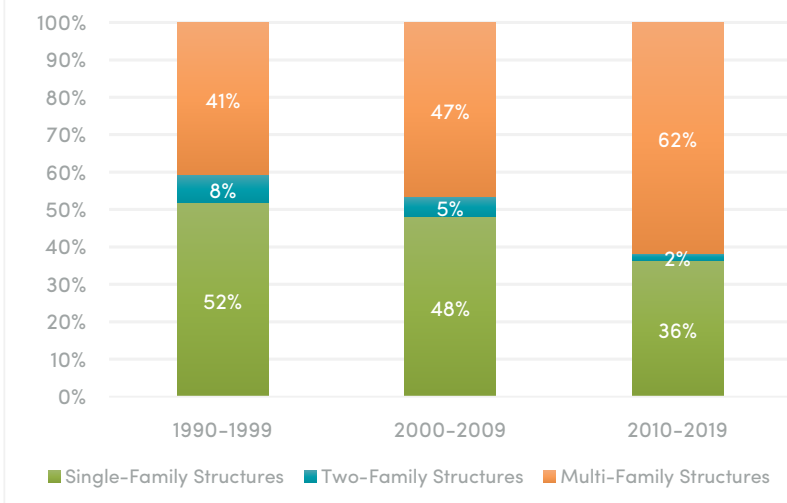
Equals **Total Units Needed: 100,400**

Housing Construction Trends

Recent housing construction trends tell us the directions that housing demand is moving in. While past trends do not determine the future, they are useful indicators of potential future demand.

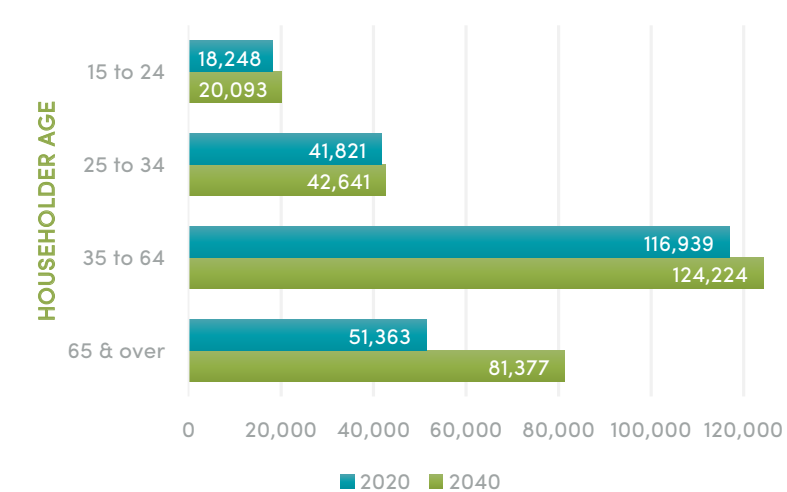
As shown in **Chart 2**, in 2019, 51% of all housing units in Dane County were single-family detached buildings. Multi-family (3 units and larger) comprised 39% of units, mostly larger buildings with 10 or more units.

CHART 4 | Dane County Housing Units by Structure



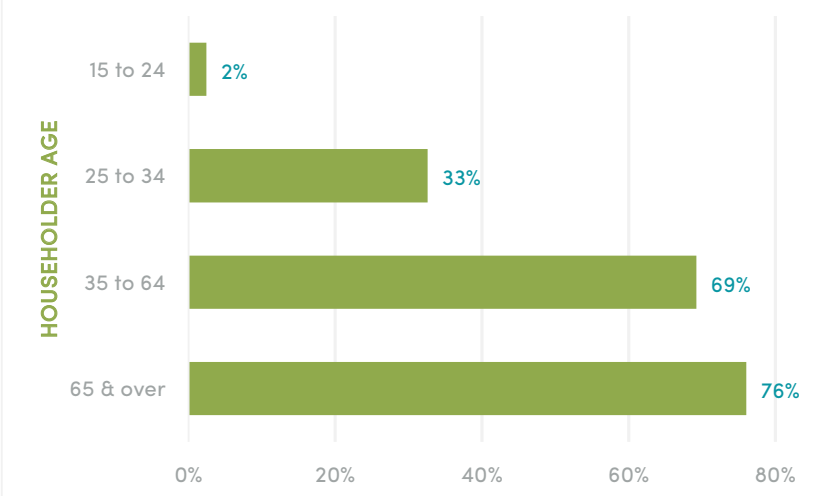
SOURCE: HUD SOCDS Building Permit Data

CHART 5 | Dane County Householders by Age



SOURCE: Wisconsin DOA, [State & County Household Projections 2010-2040](#)

CHART 6 | Dane County Percent Owner (2019)



SOURCE: ACS 1-Year Estimates (B25007)

The percent of all units in the county that are single-family detached hovered between 60% in 1970 to 59% in 2000. By 2019 it fell to 51%.

Chart 4 shows that recent housing construction is trending towards higher percentages of units in multi-family buildings.

During the 1990s, 52% of units were built as single-family buildings. This declined to 36% of units built from 2010 to 2019. For the entire period of 1990 to 2019, 46% of units were single-family structures. In addition, from 2010 to 2019 the portion of units in buildings with 10 or more units increased from 20% to 26%.

If these home construction trends continue, the percent of single-family homes would decline 6% per decade, resulting in about 25% of homes built from 2020 to 2050 being single-family detached. However, as noted above, past trends do not dictate future demand and construction. Other factors also play significant roles, as discussed below.

Life Cycle Housing Demand

A key determinant of the type of housing people choose is their age. From the time people move out of their parents' house and become a separate household to when they live out their retirement years, the type of building they choose to live in typically changes. Examining trends and forecasts of households as they move through their life cycles sheds light on future housing demand.

Examining life cycle housing involves dividing households into age groups generally consistent with their housing

needs and preferences. These breakdowns use U.S Census data on age of “householders,” which it defines as the “person (or one of the people) in whose name the housing unit is owned or rented (maintained); if no person qualifies, any adult resident of a housing unit is considered a householder.” The life cycle breakdown that reflects housing needs and preferences is:

- **First-time householders, age 15 to 24**, form their first households after leaving home or school and are likely to rent and live in buildings with multiple units.
- **Young householders, age 25 to 34**, are forming families and long-term relationships, perhaps with young children at home, and are starting to purchase housing and live in single-family detached homes.
- **Middle-age and empty nester householders, age 35 to 64**, are typically in their prime earning years, are more likely to live with partners and have more children at home and live in owner-occupied single-family detached homes.
- **Older adults, age 65 and older**, are becoming empty nesters and retirees, most of whom seek to age in place while some choose to downsize, as owner-occupants, until they choose to or need to move to a more supportive living arrangement, perhaps with family members, or perhaps in separate multi-unit buildings.

Chart 5 shows projected changes from 2020 to 2040 for householders of the different age groups discussed above.¹ It tells us that older adults, age 65 and over, will comprise most of the growth of householders over the next couple decades, increasing 58% in number.² Middle-aged adults and empty

¹ The cut-offs of the different age groups are those in Wisconsin Dept. of Administration projections.

² This section draws from household projections from the Wisconsin Department of Administration (DOA). These projections only go out to 2040. For the purposes of this paper, we can infer that changes from 2020 to 2040 will likely continue to 2050.

nester householders, age 35 to 64, are the largest group of householders and will add approximately 7,300 householders, a 6% increase. Young householders, age 25 to 34, will remain essentially unchanged in number. And first-time householders, age 15 to 24, will grow by 10% but, due to their small numbers, add only 1,800 households. The next sections discuss the potential future demand for different housing types by these age groups.

Changing housing preferences by age can be seen in the differences in homeownership by age groups. As shown in the chart below, about four out of five older adult householders owned their home. About two thirds of householders who are middle-age and empty nesters own homes. Homeownership drops significantly for the younger groups with a third of young householders and almost no first-time householders.

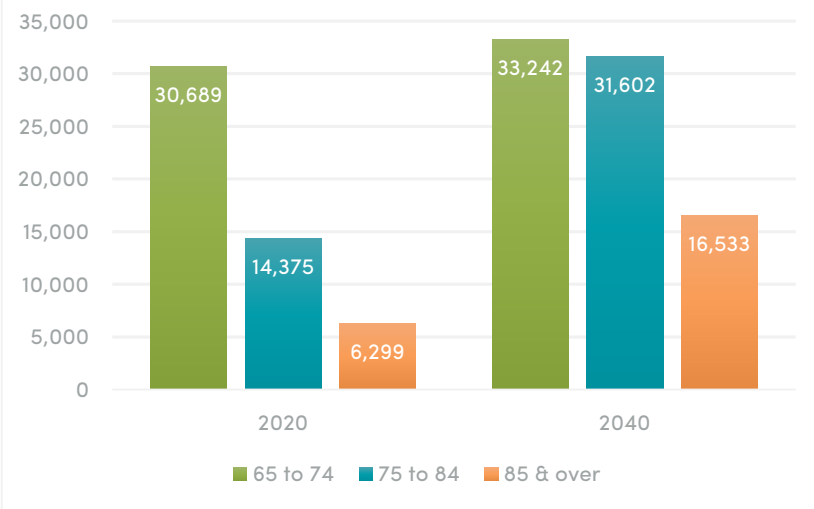
Homeownership is a strong indicator of the type of housing people live in. In Dane County, as of 2019, 82% of homeowners lived in single-family detached homes, versus 13% of renters.³

OLDER ADULTS

In addition to comprising most new households over the next couple decades, older adults have the highest homeownership rate, as shown above. Most older adults do want to stay in their homes or age in place. In a [2021 Home and Community Preference Survey](#), AARP found that three out of four adults age 50 and over want to stay in their homes and communities as they age, yet many do not see that happening for them. While 76% of Americans age 50 and older say they prefer to remain in their current residence and 77% would like to live in their community as long as possible, 54% anticipate moving to either a different home still within their community (13%) or outside their community (41%).

³ CARPC adjustment of Census ACS Tenure by Units in Structure, Dane County WI (C25032).

CHART 7 | Dane County Householders Age 65 & Over



SOURCE: Wisconsin DOA, [State & County Household Projections 2010-2040](#)



As the survey suggests, many older adults, as they age, expect to move out of their homes (most single-family detached based on homeownership rates) into other arrangements such as condominiums or apartments, living with relatives, or some form of assisted living. In the next couple decades, a growing number of older adult householders in Dane County will be facing this situation.

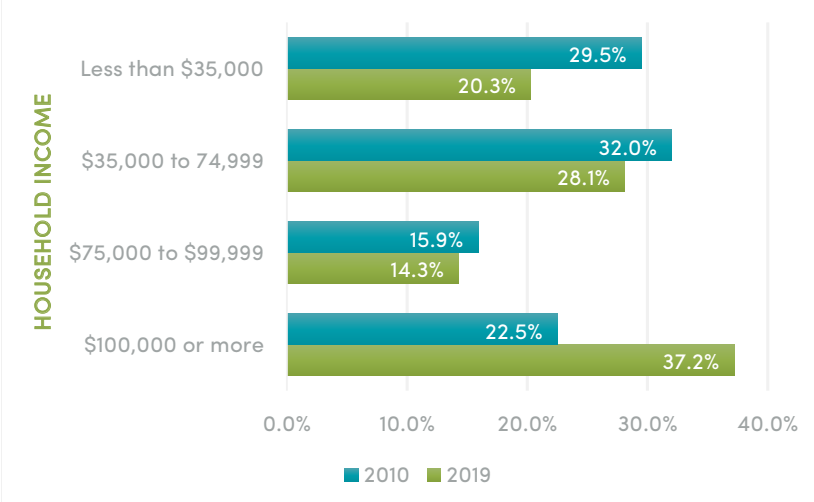
As **Chart 7** shows, in 2020, most elderly people are estimated to be 65 to 74 years old. By 2040 the majority will be age 75 and older, and one in five elderlies will be over 85. These are the ages during which older adults are more likely to move out of single-family homes they own.

Thus, it seems unlikely that their homeownership rate will remain at 79%, and that the same percent of older adults will live in single-family detached homes. Older adults will predominantly be home sellers instead of home buyers.

MIDDLE-AGE AND EMPTY NESTERS AND YOUNG ADULT HOUSEHOLDS

This section discusses the future demand for single-family detached housing among middle-age and empty nesters and young adult householders. It explores three potential influences on their future demand: their housing and community preferences as expressed in national surveys; their financial capacity to purchase single-family detached homes; and the composition of their households.

CHART 8 | Dane County Household Income



SOURCE: American Community Survey 1-Year Data

National housing and community preference surveys

Four organizations have conducted surveys of housing and community preferences: the [National Association of Realtors](#) (2017), [RCRLO](#) (2019), the [National Association of Home Builders](#) (2019 and [2021](#)), and [American Association of Retired Persons](#) (2021). This section highlights key findings relevant to demand for different housing types.

While most homebuyers prefer single-family homes (54% – 63% across age groups), they strongly prefer areas with mixes of houses, shops, offices and businesses (RCLCO). Most homebuyers are willing to accept smaller houses on smaller lots to achieve affordability (NAHB 2017). Seven-in-ten residents say walkability is an important factor when choosing where to live, and a majority of people would choose an apartment or townhouse with an easy walk to shops and restaurants and a shorter commute over a detached single-family house that requires driving to those same destinations and a longer commute (NAR, 2017). Two-thirds of all adults – and 79% of those 50-plus – want to stay in their current communities. Adults primarily value communities that foster good health, promote street safety, and provide good opportunities for community engagement and social interaction (AARP 2021).

The NAHB 2021 survey provides information on how the pandemic impacts housing preferences. A quarter of respondents acknowledge the health crisis has had an impact on their housing preferences, with households with teleworkers and/or virtual students most likely to be affected. Those most affected by the pandemic are also more likely to want larger homes (35% compared to 21% of all respondents). Compared to pre-pandemic, more minorities prefer to buy their next home in an outlying suburb (preference increase of 9% for Asian buyers, 7% for African –American buyers, 6% for Hispanic buyers, and only 1% for Caucasian buyers).

Taken together, the surveys tell us that most homebuyers continue to prefer single-family homes but also highly value walkable communities with nearby access to amenities and jobs and are willing to live in an apartment or townhouse to live in such places. They value access to safe streets and parks that foster interactions with neighbors. They are also concerned about affordability and would accept smaller houses on smaller lots to achieve it. As a result of the pandemic, households with teleworkers and/or virtual students show stronger preferences for larger homes, and more minority households want to buy their next home in outlying suburbs than before the pandemic.

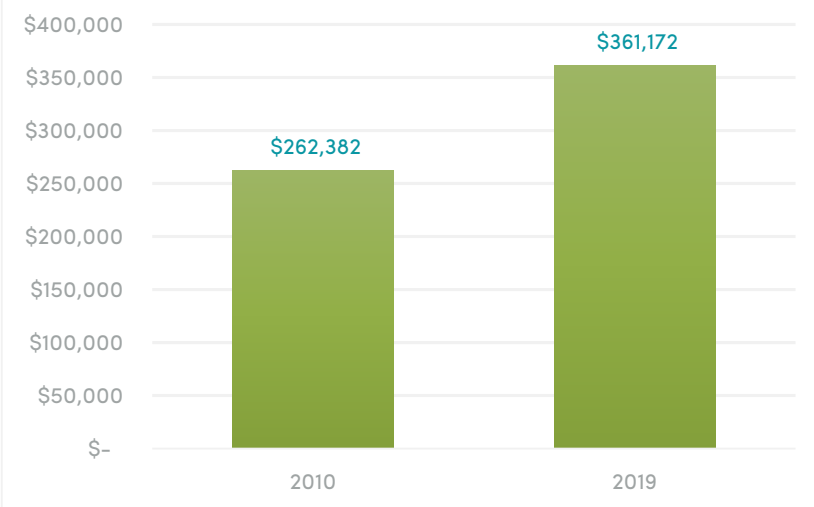
FINANCIAL CAPACITY TO PURCHASE SINGLE-FAMILY DETACHED HOMES

Household income in Dane County increased overall during the last decade. As **Chart 8** shows, the portion of households earning less than \$35,000 decreased; the portion making from \$35,000 to \$74,999 decreased; the portion making \$75,000 to \$99,999 decreased slightly; and the portion making \$100,000 or more increased significantly. Some of this trend towards higher incomes was due to inflation as measured by the Consumer Price Index nationally, which [increased by 17.2% during this period](#). But most of the upward trend can be attributed to the strong economy during this period.

At the same time, prices for new single-family homes have escalated faster. Building permits issued in Dane County show the average value of new homes in 2010 was \$262,382.⁴ Approximately 37% of households in 2010 could afford to purchase a house at this price, using a home price to income ratio of 3.36 to determine

⁴ MTD Marketing Services, LLC, Single Family and Duplex Permits Issued, Dane County Municipality Report, 8/6/2020. It should be noted that portion of homes had prices below the average, and the statistic of a third being able to afford the average should be taken as a general indicator of housing affordability.

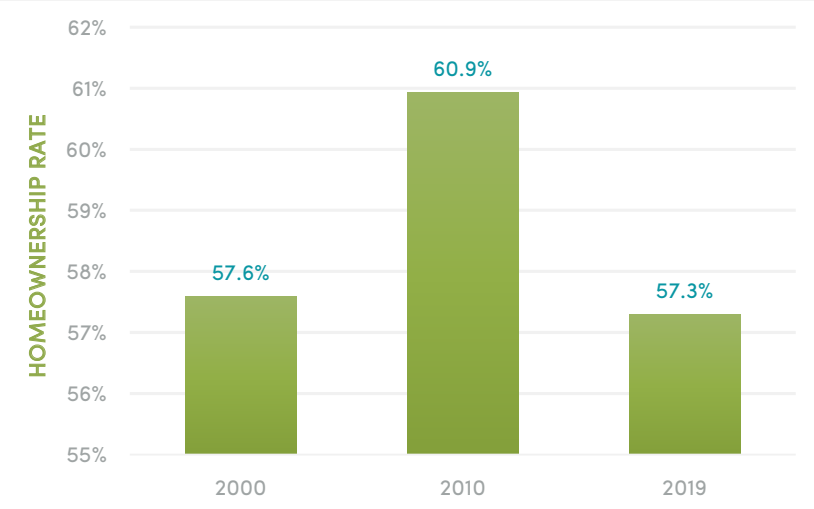
CHART 9 | Dane County Average New Home Value



SOURCE: Dane County Building Permits



CHART 10 | Dane County Homeownership Rate



SOURCE: Census and ACS

affordability.⁵ The average value of new homes permitted in 2019 increased 73% to \$361,172. About a third of households (34%), in the county could afford to purchase a home at that price, a decline from 2010. By 2021, the price further increased to \$452,959, which even fewer households could afford.

When existing homes are included, the average price was more affordable. The average sales price of single-family homes on the [Multiple Listing Service](#) as of December 2018 was \$318,510, and the median price was \$284,236. In 2019, approximately 40% and 46% of households could afford those home prices respectively. Condo listings are more affordable still, with an average price of \$267,374 and a median price of \$215,500 in December 2018.

Of course, by definition there are homes on the market below the average price. The [Zillow Home Value Index](#) estimates home values, including condos and coops, in the 5th to 35th percentile. As of December 31, 2018, the ZHVI for this percentile range was \$212,873. About 60% of households could afford to purchase a home at that price in 2019. However, the data does not tell us how many homes were for sale at this price, or the quality or size of the homes.

In sum, the income and housing cost data tells us that the share of households that can afford the average value of homes in Dane

⁵ Kurt Paulsen, PhD, AICP, Dept. of Planning and Landscape Architecture, UW-Madison, "Complying with the New Housing Report Requirements," materials provided for Local Government Center presentation on February 13, 2019.

County is less than the share of households that prefer to purchase single-family detached homes, according to national surveys. If income and housing cost trends continue, the portion of households able to afford new construction homes will continue to decline.

Homebuyers unable to or unwilling to purchase newly constructed single-family homes will look to purchase existing homes. This will increase competition for existing homes and put upward pressure on those prices. And since most households cannot afford existing homes, there will be a portion of households that would prefer to buy who end up renting, which will also push rents up. One factor that could alleviate such reductions in home affordability is the number of older adults who sell their homes in coming decades as discussed above. This could add single-family detached homes to the market, potentially increasing affordable options.⁶

Another option to satisfy demand for single-family homes is for the market to provide more homes on small lots and attached homes such as duplexes and townhomes. These housing options have historically comprised a very small percent of home construction. Recently however, home builders have been seeking to build more such units, and municipalities have been more open to approving them, although regulatory barriers remain.

Affordability constraints also likely account for the recent decline in Dane County's homeownership rate.

As **Chart 10** shows, the rate increased during the 2000s as the economy recovered from the previous recession and the housing market heated up. Unfortunately, the housing market turned out to be a bubble that crashed in 2008, leading to foreclosures, loss of equity and income, and stricter borrowing terms. These

factors helped drive the homeownership rate back down to 2000-levels. The information above indicates that housing affordability constraints may be a long-term trend that keeps the homeownership rate lower unless the market and regulatory structure adapt to provide less conventional ownership options.

RACIAL BARRIERS TO HOMEOWNERSHIP

Declining homeownership rates can also be explained by increasing racial diversity in the region.

As described in [Appendix D, Equity Analysis](#), Black people and other people of color have been subjected to long periods of housing discrimination. They were barred from federal programs that propelled white people into homeownership including federally insured home loans and Veterans Administration home loans. Further, they were relegated to less desirable neighborhoods through racial covenants (stating that only white people could live in a home) and highways whose construction demolished predominantly Black neighborhoods to connect white-only suburbs to central city business districts.

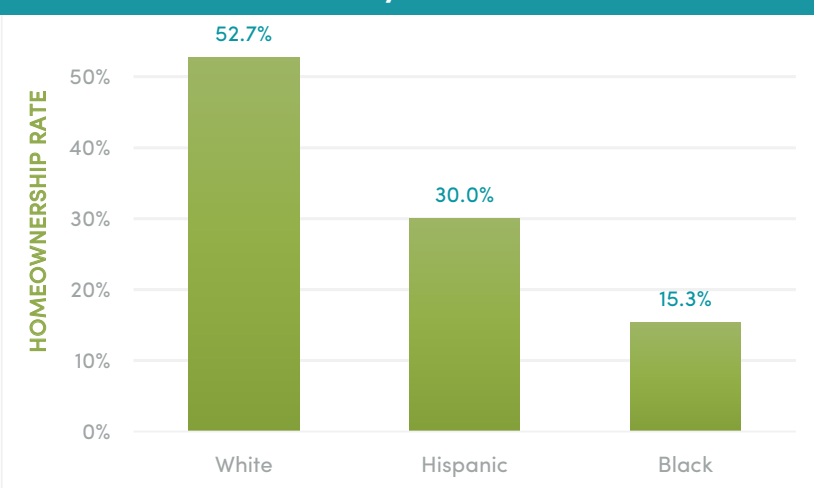
The outcome of this discrimination is extreme racial disparities in homeownership rates and wealth. In 2019, [15% of Black households in Madison](#) and 30% of Hispanic households owned their homes, compared to 53% of white households.

Since homeownership is the primary means of generating wealth for most Americans, the racial homeownership gap contributes, along with other factors including income inequality, to equally stark racial wealth gaps. In 2016, [the average wealth of white families in the U.S. was \\$919,000](#) compared to \$140,000 for Black and \$192,000 for Hispanic families.

Unfortunately, these gaps are widening. In Wisconsin, the homeownership rate for Black households declined by 7% from 2010 to 2019.

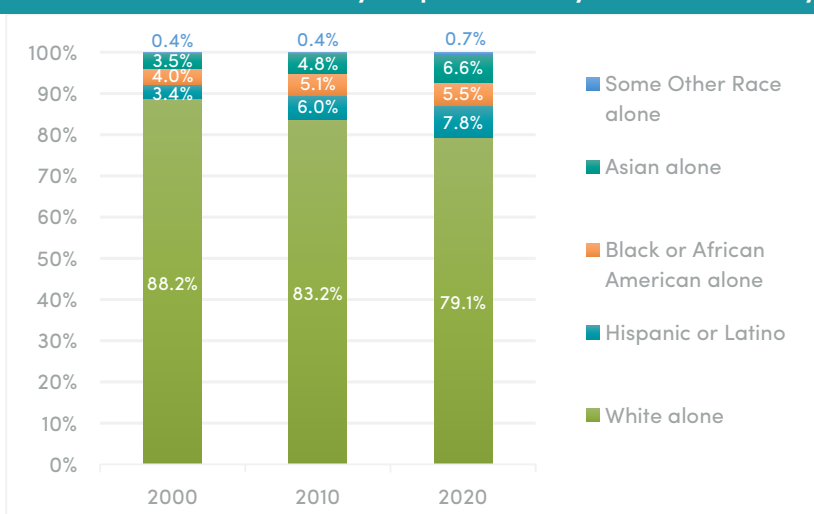
⁶ However, there may be a mismatch between the size and characteristics of houses that older adults sell versus the preferences of home buyers.

CHART 11 | City of Madison Homeownership Rates by Race/Ethnicity



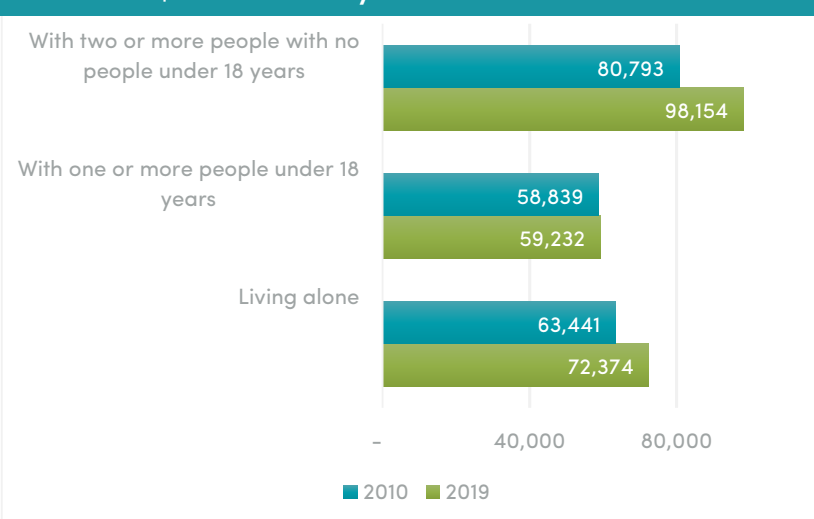
SOURCE: [Wisconsin Policy Forum](#)

CHART 12 | Dane County Population by Race/Ethnicity



SOURCE: US Census

CHART 13 | Dane County Households



SOURCE: ACS 1-Year Estimates (Table DP02)

Hispanic homeownership rates dropped 3% and white rates dropped 1% during that period. Nationally, in 1963 the gap between white and Black family wealth was \$121,000. By 2016 it grew to over \$700,000.

At the same time these gaps are widening, Dane County is becoming increasingly racially diverse. As **Chart 12** shows, white non-Hispanic people comprised 88% of the county population in 2000 and 79% by 2020. During this period, people of color comprised 54% of population growth.

Widening gaps in homeownership and wealth, combined with increasing diversity, points to overall diminishing demand for purchasing homes.

HOUSEHOLD COMPOSITION

Household composition influences preferences for housing types. Households with children are more likely to prefer single-family detached housing for the living and outdoor space. People living alone need less space and generally have less income than two or more adults living together. Two or more people living together – often as married couples – could have various preferences for housing.

Chart 13 shows the three categories of households mentioned above. Households with two or more people and no children are the largest group and increased the most from 2010 to 2019. They represented 43% of all households in the county in 2019, up from 40% in 2010. Households with children grew slightly but declined as a percent of all households, from

29% to 26%. ⁷People living alone also increased somewhat in number and percent, from 31% to 32%.

The shift from households with children to households without children – either living alone or together with other adults – is a long-term trend in the U.S. A report from the Population Reference Bureau states that, “In 1960, 85% of all households contained families, but by 2017, this share had dropped to 65%. Conversely, the share of nonfamily households [more than doubled](#) from 15% to 35% during this period.” It shows the share of people living alone increasing from 13% in 1960 to 28% in 2020.

What a continuation of these trends in household composition might mean for future housing demand is explored below.

- From households with children, stagnant or declining demand for single-family detached homes is anticipated because their numbers are slowly increasing, but their share of total households is declining. Trends indicate that this group will comprise between a fifth to a fourth of all households. In addition, the cost of, and lost income associated with, caring for children reduces the ability of these households to afford to purchase homes. But since homeownership is a priority for them, they may be more likely to travel farther to find an affordable home. They are also likely influenced by perceptions of school district quality.
- People living alone will comprise a third or more of households, and older adults will comprise about a third of this group. As we have seen, most older adults will seek to remain in their homes but over time will

⁷ Families make up 94% of households with one or more people under 18 years. The Census defines families as “a group of two people or more (one of whom is the householder) related by birth, marriage, or adoption and residing together.” For the purposes of identifying housing type preferences, this report assumes that the presence of children have the same influence in both families and non-families.

likely need to move. For younger people, affordability and preference may lead to living in multi-family buildings, and perhaps prefer more urban settings.

- Two or more adults living together without children will make up about half of households. They will have mixed preferences for housing. Factors driving them towards single-family detached homes are higher purchasing power due to multiple incomes without child rearing expenses, and the fact that most of them (64%) are married couples who are usually committed to long-term relationships. Factors pushing them away from single-family detached homes are that 36% of them are not married couples and likely unrelated adults living together who may not be in long-term relationships, as well as preferences for walkable communities with amenities, and the time and income to enjoy urban lifestyles. Even if this group prefers single-family homes, the lack of children will likely mean preferences for smaller houses, town homes, and condos.

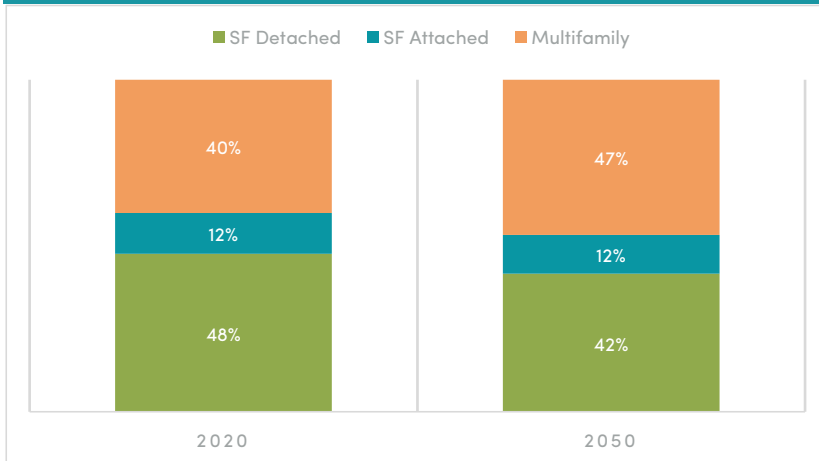
In sum, declining portions of households with children combined with a slowly increasing portion of single-person households point to reduced demand for single-family detached homes. An increasing portion of two or more people with no children could partially offset that decline in demand depending on their preferences, which may tend towards smaller homes.

Summary of Factors Influencing Future Housing Demand

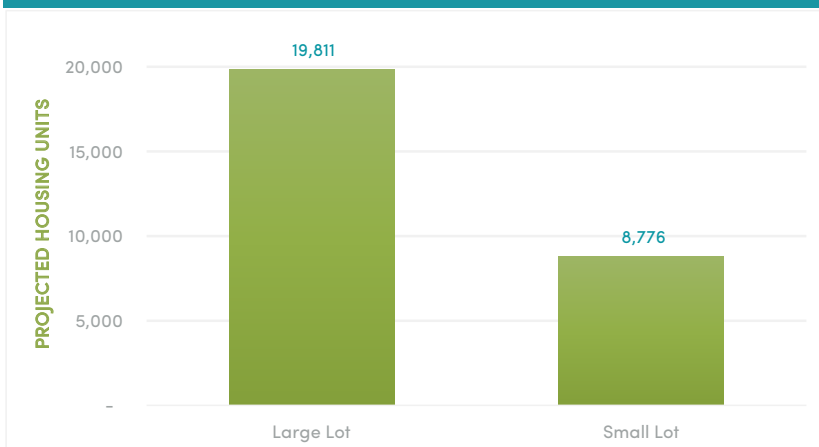
The information above points to a continuation of housing construction trends over the last couple decades when multifamily housing comprised the majority of new homes. Factors favoring a continuation of mostly multi-family homes, as discussed above, are:

- The growing number of older adults who will be over 75 years of age, a time of life when people increasingly move from the single-

**CHART 14 | Regional Development Framework
Growth Scenario: Projected Housing Units**



**CHART 15 | Regional Development Framework
Growth Scenario: Single-Family Detached Units**



family home that they own to other living arrangements including living with their children, condos, and independent and assisted living arrangements.

- Despite strong preferences for single-family homes, which have been enhanced by the pandemic due to needs of teleworking and remote schooling, the growing gap between rapidly escalating home prices and incomes reduces the portion of households that can afford new or even existing homes.
- The racial homeownership and wealth gap
 - a product of historic discrimination
 - will further reduce homebuying capacity as people of color continue to account for most population growth.
- Families with children, who are typical purchasers of single-family detached homes, will likely continue to comprise small and perhaps decreasing portions of all households. The shares of people living alone and two or more adults living together, who are less likely to buy single-family homes, are increasing.

Housing in the Regional Development Framework Growth Scenario


As described in the Regional Development Framework report, CARPC created a 2050 growth scenario that placed homes, businesses, and civic buildings in the region to accommodate projected increases in population and employment from 2020 to 2050. The scenario incorporated growth

strategies to achieve Framework goals and objectives.

Some of the strategies employed to create the growth scenario reflect the housing demand trends and factors discussed above. These strategies in particular reflect continued trends towards mostly multi-family housing construction:

- Focus growth in centers and along corridors (42% of homes added to the scenario)
- Prioritize growth in already developed areas (40% of homes added to the scenario)
- Plan complete neighborhoods (which have a wider range of housing types including multi-family)

The result of these strategies was a decline in single-family detached homes and an increase in multi-family homes, as shown in **Chart 14**. Multi-family homes make up 61% of the new units added over the 30-year period. Single-family and attached homes comprise the balance.

The growth scenario further divided single family detached homes into those on large lots and small lots. As **Chart 15** shows, homes on small lots (7,000 square feet and smaller) comprise the minority (31%) of all single-family homes but likely a larger portion than is currently being developed. The scenario anticipates that developments will increasingly build homes on smaller lots in order to keep prices within reach of more families. The Complete Neighborhood strategy includes higher portions of homes on smaller lots. 



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