Housing Market Conditions Across America's Cities

About the National League of Cities

The National League of Cities (NLC) is the voice of America's cities, towns and villages, representing more than 200 million people. NLC works to strengthen local leadership, influence federal policy and drive innovative solutions.

NLC's Center for City Solutions provides research and analysis on key topics and trends important to cities, creative solutions to improve the quality of life in communities, inspiration and ideas for local officials to use in tackling tough issues, and opportunities for city leaders to connect with peers, share experiences and learn about innovative approaches in cities.

Authors

Anita Yadavalli
Program Director, City Fiscal Policy
Center for City Solutions

Brenna Rivett
Principal Associate
Center for City Solutions

James Brooks
Director, Housing and Community Development
Center for City Solutions

Christiana K. McFarland
Research Director
Center for City Solutions

Table of Contents

Foreword

Every day, I talk with local leaders from across the country. No matter the initial topic of our conversation, we often come back to one question: What is keeping them up at night? Without fail, the answer to that question involves the safety, security, and dignity of their community members. More times than not, those factors center around residents' access to and the availability of quality housing.

Those nighttime worries are well placed. Affordable, stable housing is currently out of reach for millions of Americans. And it's not an isolated issue – housing insecurity lessens a person's ability to hold a steady job, maintain their health, pursue an education, and have any true quality of life. This is the precise reason why local leaders have made housing a top priority.

Of course, there are certain housing policies that can have a positive impact everywhere, but we know that strategies and solutions in Seattle and Denver may not work for Charlotte, North Carolina, or Peoria, Illinois. That's why the National League of Cities (NLC) is proud to publish, "Housing Market Conditions Across America's Cities." The report gives communities recommendations that are tailored to their residents' needs and take into account the many factors that make America's cities, towns and villages unique.

It is a key component of NLC's continuous work to provide local leaders with the support and resources needed to address the mounting housing crisis. I am continuously grateful for the broad coalition of NLC members, partners and coalitions that are focused on this issue, including the Mayors Challenge to End Veteran Homelessness, Mayors and CEOs for U.S. Housing Investment, Opportunity Starts at Home, the 49 state municipal leagues and NLC's National Housing Task Force on Housing Affordability, which released its report in July 2019.

One local leader cannot solve housing insecurity alone, but working together, we can make a difference. I hope this resource will help local leaders make the best decisions for their residents, and eventually, allow them to rest a little easier at night knowing that their residents are safe, secure and dignified.

Clarence E. Anthony
CEO and Executive Director
National League of Cities

Introduction

America is currently experiencing a crisis in housing: Residents are having to pay more and more for housing while wages remain largely stagnant, making safe, quality, affordable housing harder and harder to find.[1,2] This dominant housing crisis narrative focuses on the lack of supply of low- and middle-income housing as the source of the problem. However, that's not the entire story. In some communities, factors like slow wage growth, lack of transit options or access to credit play a larger role in explaining why families can't afford housing with access to good jobs.

In order to effectively address housing challenges and apply the right mix of policy and regulatory solutions, local leaders must first understand the unique aspects of their housing markets. This research examines the interactions between housing market characteristics, including demographic, economic and housing supply features, across all 754 cities with populations greater than 50,000, to help guide solutions.

The analysis finds that cities tend to cluster together based on how well the number of approved building permits meets the needs of residents. In order to assess the alignment between the two, this analysis considers a variety of factors, such as income levels, job growth opportunities, job proximity, and rent and mortgage burden rates (for full list of variables see the [Appendix](#)). These factors together produced six types of local housing markets:

- **High Opportunity Cities:** Cities in this cluster tend to exhibit high median incomes and job growth and are approving low levels of single-family and average levels of multi-family building permits. In these cities, the overall stock of both single- and multi-family housing is not keeping pace with resident needs. Without policy action, these cities may fall short of producing the appropriate quantity and mix of dwellings to match their high job growth.

- **Growing Cities:** Cities in this cluster tend to exhibit average median income and high job growth and are approving high levels of both single- and multi-family building permits. They are experiencing growing populations of millennials and college-educated individuals, as well as growing job opportunities within closer-than-average proximity. These cities could therefore use more multi-family units. Without policy action, these cities may not be able to sustain their current state of net in-migration.

- **Rent-Burdened Cities:** Cities in this cluster tend to exhibit low median income and job growth and are approving the highest number of single- and multi-family building permits of all the clusters. With low levels of college education and relatively high levels of rent burden, these cities, while approving more building permits than any other cluster, should be prioritizing affordable multi-family housing to meet the demands of their predominately low-income populations. Without policy action, it is likely that low-income residents in cities in this cluster will continue to experience rent burden or be priced out of the cities all together.

- **Multi-Family Deficit Cities:** Cities in this cluster tend to exhibit average median income and job growth and are approving average levels of single-family building permits, but low levels of multi-family building permits. These cities should consider whether the number of multi-family housing units being approved is sufficient to meet the rising demand of their middle-income residents. Without policy action, these cities may not be able to sustain their current state of net in-migration.

- **Wealth Pocket Cities:** Cities in this cluster tend to exhibit the highest median income and job growth of all the clusters and are approving high levels of single-family building permits, but low levels of multi-family building permits. Interestingly, these cities also have the highest gender income gap. Without policy action, residents in these cities are likely to continue experiencing disparities in income and access to quality, affordable housing.

- **Transit-Desiring Cities:** Cities in this cluster tend to exhibit the lowest median income and job growth of all the clusters and are approving the lowest levels of single-family building permits, and average levels of multi-family building permits. Given that median incomes are lower in these cities, increasing access to public transit will be extremely important for ensuring that residents can access jobs. Without policy action, residents in these cities may not be able to experience the economic mobility that would be gained through access to public transportation.

Regardless of the cluster, there is significant room for improvement in all cities to deploy the right mix of housing and economic development strategies that will influence the affordability of the housing market. This report provides city officials with a unique, comprehensive perspective of their housing markets and a practical policy framework to achieve a healthy housing market that's better aligned with resident needs.

A Framework for Understanding Your Housing Market

The U.S. Department of Housing and Urban Development (HUD) provides a useful starting point for understanding the conditions that make up a given housing market. In considering housing market needs, HUD accounts for three key factors:[4]

1. **Demographic characteristics,** including population growth, especially among educated individuals and families with high incomes; prevalence of owner- and renter-occupied units; and incidences of rent and mortgage burden;[5]

2. **Economic characteristics,** including nonfarm job growth and access to public transit;[6] and

3. **Housing supply characteristics,** including the makeup of housing stock and the number of single- and multi-family housing units; prevalence of new homes and rental units permitted for construction; and home sale growth.[7,8]

The ability of residents to access affordable housing, whether renting or buying, is in large part determined by their demographic characteristics such as income, race, age and educational attainment. There is a widening gap between what residents are being asked to pay for homes and what they can actually afford.[9] The circumstance known as "cost burdened" (paying more than 30 percent of income on owned or rented housing units) affects workers everywhere.[10] One study found the rate of severely rent-burdened households, in particular non-white households, increased significantly between 2001 and 2015.[11]

Access to affordable housing is also determined by key economic factors such as job growth, proximity to jobs and access to transportation. Millennials, in particular, have reported an unemployment rate twice the national average, and as a result, have been more likely to move back into their parents' homes. This suggests that without good employment opportunities, Millennial residents can't afford stable housing.[12]

Additionally, communities with access to transportation resources and services have been shown to support strong housing markets that lead to improved prosperity and well-being among household members.[13] Access to transit means a reduction in transportation costs for the average resident, which is especially important for those facing economic hardship.[14] One study found that after the recent housing crisis, house sale values were more resilient for properties that had easy access to transit.[15]

Finally, access to affordable housing is determined by the mix of single- and multi-family housing permits issued by a city, as well as the sale of those housing units. Since housing construction costs haven't changed much over time — in fact, there have been virtually no net efficiency savings in construction costs between 1980 and today — developers are not able to pass down lower costs in the form of market prices to residents.[16,17] Each of these factors represents influences on the supply and demand of housing in a given place. When taken together, they interact in complex ways that are important for policy makers to consider when creating city-level housing policies. This analysis groups cities with similar characteristics together and helps us tell a new story of the current housing crisis.

Types of Housing Markets

Overview

To capture how demographic, economic and housing supply factors interact with one another, we conducted a cluster analysis, which allows us to define housing market types by categorizing cities into mutually exclusive groups. We are specifically interested in two questions:

1. Given that not all local housing markets behave the same, how can we characterize cities in a way that effectively captures the most influential factors, and

2. How can we use these more nuanced groupings of city housing markets to identify preferable or advantageous policy tools?

We focused on whether each city's permitting of single- and multi-family housing is meeting the income levels and job growth opportunities of its residents. Alignment of these factors, or lack thereof, determines the most appropriate policy levers (see Table 1). Six types of local housing markets emerged from our cluster analysis.
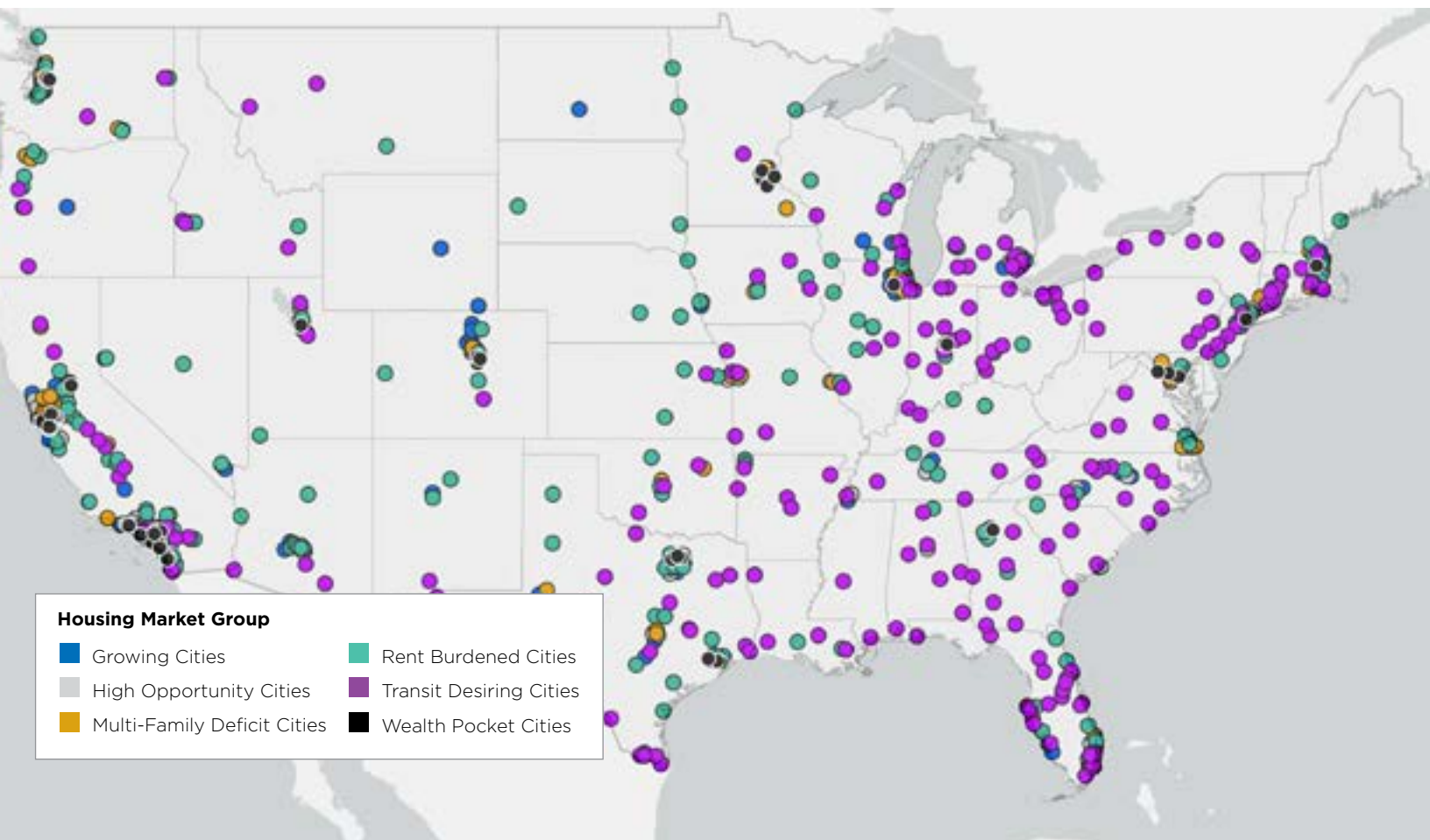
Table 1. Demographic, Economic and Housing Supply Features with Policy Direction, by Cluster[18]

Cluster	Percent Cities in Sample	Demographic and Economic Factors	Housing Supply	Policy Recommendations
High Opportunity Cities	13%	High median income and job growth	Low numbers of single-family home permits and medium numbers of multi-family permits	• Increase densities per acre through single-family attached units • Streamline permitting and development fees • Maintain public housing • Offer tax increment financing for affordable rental housing
Growing Cities	12%	Medium median income and job growth	High numbers of single- and multi-family permits	• Launch or increase funding to a housing trust fund • Utilize linkage/impact fees • Increase multi-family building permits for young and low-income residents • Build micro units and tiny homes • Give tax abatements and exemptions for affordable housing
Rent-Burdened Cities	27%	Low median income and job growth	Highest numbers of single- and multi-family permits	• Implement or increase rental assistance • Utilize landlord incentive funds • Prioritize multi-family permitting • Invest in shared equity models & community land trusts • Support minimum wage increases • Reduce barriers to homeownership (e.g., shared appreciation mortgages and down-payment/closing cost assistance programs) • Offer tax exempt municipal bonds
Multi-Family Deficit Cities	12%	Medium median income and job growth	Medium numbers of single- and low numbers of multi-family permits	• Approve more multi-family building permits tied to transit nodes • Streamline permitting and development fees • Provide density bonuses for multi-family housing • Increase below market financing/use of loan guarantees • Launch a Payments in Lieu of Taxes (PILOT) program to encourage developers to build multi-family housing options
Wealth Pocket Cities	7%	Highest median income and job growth	High numbers of single-family permits and low numbers of multi-family permits	• Provide rental assistance for female householders • Promote rehabilitation and preservation of existing affordable housing • Increase multi-family building permits • Strengthen "Just Cause" eviction policies • Advance legal assistance for at-risk renters and eviction cases • Offer tax exempt municipal bonds
Transit-Desiring Cities	29%	Lowest median income and job growth	Lowest number of single-family home permits and medium numbers of multi-family permits	• Connect development to improved transit options and lock-in permanent affordability • Encourage joint development with transit agencies and other interagency partnerships • Foster entrepreneurship and cooperative business ownership models • Reduce impact fees and exactions

Figure 1. Geographic Distribution of Cities Across Six Identified Housing Markets

Housing Market Group

- Growing Cities
- High Opportunity Cities
- Multi-Family Deficit Cities
- Rent Burdened Cities
- Transit Desiring Cities
- Wealth Pocket Cities

FOR A MORE INTERACTIVE EXPERIENCE

CLICK HERE

High Opportunity Cities

We classified 97 cities (13 percent) as having an insufficient number of building permits for their job, population, and income growth. These cities exhibit:

- High median income
- High owner occupancy
- High gender income gap
- Lowest non-white population
- Medium population growth
- High job growth
- Medium public transit access
- Low number of single-family building permits

Seattle, Washington represents this group well. While the city's real estate market has slowed over the past year, market conditions have become more favorable to buyers of premium homes. Developers are increasingly building more luxury or "premium" housing catered to America's upper and upper-middle class.[19] In fact, premium homes account for more than half of the real estate market, a 14 percent increase between 2012 and 2016.[20]

Population and job growth, as well as college degree attainment and median income, for Seattle and other cities in this cluster, exceed the national average. In alignment with the fact that 46 percent of housing units are owner occupied, over half the current approved building permits are for single-family homes. However, home sale growth was a modest two percent between 2016 and 2017 and a negative 13 percent between 2017 and 2018. This suggests that Seattle's residents are not interested in purchasing the single-family homes being approved by the city, but may be interested in a wider range of multi-family housing instead. While this cluster exhibits lower rent burden compared to all other clusters, nearly 50 percent of the population is still rent-burdened. To address this, Seattle is poised to increase housing densities by mandating that all new multi-family housing developments reserve a certain percentage of planned units as rent-restricted housing for low-income families or contribute to the city's housing fund to build affordable housing.

Gaithersburg, Maryland is a small city with population and job growth closer to the national average. Gaithersburg boasts a higher-than-average median income and its residents have good access to jobs. In this city, developers are building a similar mix of single- and multi-family housing units, in alignment with the city's nearly 50-50 split by occupancy. But home sales have grown above the national average, at over 14 percent between 2016 and 2017, further signaling the demand for single-family homes.

These cities should examine the existing neighborhood-by-neighborhood footprints of single-family housing as well as their residents' income levels to assess whether they are permitting the right mix of dwellings for their predominately high-income residents. For example, half of the housing units in both Seattle and Gaithersburg are owner occupied, yet about one-third of the residents are mortgage burdened. While both cities are approving more permits for single-family units than multi-, they will need to assess whether this mix of properties is sufficient to meet demand.

Growing Cities

We classified 92 cities (12 percent) as having an insufficient number of multi-family building permits for their predominately medium-income residents. These cities exhibit:

- Median income
- Medium owner occupancy
- Medium gender income gap
- Low non-white population
- Medium population growth
- Medium job growth
- Low public transit access
- Medium number of single-family building permits

Virginia Beach, Virginia experienced population growth lower than the national average. In Virginia Beach, approximately 41 percent of the population is Millennial, 38 percent Generation X and 21 percent Baby Boomer. Over 45 percent of its residents are college educated, with a median income above the national average. In this city, jobs are also not growing at a particularly rapid rate, yet what sets it apart from others is its higher-than-average proximity to jobs (other cities in this cluster that are experiencing slow job growth but high proximity to jobs are Burbank, California; Bloomington, Minnesota and Palatine, Illinois). High proximity to jobs means more opportunity for economic growth, which bodes well for the in-migration of young singles, as well as growing families.

The city has been prioritizing single-family housing — Virginia Beach is approximately 64 percent owner occupied, similar to the national average — and has approved nearly 20 single-family building permits for each multi-family building. While it is true that other cities with similar demographic and economic characteristics prioritize single-family housing over multi-family, Virginia Beach is one of the few cities that is building a substantial proportion of multi-family housing, at 32 buildings versus the national average of 13 buildings.

Marysville, Washington experienced huge population growth, almost doubling its population since 2007, as well as a higher-than-average job growth rate. While only 29 percent of the population is college-educated, an above-average median income and a below-average mortgage burden qualify the city, in some respects, as an economic growth engine. In this city, nearly six single-family building permits were approved for each multi-family one. Since the city is experiencing high population and economic growth, it would do well to follow Virginia Beach's lead and increase its housing mix to accommodate its varied population of Millennials, Generation X and Baby Boomers.

These cities need to focus on the people who are attracted to them. Millennials, for example, may be interested in non-traditional housing options such as micro units. Furthermore, these cities could examine their residents' income levels to assess whether they are building the right mix of dwellings for their predominately middle-income residents and identify how local governments might support wealth-creation strategies. Maximizing density is key to ensuring both residents' ability to pay and ample housing options, such as multi-family or multi-story single-family style structures (i.e., townhouses).
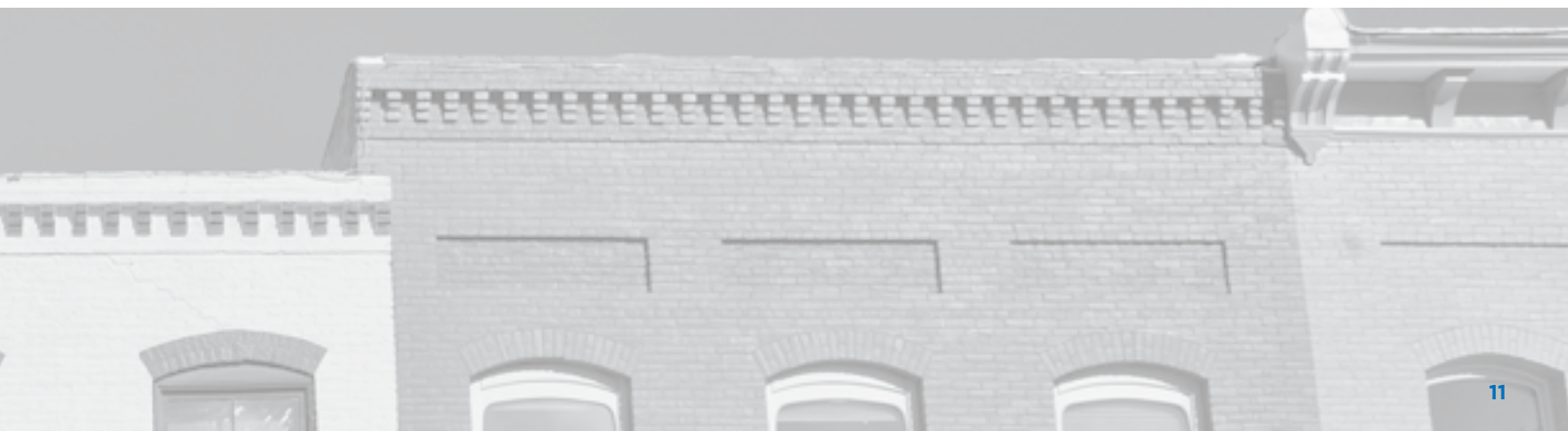
Rent-Burdened Cities

We classified 204 cities (27 percent) as having the highest number of single- and multi-family building permits for their predominately low-income residents. These cities exhibit:

- Low median income
- Low owner occupancy
- Low gender income gap
- Medium non-white population
- Low population growth
- Low job growth
- Highest public transit access
- Highest number of single-family building permits

What sets these cities apart from the rest is their access to public transit and the proximity of residents to job centers. These cities deploy nearly twice as many public transit vehicles as the other cities, giving them the greatest advantage when it comes to accessing good jobs. So, while job growth and educational attainment could be improved, residents are better able to access jobs from various locations, meaning that housing cost burden is slightly less, on average, than in other cities.

Interestingly, these cities are more geographically spread out than cities in other clusters. In terms of population, this group has the highest average population at nearly 263,000. This group includes very large cities with populations over two million, such as New York City, Los Angeles, Chicago and Houston, as well as smaller cities with fewer than 60,000 residents such as Carson, Nevada; Revere, Massachusetts; Manhattan, Kansas and Coconut Creek, Florida.

Residents in Columbia, Missouri have average college degree attainment yet low median incomes. They are also further from jobs than many other cities in the nation. Columbia is also experiencing high levels of rent burden, at nearly 56 percent of residents. While the owner-to-renter breakdown is about 50-50, over 12 times more single-family homes were approved to be built in 2017 than multi-family homes, highlighting the misalignment in the mix of housing offered to the city's predominately low-income residents.

Meanwhile, New York City experienced population and job growth closer to the national average and has a median income around $57,782. Commensurate with those characteristics, home ownership is about half the national average and about 50 percent of residents are mortgage burdened, while 50 percent are rent burdened. Very little new housing has been built since 2014, and while many of the approved building permits are for multi-family housing units, the city simply does not have an adequate mix of single- and multi-family housing units to accommodate its varied population. Interestingly, Hempstead, a suburb "ring" community of New York City, is also experiencing this problem, suggesting a misalignment in the approval of single- and multi-family building permits with the residents inhabiting the broader region.

These cities should examine their levels of rent and mortgage burden to identify whether they are offering an adequate mix of affordable dwellings for their predominately low-income residents. If these cities recognize the high rent burden, as well as the demand for multi-family housing, and concentrate on the development of more multi-family units, their low-income residents may have the opportunity to decrease their rent burden. Programs that deliver rental assistance to residents may prove to be the most valuable investments of both local and federal housing dollars. Follow-on programs may include homeowner education programs and income-restricted first-time homebuyer assistance, as well as shared equity housing models via community land trusts.

Multi-Family Deficit Cities

We classified approximately 88 cities (12 percent) as having a high number of single- and multi-family building permits for their predominately medium-income residents. These cities exhibit:

- Median income
- Medium owner occupancy
- Medium gender income gap
- Low non-white population
- Medium population growth
- High job growth
- High public transit access
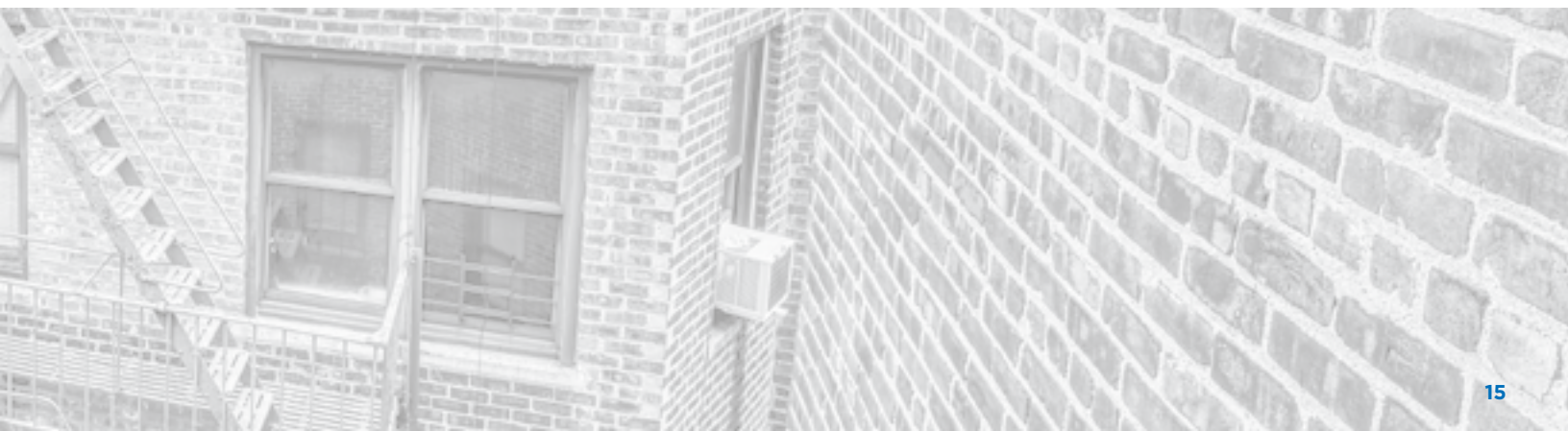- High number of single-family building permits

Nearly 52 percent of Denver, Colorado's population is college educated and the median income is approximately $60,000. About 50 percent of the housing units are owner occupied and the remaining 50 percent are renter occupied. Both single- and multi-family permitting approvals are above the national average. Over 2,000 single-family building permits were approved in 2017, and the city has implemented innovative strategies to increase mixed-use, mixed-income development, increase affordable housing options near public transportation, develop strategies to combat issues of displacement and provide increased incentives for private and non-profit investment in affordable housing.[21]
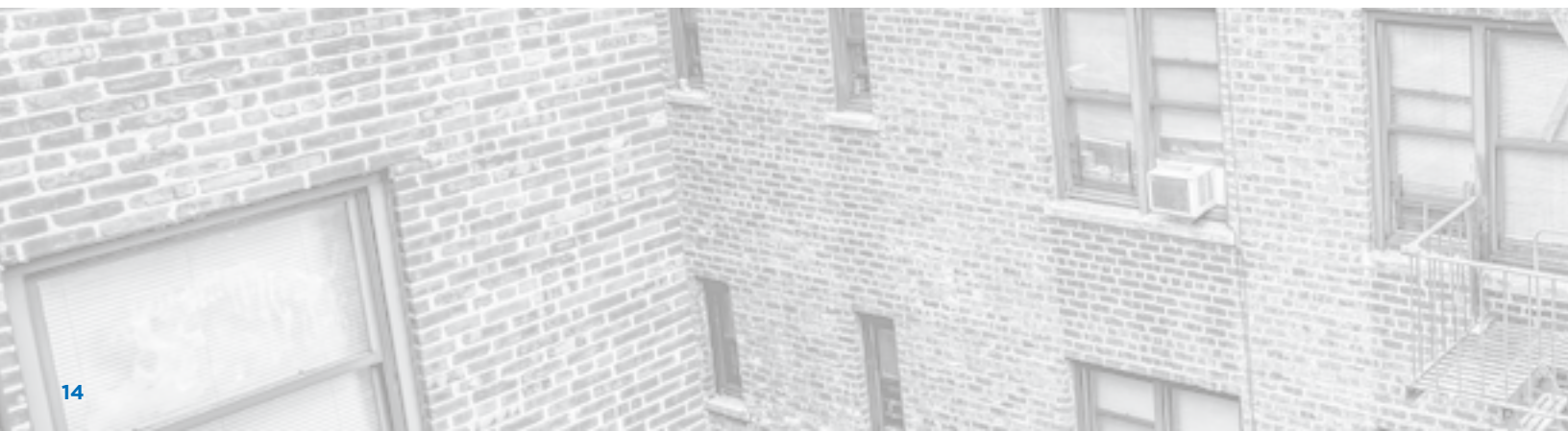
Compared to Denver, Madison, Wisconsin exhibits very similar demographic characteristics but lower population and job growth, albeit still at or above the national average. Still, single- and multi-family building permitting is high, just like for other cities in this cluster. With relatively low levels of mortgage burden but high levels of rent burden, the city could be prioritizing more multi-family housing. Madison approved nearly 10 single-family building permits for every multi-family one.

Investments in transit have made a difference for cities in this cluster. Looking at single-family development, these cities would do well to better understand the housing demands of their residents and ask whether the residents' income levels are sufficient to afford the very high number of single-family homes. If not, these cities should consider whether the number of multi-family housing units being approved is sufficient to meet the rising demand of their middle-income residents. These cities can also focus on increasing the variety of housing types and prices.

Wealth Pocket Cities

We classified 51 cities (7 percent) as prioritizing single-family building permits over multi-family building permits for their predominately high-income residents. These cities exhibit:

- Highest median income
- Highest owner occupancy
- Highest gender income gap
- High non-white population
- Highest population growth
- Highest job growth
- Lowest public transit access
- Medium number of single-family building permits

Nearly three-quarters of Newport Beach, California's population is college educated, with a median income well above the national average, at $119,379. The owner-occupancy rate is slightly above the renter-occupancy rate at 57 percent, and about six single-family homes have been approved to be built for each multi-family building, a rate above the national average. Most surprising is the nearly 27 percent decline in home sales between 2017 and 2018, well above the national average of only two percent.

Another city in this group is Naperville, Illinois. This city experienced positive job growth, albeit lower than the national average. Additionally, the city boasts a very high median income and good job prospects. However, it exhibits a high gender income gap between female and male workers. In terms of permitting, 337 single-family building permits were approved, above the national

average of 315. However, home sales declined by nearly 19 percent. This could be due, in part, to the high cost of housing in Naperville. While the cost of construction for a modest single-family home is about $270,000, the median sales price is over $400,000.

Similarly, in cities such as Fremont, California; Bellevue, Washington; Parker, Colorado; Rockville, Maryland and Flower Mound, Texas; single-family home sale prices are much higher than the cost of construction. While modest single-family homes in all five cities cost less than $240,000 to construct, the median home sale prices in those cities are more than double the cost of construction. This misalignment between home sale prices and the cost of construction makes it more difficult for residents to afford housing and creates an environment where developers are keen to build high-end housing where they can increase their profit margins, further disadvantaging low- and middle-income residents.

These cities could benefit from preserving existing affordable housing, increasing attention to income disparities in accessing affordable housing, and looking at gender and race as factors when thinking about how to increase upward mobility and financial security. In these cities, wages could be distributed better between female and male employees, with a particular focus on supporting women-headed households in rental housing. Additionally, there will be a need to think about affordable housing for aging populations, given the more evenly split generational mixes in these cities.

Transit-Desiring Cities

We classified 222 (29 percent) as those that prioritize multi-family building permits over single-family building permits for their predominately low-income residents. These cities exhibit:

- Lowest median income

- Lowest owner occupancy

- Lowest gender-income gap

- Highest non-white population

- Lowest population growth

- Lowest job growth

- Medium public transit access

- Lowest number of single-family home permits

Large cities such as Cincinnati and Cleveland, Ohio (both with populations above 300,000), find their way into this group. While median incomes in both cities are well below the national average, Cincinnati's residents are about twice as likely to have a college degree as Cleveland's residents. Cincinnati also experienced a positive job growth, while Cleveland did not. Cleveland deploys about 100 more public transit vehicles to its residents than Cincinnati, and thereby provides its residents with opportunities to help bridge its economic gap. Additionally, 60 percent of Cleveland residents and 50 percent of Cincinnati residents are non-white, highlighting the high diversity in this group of cities and underscoring the need for the consideration of race in the development of housing policy.

Both of these cities are approving multi-family permits at a rate similar to the national average but are approving single-family permits at a much lower rate (an average of 163 compared to 315). Yet, about 50 percent of their residents are experiencing rent burden, and over 30 percent are experiencing mortgage burden.

Given that median incomes are lower in these cities, public transit is extremely important for ensuring that residents can access jobs. By examining the extent to which residents are using public transportation to get to work and public transit vehicles are deployed, cities can enhance opportunities for economic mobility for their residents. This kind of comparison can help build consensus for investments in transit-supportive land-use planning, demonstrate the need for income-assisted housing or transit investments in particular areas, or simply raise awareness of a region's housing and transportation challenges.

Conclusion

Housing is a significant contributor to the well-being of residents and thus must remain a key issue for policy makers. Our nation's residents need quality, affordable housing where living conditions are not tenuous or constantly in flux. But the gap between what residents must pay for a home and what they can actually afford is widening. Overall, vibrant communities with greater opportunities for economic prosperity are grounded in strong housing stocks that serve the myriad needs of singles, families and seniors across generations and income levels, and are accessible to employment, healthcare and recreational opportunities.

Understanding the factors that comprise housing markets, and the extent to which a city's permitting of single- and multi-family housing is meeting the income levels and job growth opportunities of its residents, allows local leaders to apply the best strategies for their communities. In each of the housing market types identified in this analysis, trade-offs are playing out against each other based on which housing values are highest priorities – mix of housing type, mix of owners and renters, volume of new construction and investment in transit. There is still significant room for improvement in all cities to deploy the right mix of housing and economic development strategies and tools that will influence the affordability of the housing market. Cities must continue to ensure that all residents have equitable access to housing, jobs and amenities.

This report provides a starting point for understanding the unique characteristics of city housing markets and can be a key tool in informing the work that local policy makers do every day.

TO EXPLORE THE COMPLETE LIST OF CITIES AND DATA POINTS INCLUDED IN THIS REPORT, CLICK HERE.

End Notes

1 U.S. Census Bureau; American Community Survey, 2013-2017 American Community Survey 5-Year Estimates, Table CP04; generated by Author; using American FactFinder; http://factfinder.census.gov; (7 January 2017).

2 Pew Charitable Trusts. "American Families Face a Growing Rent Burden." April 2018. https://www.pewtrusts.org/en/research-and-analysis/reports/2018/04/american-families-face-a-growing-rent-burden

3 Office of Policy Development and Research. "U.S. Housing Market Conditions." U.S. Department of Housing and Urban Development. https://www.huduser.gov/portal/ushmc/chma_archive.html

4 Note we also considered the following: prevalence of higher education institutions; presence of military personnel; area median income; mortgage delinquency. Due to high variability across cities, we did not include some of these measures. As for the others, we did not include because they are correlated with factors that we have already included such as rent/mortgage burden.

5 The United States Census Bureau; American Housing Survey, 2013-2017 American Community Survey 5-Year Estimates; https://www.census.gov/programs-surveys/ahs.html

6 Access to transit data

7 United States Census Bureau; Building Permits Survey 2016; https://www.census.gov/construction/bps/

8 Zillow. Home Listings and Sales Data. https://www.zillow.com/research/data/

9 Pew Charitable Trusts. "American Families Face a Growing Rent Burden." April 2018. https://www.pewtrusts.org/en/research-and-analysis/reports/2018/04/american-families-face-a-growing-rent-burden

10 Herbert, Christopher, Alexander Hermann, and Daniel McCue. "Measuring Housing Affordability: Assessing the 30 Percent of Income Standard." Joint Center for Housing Studies. September 2018. Accessed February 19, 2019. http://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Herbert_Hermann_McCue_measuring_housing_affordability.pdf

11 Currier, E. et al. (2018). American Families Face a Growing Rent Burden. Pew Charitable Trusts. https://www.pewtrusts.org/-/media/assets/2018/04/rent-burden_report_v2.pdf

12 Thompson, Derek. "The Most Overlooked Statistic in Economics is Poised for an Epic Comeback: Household Formation." The Atlantic. December 2012. https://www.theatlantic.com/business/archive/2012/12/the-most-overlooked-statistic-in-economics-is-poised-for-an-epic-comeback-household-formation/266573/

13 Lee, Andrew Chee Keng, Jodan, Hannah C., And Jason Horsley. Value of Urban Green Spaces in Promoting Health Living and Wellbeing. Risk Management and Healthcare Policy. 2015;8: 131-137.

14 Joint Center for Housing Studies of Harvard University. "The State of the Nation's Housing 2018." https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_State_of_the_Nations_Housing_2018.pdf

15 Welch, T. F., Gehrke, S. R., & Farber, S. (2018). Rail station access and housing market resilience: Case studies of Atlanta, Baltimore and Portland. Urban Studies, 55(16), 3615-3630.

16 RSMeans Construction Cost Indexes. "Historical Cost Indexes." Accessed March 2019. https://www.rsmeansonline.com/references/unit/refpdf/hci.pdf

17 McKinsey Global Institute. "Reinventing Construction Through a Productivity Revolution." February 2017. https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/reinventing-construction-through-a-productivity-revolution

18 To understand what housing-specific policies are available in each state see the National League of Cities' report, Local Tools to Address Housing Affordability: A State-by-State Analysis

19 Picchi, Aimee. "The 11 Toughest States for First-time Home Buyers." CBS News. February 2017. https://www.cbsnews.com/media/the-11-toughest-states-for-first-time-homebuyers/

20 Picchi, Aimee. "Good Luck Finding a Less-than Luxury Home." CBS News. February 2017. https://www.cbsnews.com/news/good-luck-finding-a-less-than-luxury-home/

21 Denver Economic Development and Opportunity. "About Affordable Housing." 2019. https://www.denvergov.org/content/denvergov/en/denver-office-of-economic-development/housing-neighborhoods/about-affordable-housing.html