

Supplement to
Building Northern Virginia's Future:
Policies to Create a More Affordable,
Equitable Housing Supply



Research Justifications

JANUARY 2019



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CONTENTS

Introduction.....	1
The Importance of Housing Affordability.....	1
How affordable is market-rate housing in the Northern Virginia region?	2
What factors drive high housing cost burdens?	7
<i>Economic and demographic drivers</i>	7
<i>Housing supply growth</i>	9
<i>Factors that influence housing production and supply</i>	15
<i>Affordability and equity-related implications of historical production trends</i>	21
Appendix: Racial disparities in urban planning and resulting inequity	22

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Introduction

This supplementary paper is a companion to the Northern Virginia Affordable Housing Alliance (NVAHA) January 2019 policy brief: *Building Northern Virginia's Future: Policies to Create a More Affordable, Equitable Housing Supply*. This document provides the research and analysis that informed the findings and recommendations in that publication. The breadth of the issues addressed in this research precluded a fully comprehensive review of all materials available on each topic and sub-topic. However, the *Research Justifications* represent a good faith effort to provide a complete and balanced review of available evidence.

Methodology and cited resources are included in the text or in accompanying sidebars and/or footnotes. In conducting this research, Neighborhood Fundamentals also consulted with national and regional experts on development, housing markets and affordable housing. All interviews and conversations were conducted on background to facilitate open and candid discussion. The sources of insights and assertions made throughout this paper that are unaccompanied by a full citation are these practitioner interviews and/or the author's professional experience.

The Importance of Housing Affordability

This research addresses the need to improve housing affordability across the full income spectrum. Being able to secure a home that is safe, decent and affordable has obvious benefits for families. However, providing adequate housing options has benefits that extend beyond an individual household.

- Several studies at various levels of government/ geography demonstrate that new housing production generates net positive fiscal impact for governments.¹
- Housing shortages may hurt businesses' ability to recruit and retain employees;²
- Local businesses benefit, as new residents have been found to spend on average 60% of their income on goods and services purchased from local businesses.³
- Providing sufficient housing choices in established communities can limit sprawl; more compact development is associated with increased tax revenue, reduced infrastructure expenditures and lower service-delivery costs.⁴

More information on the benefits of providing adequate and affordable housing can be found at the How Housing Matters website, maintained by the Urban Institute. This site catalogues research and other information on the impact of housing on the economy, education, health, people and neighborhoods.

-
- 1 "The Economic Impact of Home Building in a Typical Local Area: Comparing Costs to Revenue for Local Governments," National Association of Home Builders
Bellas, Ph.D., Dean B. "Understanding the Fiscal Impacts Transit-Oriented Development in Northern Virginia and Maryland." Alexandria, VA: Urban Land Institute Baltimore-DC TOD Product Council, November 5, 2015. <http://washington.uli.org/uncategorized/understanding-fiscal-impacts-transit-oriented-development-nova-md-report-available/>
Goodman, Ph.D., Michael D., Elisa Korejwa, MPP, MS, and Jason Wright. "The Costs and Hidden Benefits of New Housing Development in Massachusetts." PPC Working Paper Series. Dartmouth, MA: University of Massachusetts - Dartmouth Public Policy Center, February 2016. http://s3.amazonaws.com/media.wbur.org/wordpress/1/files/2016/03/MHP_HOUSING-REPORT-FULL-2.pdf.
 - 2 "Even as American Dream Changes, Housing Is Central to the Economy." How Housing Matters, January 25, 2015. <https://howhousingmatters.org/articles/even-as-american-dream-changes-housing-central-to-economy/>.
 - 3 "The Economic Impact of Home Building in a Typical Local Area: Income, Jobs, and Taxes Generated," National Association of Home Builders
 - 4 Smart Growth America. "Building Better Budgets: A National Examination of the Fiscal Benefits of Smart Growth Development." Washington, DC: Smart Growth America, May 21, 2013. <http://www.smartgrowthamerica.org/2013/05/21/building-better-budgets-quantifies-average-savings-and-revenue-of-smart-growth-development/>
Litman, Todd. "Understanding Smart Growth Savings: What We Know About Public Infrastructure and Service Cost Savings, and How They Are Misrepresented by Critics." Victoria Transport Policy Institute, September 10, 2012. http://www.vtpi.org/sg_save.pdf
Smart Growth America, and New Jersey Future. "The Fiscal Implications of Development Patterns: Roads in New Jersey." Washington, DC: Smart Growth America, November 2015. <http://www.smartgrowthamerica.org/2015/11/10/new-research-looks-at-how-much-new-jersey-could-save-through-smarter-road-investments/>
Bellas, Ph.D.

How affordable is market-rate housing in the Northern Virginia region?

As the following section will demonstrate, housing affordability is limited in the Washington, DC metropolitan region.⁵ The region has experienced consistent population and economic growth. This growth has increased competition for housing and contributed to cost challenges faced by the region's low- and moderate-income households. Housing costs in the City of Alexandria, Arlington County and Fairfax County (hereafter, inner-Northern Virginia) are a function of the interplay between regional market/economic dynamics and local neighborhood characteristics. Though local policy plays a role in the relative affordability of housing within its jurisdiction (to be discussed in the following sections), there are also factors beyond a given jurisdiction's control, such as general economic conditions and the housing policies of neighboring jurisdictions.

A well-functioning housing market provides a range of decent housing choices for current/prospective homeowners as well as renters. It should be noted that homeownership is not an inherently preferable choice to renting due to the variations in household financial situations, life circumstances, and personal preferences. However, as will be described in the following paragraphs, a lack of tenure choice can have second-order effects on lower income households.

Though the most severe housing affordability issues are found in the rental segment (as will be discussed later) in the Washington, DC metropolitan area, the majority of households are homeowners.⁶ However, there is significant variation within inner-Northern Virginia, with Alexandria and Arlington homeownership rates substantially lower than in Fairfax and other geographies (see Figure 1).

FIGURE 1. Regional homeownership rates are comparable to other jurisdictions, but highly variable within inner-Northern Virginia⁷

United States	63.6%
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area (MSA)	63.0%
Richmond MSA	65.2%
Virginia	65.8%
Inner-Northern Virginia	
<i>Alexandria</i>	42.2%
<i>Arlington</i>	44.2%
<i>Fairfax</i>	67.5%

Homeownership rates are influenced by a range of factors, notably including purchase cost (overall and relative to income), but also including interest rates and population/demographic characteristics. Homeownership is becoming costlier over time, both in absolute terms and relative to income. Real (inflation-adjusted) home prices in the Washington, DC region have increased faster than the nation as a whole and other comparison jurisdictions (see Figure 2 on page 3).

Housing costs must be considered relative to income. Consistent with a broader, long-term national trend, the Washington, DC region has experienced a significant increase in homeownership costs relative to income in recent decades, from 3.0 in 1988 to 4.1 in 2017.⁸

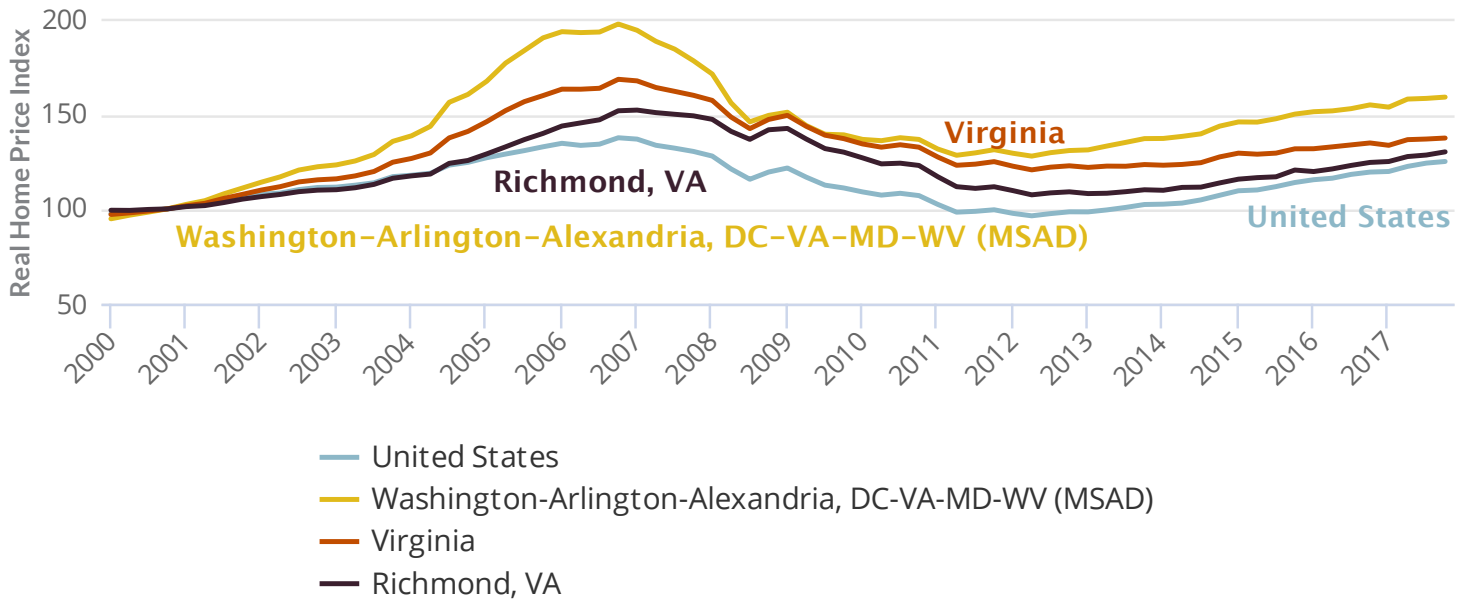
5 References to the Washington, DC region and accompanying data refer to the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area, as defined by the US Census Bureau.

6 2012-2016 American Community Survey 5-Year Estimates

7 2012-2016 American Community Survey 5-Year Estimates

8 Alexander Hermann, "Price-to-Income Ratios Are Nearing Historic Heights," Joint Center for Housing Studies of Harvard University (blog), September 13, 2018, <http://www.jchs.harvard.edu/blog/price-to-income-ratios-are-nearing-historic-highs/>.

FIGURE 2. Home prices are increasing across the region⁹



Notes: Prices are adjusted for inflation using the CPI-U for all items less shelter. US non-metro home prices are a weighted average of all state non-metro prices, with each state's value weighted by the share of detached single-family housing units in non-metro areas.
Source: JCHS tabulations of the FHFA All-T-Transactions House Price Index.

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According to Fannie Mae’s Mortgage Affordability Calculator, a median-income household in the Washington, DC region can afford a home costing approximately \$355,000.¹¹ According to the recent data from the Northern Virginia Association of Realtors (NVAR), the median sales price in Northern Virginia overall and the jurisdictions that constitute inner-Northern Virginia significantly exceed that amount (see Figure 3). A separate analysis found that Arlington has the highest median sales prices in the inner-Washington, DC region.¹²

FIGURE 3. Lower-priced homeownership opportunities limited in Washington, DC region¹⁰

Household Category	% of Homes Affordable to Potential Purchaser	
	Washington, DC Region	Richmond, VA Region
Lower-income households (25 th percentile)	13%	10%
Median-income households	46%	57%
Higher-income households (75 th percentile)	81%	89%

9 “Since 2000, Real Home Price Growth Has Varied Across the Country,” Joint Center for Housing Studies of Harvard University, accessed December 3, 2018, <http://www.jchs.harvard.edu/real-home-price-growth-has-varied-across-country>.

10 “Affordable” is defined as follows: “Only homes where the owner moved in within the previous 12 months are included (a proxy for recently-sold homes). Monthly payments assume a 3.5% down payment with property taxes of 1.15%, property insurance of 0.35%, and mortgage insurance of 0.85%. “Affordable” payments require less than 31 percent of monthly household income.” “Share of Homes Affordable to Potential Buyers Varies Widely.” Joint Center for Housing Studies of Harvard University (blog). <http://www.jchs.harvard.edu/share-homes-affordable-potential-buyers-varies-widely>.

11 Calculation based on HUD 2018 regional median household income of \$117,200 (<https://www.huduser.gov/portal/datasets/il/il2018/2018summary.odn>). A unit is considered affordable if principle, interest, taxes and insurance are 30% or less of a household’s monthly income. Fannie Mae’s affordability calculations (<https://www.knowyouroptions.com/find-resources/information-and-tools>) assume monthly payments of \$500 for a car loan, \$100 for revolving credit card debt, and \$150 in student loan debt; a 5% downpayment; an interest rate of 4.25%; and HOA/condominium fees of \$96.46/month, among other factors.

12 Urban Institute analysis of data from CoreLogic Market Trends Hendeey, Leah, Peter A. Tatian, Margery Austin Turner, Bhargavi Ganesh, Sarah Stochak, and Yipeng Su. “What HQ2 Could Mean for the Washington Region’s Housing Market, in 7 Charts.” Washington, DC: Urban Institute, October 23, 2018. <https://urban.is/hq2>.

FIGURE 4. Median Northern Virginia sales prices substantially higher than affordable levels for median income households (October 2018)¹³

Jurisdiction	Median	Year-on-Year Increase	Average	Year-on-Year Increase
NVAR region ¹⁴	\$490,000	3.16%	\$569,748	0.96%
City of Alexandria	\$540,000	18.29%	\$557,333	3.80%
Arlington County	\$542,500	-9.58%	\$659,278	2.70%
Fairfax County	\$475,000	3.26%	\$552,034	-0.32%

Figure 4 (above) shows the affordability of recent sales. For this study, a review of property values for inner-Northern Virginia’s overall ownership inventory was also conducted.

Specific to inner-Northern Virginia, Figure 5 (below) demonstrates the percentage of the total ownership housing inventory that is affordable to a median income household, based on an analysis of assessed values of most types of owner-occupied residential property. Publicly-assessed values are an imperfect proxy for potential sales prices, as they may not reflect the most recent market fluctuations,

certain improvements to the property, or deterioration that exceeds standard expectations. However, these values can provide a rough estimate of the lower-cost housing stock that could be available to low- and moderate-income homebuyers. This analysis found that a substantial majority of ownership units are unaffordable to a median-income household. This analysis potentially overstates the affordability of the housing inventory. Generally speaking, condominiums were more likely to be affordable in all three jurisdictions, but this analysis was unable to incorporate condominium fees into the affordability calculation (beyond the general assumptions included in the Fannie Mae affordability calculator).

To put homeownership affordability into further context, Washington, DC regional costs were analyzed in the context of various professions using the National Housing Conference’s Paycheck-to-Paycheck database (and associated affordability definitions and methodology).¹⁶ The listed professions were selected because of the relatively fixed nature of the occupation’s location. These occupations – such as teachers and health care professionals – are needed in proximity to all population centers.

**Methodological Note 1:
Property Value Analysis**

This analysis used publicly available data from the respective jurisdiction’s tax assessors as a proxy for home costs. Non-residential property types, types that could be reasonably assumed to be rental housing, clearly-defined income-restricted affordable housing, and ambiguous/unclear entries were excluded from this analysis.

FIGURE 5. Most of inner-Northern Virginia’s ownership stock unaffordable to a median-income household¹⁵

Jurisdiction	Average Assessed Value	Median Assessed Value	Percent affordable to median income household
City of Alexandria	\$546,307	\$502,684	35.6%
Arlington County	\$653,760	\$621,100	20.5%
Fairfax County	\$551,099	\$499,410	22.3%

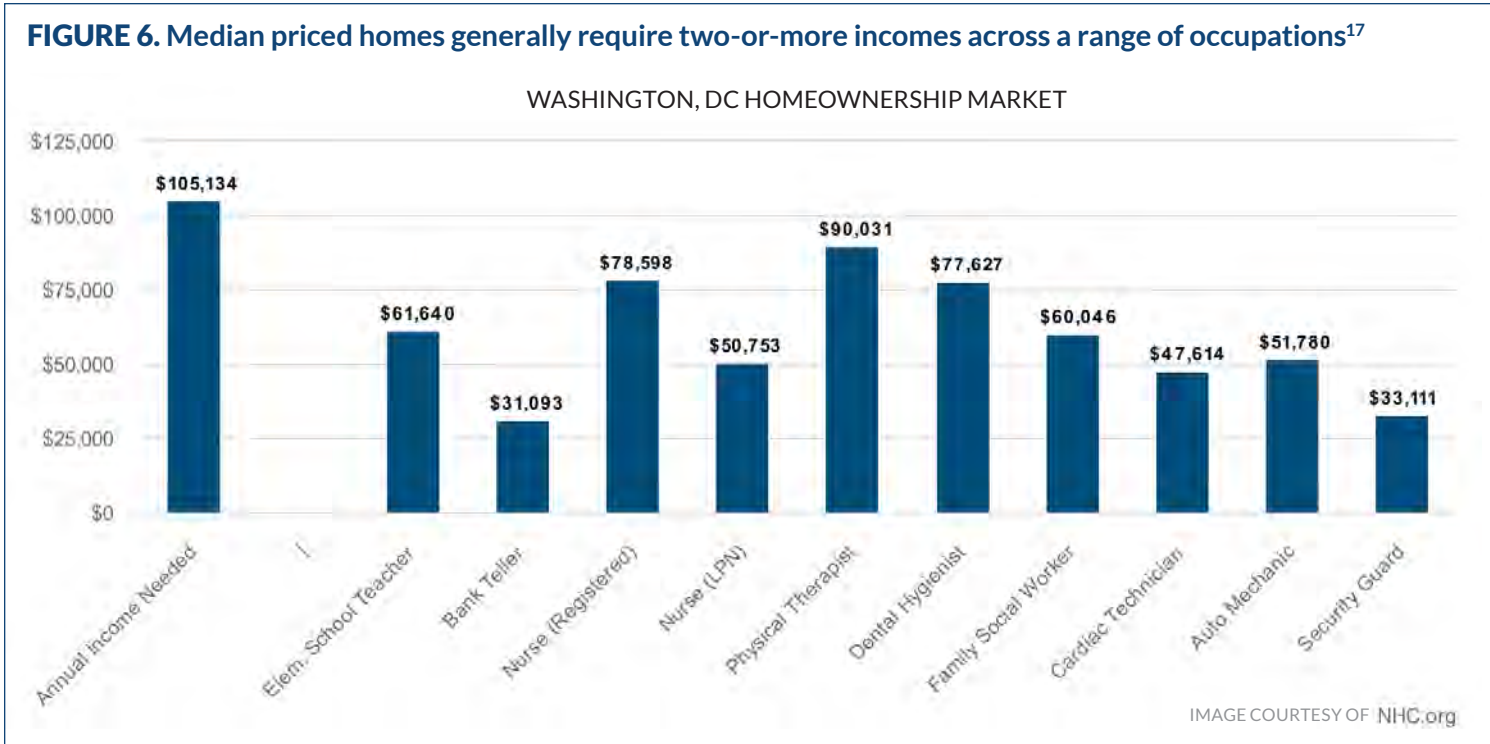
13 “Market Statistics: October, 2018,” Northern Virginia Association of Realtors, accessed December 3, 2018. <https://nvar.com/public/news/market-statistics/market-statistics-october-2018>.

14 Arlington County, Fairfax County, City of Fairfax, City of Falls Church, Town of Vienna, and City of Alexandria

15 Neighborhood Fundamentals, LLC analysis of publicly available property assessment data derived from respective jurisdictions’ Open Data websites.

16 For more information on the methodology used in Paycheck-to-Paycheck, visit: <https://www.nhc.org/paycheck-to-paycheck/>

FIGURE 6. Median priced homes generally require two-or-more incomes across a range of occupations¹⁷



No occupation selected can afford the median priced home in the Washington, DC region (see Figure 6). A lack of attainable homeownership opportunities can have a particularly negative impact on lower-wage workers and/or those for whom telecommuting/remote work is unavailable or limited. People working in these occupations would face hardships based on the “drive-until-you-qualify” phenomenon, where people must move further out to afford housing. Households in this position have several choices: accept a longer commute, undertake a higher-cost burden to own a home near their workplace, or remain in the rental market.

To illustrate whether moderate and higher-income renters have the choice to enter the homeownership market, Figure 7 (at right) provides the percentage of homes in the Washington, DC region that are affordable to the current renter population based on an analysis from the Harvard Joint Center for Housing Studies. Only slightly more than half of the region’s homes are affordable to a renter household in the 75th percentile of incomes among that cohort.¹⁸

Therefore, a lack of affordable homeownership opportunities has spillover impacts on rental markets. As with

homeownership, rental costs are driven by supply and demand. Demand for rental housing includes numerous household types with differing needs and preferences. A significant portion of rental demand is from the segment of the population that may be unable to afford homeownership even in the most affordable markets. In addition, a portion of the population will prefer to rent based on personal preferences/life circumstances. Demand – and an upward pressure on costs – further arises in tight homeownership markets where an increasing proportion of higher income households enter/remain in the rental market.

FIGURE 7. Homeownership opportunities limited for all but the highest-income renter households¹⁹

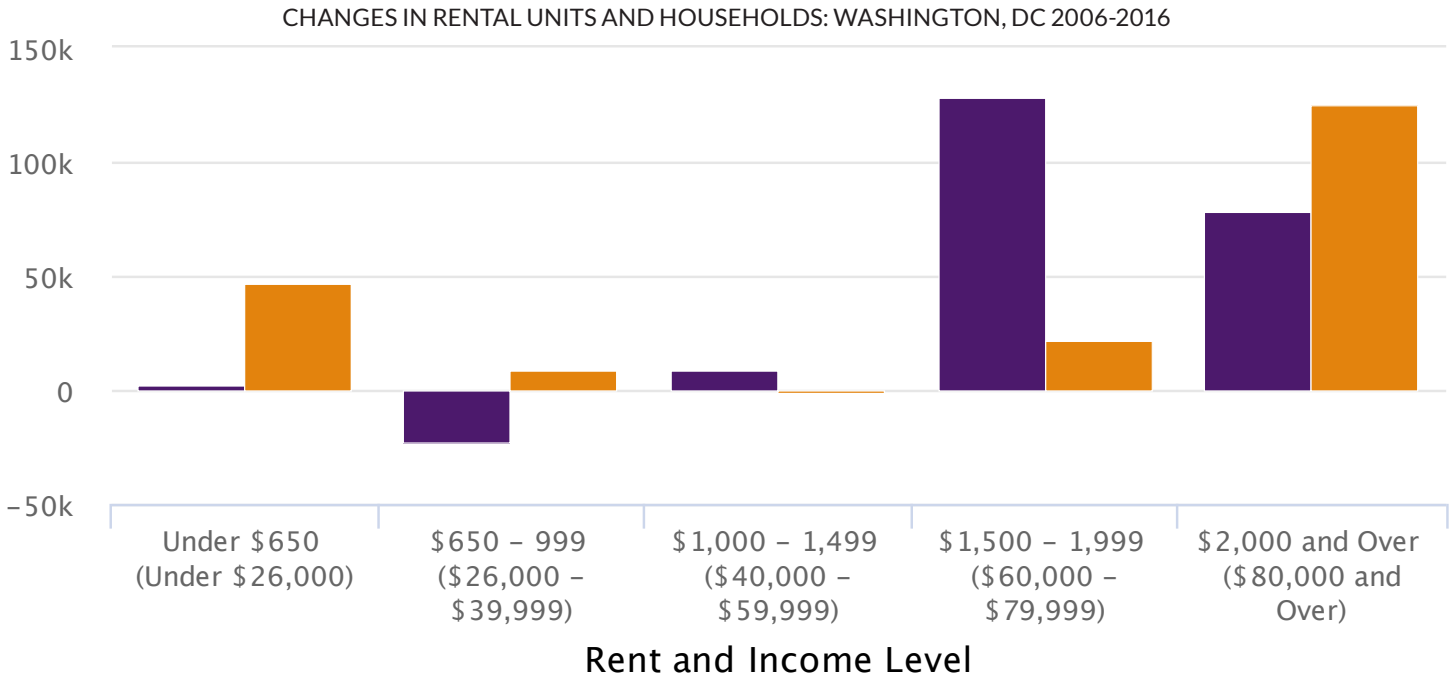
Household Category	% of Homes Affordable	
	Washington, DC Region	Richmond, VA Region
Lower-income households (25 th percentile)	3%	1%
Median-income households	18%	19%
Higher-income households (75 th percentile)	52%	57%

17 “Paycheck to Paycheck,” National Housing Conference, accessed December 3, 2018. <https://www.nhc.org/paycheck-to-paycheck/>.

18 “Share of Homes Affordable to Potential Buyers Varies Widely.”

19 “Share of Homes Affordable to Potential Buyers Varies Widely.”

FIGURE 8. Regional rental market has dramatically shifted toward higher cost units²⁰



Notes: Households are grouped such that rents in each category would be 30 percent of monthly income. Source: JCHS tabulations of US Census Bureau, 2006 and 2016 American Community Survey 1-year Estimates.

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As more higher income households have entered the rental market, the region’s supply of rentals affordable to low- and moderate-income renters has declined (see Figure 8).

These shifts are the result of new production targeting higher income renters and rent increases in existing units. A June 2018 NVAHA report on *Northern Virginia’s Preservation Challenge: Trends, Threats, and Opportunities* illustrated the shifts in the rental market, the impact of these shifts on lower-income households, and the need for preserving existing rental units serving low- and moderate-income households. Unfortunately, this stock

is dramatically declining in inner-Northern Virginia. To illustrate:

- Specific to the inner-Northern Virginia region, from 2000-2018 the cost to rent a two-bedroom apartment in Alexandria increased by 104 percent.²¹ Had Alexandria’s rental housing costs simply increased by the rate of inflation, rental costs for such units would be nearly 43 percent lower than current rates.²² The City of Alexandria saw an 88 percent reduction from 2000-2018 in market affordable at 60 percent of AMI (from 18,218 to 2,236 units).²³

20 McCue, Daniel. “Changes in Supply and Demand at Various Segments of the Rental Market: How Do They Match Up?,” Joint Center for Housing Studies of Harvard University (blog), October 26, 2018, <http://www.jchs.harvard.edu/blog/changes-in-supply-and-demand-at-various-segments-of-the-rental-market-how-do-they-match-up/>.

21 Seau, Melodie, and Tamara Jovovic. “2018 Apartment Survey Findings: Briefing to the Alexandria Housing Affordability Advisory Committee.” May 2018. https://www.alexandriava.gov/uploadedFiles/housing/info/2017MarketAffordableReport_UpdatedJune2017.pdf.

22 Author tabulation of Bureau of Labor Statistics Consumer Price Index – All Urban Consumers data. https://data.bls.gov/timeseries/CUUR0000SA0L1E?output_view=pct_12mths

23 Seau and Jovovic, 2018.

- Since 2000, Arlington County has lost over 14,500 rental units affordable to households earning 60 percent of area median income (AMI) or less, mostly as a result of increases in rent.²⁴ There are only 2,445 such units left in the County, with approximately 11,000 additional units affordable between 60 and 80 percent AMI.²⁵
- A separate analysis found that the inflation adjusted increase in rents from 2011 -2017 was 4.0% in Arlington and 3.9% in Fairfax County.²⁶ During this period, Loudoun County had the largest rent increase in the Washington, DC region, at 11.3%.

The end result is high cost burdens for the region's households. A 2018 Urban Institute analysis of Census data (2012-2016 American Community Survey) for the inner-portion of the Washington, DC region found that nearly half of renters are cost-burdened, and 22.6% are severely-cost burdened (spending more than 50% of income on housing).²⁷ Cost-burdens are lower for homeowners but still significant – 25.6% are cost burdened and 9.6% are severely cost burdened. For households with incomes below 80% AMI, 80% of renters and 73% of owners are cost burdened.

What factors drive high housing cost burdens?

The affordability of a housing market is driven by the interplay between population and demographic changes, incomes, and housing supply characteristics. The design and scale of policy/funding interventions to support affordable housing also influence the incidence and severity of cost burdens among lower-income households. As the following sections will illustrate, cost-burdens in inner-Northern Virginia are influenced in part by strong economic performance, insufficient supply growth, and affordable housing interventions that have not been scaled up to fully meet the challenge.

Economic and demographic drivers

The economy of inner-Northern Virginia and the broader region have been consistently strong. The Washington, DC region did not experience a drop in gross domestic product (GDP) during the global recession of 2008-2009, and has only had one year of negative growth since 2007.²⁸ As of September 2018, the three inner-Northern Virginia jurisdictions had unemployment rates lower than the Washington, DC region (3.3%) and the national rate (3.6%).²⁹ The Washington, DC region's median family income has increased from \$82,800 in 2000 to \$117,200 in 2018, an increase of 41.5%.³⁰

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- 24 Arlington County. "Housing Conservation District." Arlington County, VA. Accessed May 2, 2018. <https://housing.arlingtonva.us/affordable-housing/housing-conservation-district/>.
- 25 Arlington County. "Housing Conservation District." Arlington County. "Preserving Our Past and Building for the Future: Arlington County, VA Fiscal Year 2017 (July 1, 2016 - June 30, 2017) Affordable Housing Master Plan Annual Report." Arlington, VA: Arlington County, January 2018. <https://housing.arlingtonva.us/plans-reports/annual-reports/>.
- 26 Urban Institute analysis of the Zillow Rent Index. Hendey et al.
- 27 Urban Institute analysis of the American Community Survey. Hendey, et al.
- 28 "GDP in the Washington DC Metropolitan Area, 2016." <http://cra.gmu.edu/wp-content/uploads/2016/03/MSA-Gdp-2016.pdf>
- 29 Unemployment rates: City of Alexandria: 2.1%; Arlington County: 1.8%; Fairfax County: 2.3% Mid-Atlantic Information Office. "Unemployment in the Washington Area by County - September 2018." U.S. Bureau of Labor Statistics. Accessed November 27, 2018. https://www.bls.gov/regions/mid-atlantic/news-release/unemployment_washingtondc.htm.
- 30 To compare, median family income in the US in 2016 was \$67,871. Neighborhood Fundamentals tabulation of HUD data: <https://www.huduser.gov/portal/datasets/il/fmr00/hud00DC.txt> <https://www.huduser.gov/portal/datasets/il/il2018/2018MedCalc.odn?inputname=Washington-Arlington-Alexandria%2C+DC-VA-MD+HUD+Metro+FMR+Area&areaid=METRO47900M47900&fips=%24fips%24&type=hmfa&year=2018&yy=18&stname=%24stname%24&stusps=%24stusps%24&statefp=%24statefp%24&incpath=%24incpath%24>

FIGURE 9. Inner-Northern Virginia is a substantial driver of the Commonwealth's population growth³³

	2010 population	2017 population	Population Increase	% Increase	% of Virginia Growth
Virginia	8,001,024	8,470,020	468,996	5.86%	100.00%
Northern Virginia	2,677,141	2,976,401	299,260	11.18%	63.81%
Inner-Northern Virginia	1,429,319	1,543,222	113,903	7.97%	24.29%
Alexandria	139,993	160,719	20,726	14.81%	4.42%
Arlington	207,627	239,074	31,447	15.15%	6.71%
Fairfax	1,081,699	1,143,429	61,730	5.71%	13.16%

The region's population has continued to expand with economic and wage growth. From 2016-2017, the Washington, DC region experienced population growth of 1.1%, with Northern Virginia's population growing by 1.2%.³¹ The Northern Virginia region added 36,888 residents, which was 56% of the overall region's population growth. Inner-Northern Virginia added 10,099 residents, which is 15% of the overall and 27% of the Northern Virginia totals. Loudoun County had the highest growth in Northern Virginia in terms of overall population (11,801, a 3% increase) and Falls Church City had the largest increase in percentage terms (5.2%; 715 people).³² Northern Virginia and the inner-Northern Virginia jurisdictions are also key drivers of statewide population growth, accounting for nearly two-thirds and one-quarter of growth since 2010, respectively (see Figure 9).

In understanding the relationship between these trends and housing demand, it is important to look beyond the high-level figures. Despite rising median incomes, economic gains are not distributed evenly throughout the population. An analysis of economic growth in Arlington and Alexandria found that few of the region's jobs (17.3%) would be considered middle-wage, paying between 80 and 120% of the average wage.³⁴ Jobs were concentrated in

FIGURE 10. Middle-income growth lags in Washington, DC region (Urban Institute)³⁷

Income	All Households	Renters	Owners
\$150,000 or more	34.4%	59.4%	30.3%
\$100,000-149,999	19.1%	57.7%	5.7%
\$75,000-99,999	-4.1%	7.6%	-12.4%
\$50,000-\$74,999	4.0%	8.0%	-0.1%
Under \$50,000	17.5%	14.1%	24.8%

industries that pay either above (45%) or below (37.6%) that amount.³⁵ The report found that industries that pay close to or below the average wage are focused in locally-serving industries – service occupations and the health sector. As previously discussed, such households must often choose between high housing costs, longer commutes, or relocation. Correspondingly, the Urban Institute found that the Washington, DC region household growth mirrors this trend. From 2000-2016, the largest increases in household growth were among the two highest-income brackets, followed by the lowest income bracket (see Figure 10).³⁶ The disproportionate number of higher-income earners makes it increasingly difficult to compete in the housing market for lower-income households.

31 "DC Region Population Estimates and Components, 2016 – 2017." George Mason University Center for Regional Analysis, March 22, 2018, <http://cra.gmu.edu/2018/03/22/population-estimates-2017/>.

32 "DC Region Population Estimates and Components, 2016 – 2017."

33 Neighborhood Fundamentals, LLC tabulation of data published on January 25, 2018 by the Weldon Cooper Center for Public Service Demographics Research Group; <https://demographics.coopercenter.org>

34 White, Mark C. "Assessing Alexandria/Arlington's Regional Labor Market" (George Mason University's Center for Regional Analysis, March 6, 2017).

35 White.

36 Hendey, et al.

37 Urban Institute's analysis included the following jurisdictions: Washington, DC; Montgomery County, MD; Prince George's County, MD; City of Alexandria, VA; Arlington County, VA; Fairfax County, VA; Loudoun County, VA. Hendey, et al.

Housing demand is also likely to be influenced by demographic factors. Different age and population cohorts are likely to prefer or need different housing typologies. For example, young adults starting their career (including the Millennial cohort, which will soon become the largest population group in the U.S.)³⁸ may prefer rental options, and older adults may prefer one-story homes or buildings with elevators. Notably, the region will have to respond to changing housing needs associated with the aging of the population. A recent analysis found that Arlington and Fairfax County's 55-and-older population increased by 9.8% and 26.7%, respectively, from 2006-2016.³⁹ However, to illustrate variations within inner-Northern Virginia, Arlington County's rate of increase lagged overall population growth, while Fairfax County's 55+ population increased at more than twice the rate of overall population growth.⁴⁰ Arlington and Alexandria were recently identified as having a particularly large "working age" population (a cohort that includes Millennials as defined) and a smaller elderly (65+) population.⁴¹ Fairfax County has a large youth population, exceeding the national average (25.8% vs. 25.2%).

Housing supply growth

For housing to be broadly affordable, supply must adapt to changes in demand. The role of overall market-rate supply and production in addressing affordability has

been the subject of significant debate, both within and outside of the affordable housing field. Supply growth is often – and sometimes accurately – described as a driver of gentrification (and associated increases in cost burden and/or displacement) at the neighborhood level.⁴²

It is outside the scope of this research project to conduct a comprehensive review of literature related to supply-demand dynamics and affordability. However, several such meta-analyses have been conducted in recent years. In the face of population/household growth, allowing for increases in housing supply has been found to be critical in creating a broadly attainable housing stock. Several studies and literature review have linked supply growth with lower median housing costs and/or the concept of filtering, in which existing units become more affordable as new supply is added.⁴³ The link between supply and affordability is most clear at the regional level. For example, a study of housing in the San Francisco Bay Area found that increases in both market-rate and subsidized housing reduced displacement pressures at the regional level, with subsidized units having twice the impact.⁴⁴

However, while increasing supply is important to maintaining affordability more broadly, new market-rate development can create challenges for lower-income households and those within specific neighborhoods.

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- 38 Fry, Richard. "Millennials Expected to Outnumber Boomers in 2019," Pew Research Center, March 1, 2018, <http://www.pewresearch.org/fact-tank/2018/03/01/millennials-overtake-baby-boomers/>.
- 39 Sturtevant PhD., Lisa, Michael A. Spotts, and Spencer Shanholz. "Meeting the Housing Needs of Older Adults in Montgomery County," http://montgomeryplanning.org/wp-content/uploads/2018/05/Meeting-the-Housing-Needs-of-Older-Adults-in-Montgomery-County-Final_5-18-18.pdf. Page 92
- 40 Sturtevant PhD., et al. Page 9.
- 41 Lee, Alexandra. "Where Are the Oldest and Youngest Places in America?," Trulia Research, August 8, 2018, <https://www.trulia.com/research/where-are-the-oldest-and-youngest-places-in-america/>.
- 42 Gentrification has many definitions, some of which are highly technical (based on increases in population, development, income or other factors), with others based on anecdotal evidence (such as perceived shifts in culture or the target customers of new retail establishments). In general, formal definitions tend to emphasize the elevation of a neighborhood's socioeconomic status in comparison to the broader metropolitan area.
Gould Ellen, Ingrid. "A Shared Future: Can Gentrification Be Inclusive?" A Shared Future. Cambridge, MA: Harvard Joint Center for Housing Studies, May 16, 2018. <http://jchs.harvard.edu/research/publications/shared-future-can-gentrification-be-inclusive>.
- 43 Been et al. "Supply Skepticism: Housing Supply and Affordability," NYU Furman Center. 2017. Retrieved: http://www.law.nyu.edu/sites/default/files/Been%20Ellen%20O%27Regan%20supply_affordability_Oct%2026%20revision.pdf
Zuk, Ph.D., Miriam, and Karen Chapple. "Housing Production, Filtering and Displacement: Untangling the Relationships." Urban Displacement Project. Berkeley, CA: University of California, Berkeley, May 23, 2016. <https://news.berkeley.edu/2016/05/23/researchers-stress-role-of-subsidized-housing-in-easing-affordability-crisis/>
Weicher, J., Eggers, F., & Moumen, F. (2016). *The Long-Term Dynamics of Affordable Rental Housing*. Washington, DC: Hudson Institute. Retrieved: <https://www.hudson.org/research/13339-the-long-term-dynamics-of-affordable-rental-housing>.
- 44 Zuk and Chapple.

At the neighborhood level, one model found that rent levels are relatively inelastic to new supply, given the influence of amenities on willingness to pay.⁴⁵ When examining impacts across income groups, new market-rate production was correlated with lower median rents but higher cost burdens for low-income households.⁴⁶ At the neighborhood level, neither market-rate nor subsidized housing production had the same “protective power” as exhibited at the regional scale.⁴⁷

These neighborhood-level effects have fueled concerns about gentrification. Multiple studies have found significant increases in the share of initially low-income, central city census tracts experiencing gains across a number of socioeconomic indicators, driven largely by the neighborhood choice patterns of young professionals and/or higher-income college graduates.⁴⁸ Some analyses of gentrification acknowledge in part the potential positive implications, such as revitalization of older properties, increased property tax bases and improved municipal finances, and the potential for population shifts to lead to greater diversity in terms of income, race and ethnicity.⁴⁹ However, these benefits will not accrue to existing low-income residents if property redevelopment or increased cost burden result in displacement. While empirical evidence that gentrification fuels displacement is limited, it is possible that this lack of evidence is a result of data shortcomings rather than the absence of displacement.⁵⁰ Furthermore, data that focuses on displacement alone would not provide a complete picture, as households that are able to remain may still experience additional housing cost burden and economic hardship. An additional concern is “displacement by exclusion,” in which normal neighborhood turnover/migration

patterns (for example, a low- or moderate-income household moving but being replaced by a similar household) are disrupted, and higher costs keep lower income households from moving in.⁵¹

In total, the preponderance of reviewed research suggests the following implications for housing policy in the inner-Northern Virginia region:

- The impact of supply growth depends on market strength, the level of analysis (such as the region, jurisdiction, and neighborhood), and population being considered (for example, median income vs. very low-income households);
- In areas with growing populations, increases in the **region's housing supply** are necessary to improve affordability for moderate income households;
- However, increased supply alone is insufficient to address the housing needs of lower-income households. Supply growth may lead to cost increases at the **neighborhood level** that may have a negative impact on lower-income renters in particular.

As such, it is important to focus on the dimensions of supply, such as building type, tenure and location. It is also important to address targeted interventions in support of those that may be negatively impacted by supply growth. These issues will be discussed in more detail in the following sections.

Housing supply trends in the Washington, DC and inner-Northern Virginia regions

The Washington, DC region's growing population and wealth, changing demographics, and shifts in neighborhood preferences have not been met by increases in

45 Anenberg, Elliot and Edward Kung. “Can More Housing Supply Solve the Affordability Crisis? Evidence from a Neighborhood Choice Model.” Finance and Economics Discussion Series 2018, no. 035 (May 2018). <https://doi.org/10.17016/FEDS.2018.035>.

46 Zuk and Chapple.

47 Zuk and Chapple.

48 Gould Ellen. Hyra, Derek. “Commentary: Causes and Consequences of Gentrification and the Future of Equitable Development Policy.” *Cityscape* 18, no. 3 (2016): 169–78.

49 Lubell, Jeffrey. “Preserving and Expanding Affordability in Neighborhoods Experiencing Rising Rents and Property Values,” n.d. Gould Ellen.

50 Office of Policy Development and Research. “Displacement of Lower-Income Families in Urban Areas Report.” Washington, DC: US Department of Housing and Urban Development, May 2018. <https://www.huduser.gov/portal/publications/DisplacementReport.html>. Gould Ellen.

51 Commentary by Dan Immergluck, PhD; Georgia State University. See: <https://twitter.com/DanImmergluck/status/1060901587147767809> “Displacement of Lower-Income Families in Urban Areas Report.”

supply sufficient to ameliorate affordability challenges. After keeping pace with population growth from 1990-2010, housing production in the inner region of Washington, DC significantly lagged population growth from 2010-2016.⁵² It should also be noted that just keeping pace with population growth is insufficient to relieve cost pressures – additional production is necessary to fill pre-existing gaps (see Figure 11).

Building permits issued are an important but partial indicator of supply growth (some permitted units are not built). The number of permits issued by a jurisdiction are highly variable by jurisdiction. Washington, DC has significantly increased the number of permits it has issued since 2000, while Alexandria and Arlington have issued slight increases. Fairfax County’s permitting activity has declined overall, though rebounded in recent years (see Figure 12).

The Metropolitan Washington Council of Governments and the National Capital Region Transportation Planning Board have identified that the region is not producing enough housing to accommodate projected job growth, with a projected shortfall reaching nearly 50,000 units by 2020 and 115,000 by 2045.⁵⁵ To fill this gap, annual housing production across the Washington, DC region would have to increase permitting to 25,600 units per year.⁵⁶ Though this number is a significant increase from the most recent year (23,514) it is not unprecedented, as new housing construction permits averaged 30,900 from 2000-2005.⁵⁷

**Beyond the numbers:
Understanding the dimensions of supply**

Adding new housing supply may have varying impacts on affordability, particularly for those with the lowest incomes. There are at least three critical dimensions of supply: tenure, building type, and location/neighborhood characteristics.

FIGURE 11. Washington, DC’s close-in jurisdictions have not produced sufficient housing to meet new demand)⁵³

Time Period	Growth in population	Growth in housing units
1990-2000	12.9%	12.0%
2000-2010	12.8%	13.9%
2010-2016	7.0%	2.7%

FIGURE 12. Inner-Northern Virginia’s residential permitting activity has lagged growth of Washington, DC⁵⁴

Permitting Activity: 5-year Average			
	2003-2007	2008-2012	2013-2017
Washington, DC	2,048	2167.2	4,625
City of Alexandria	667	460.4	827
Arlington County	1,527	1364	1,709
Fairfax County	3,682	1023.2	2,109

Tenure

Tenure refers to whether a home is rented or owned. New supply can support affordability regardless of tenure, but in different ways and for different populations. For example, new ownership stock relieves pressure in the homeownership market, can reduce the pressure to “flip” entry-level options into higher-end homes, and can have second-order effects as some renters may choose to purchase a home. This may relieve cost pressures to some degree on moderate- or higher-income renters at the regional level, though the effects on lower-income renters may be limited in the short-term.

At the regional level, new rental stock can directly relieve pressure at the high-end of the rental market. Robust new rental supply growth may also relieve pressures that have led to significant price appreciation or repositioning

52 Hendey, et al.

53 Hendey, et al.

54 Neighborhood Fundamentals, LLC analysis of HUD State of the Cities Data System Building Permits Data Query, 11/27/2018

55 Bean, Chuck. “Memo: Meeting the Region’s Current and Future Housing Needs.” Metropolitan Washington Council of Governments, September 5, 2018. <https://www.mwcog.org/documents/2018/09/12/regional-housing-memo-to-cog-board-cog-board-affordable-housing-housing/>. Page 2.

56 Bean, Page 2.

57 Bean, Page 2.

of older, moderately priced rental properties.⁵⁸ Especially in the context of rental housing, it should be reiterated that regional price moderations can mask increases in high-demand neighborhoods as new housing is built/improved and amenities are added. This underscores the point that supply growth alone cannot address the housing needs of lower-income households.

Building type

Another dimension of supply with relevant impacts on affordability is building type. First, building type is linked with tenure. Though it is not fully predictive – multifamily units may be owner-occupied condominiums and single-family homes are sometimes rented – allowing more multifamily housing creates more opportunities for rental housing. Of the three inner-Northern Virginia jurisdictions, Arlington has the highest ratio of multifamily to single-family permitted units. In the past 15 years, inner-Northern Virginia’s proportion of multifamily units has increased, though the number of total new units permitted has dropped off on an annual basis.

Building type also has a geometric component. In a spaced-constrained environment, multifamily housing and attached single-family housing allow for more supply growth than could occur if new construction was limited to single-family detached homes.

In addition to the number of units that can be built, different building types are associated with different construction cost profiles. Lower building costs may not lead to a one-for-one reduction in prices (see sidebar on page 13), but lower cost profiles can lead to lower costs on the margins.

For single-family homes, attached housing (townhomes, duplexes, and other models) is generally less costly to build on a per-unit basis. According to recent national construction cost estimates, an attached “inner” unit of average construction quality is 10% less costly to build on a per-square foot basis than a detached home, and end units are 5% less expensive, even excluding the per-unit savings resulting from the economies of scale of more efficient use of land.⁶⁰ The construction costs savings

FIGURE 13. Multifamily permits increasing as a percentage of new permitted units, though regional growth still lags early 2000s⁵⁹

	Annual Average		
	2003–2007	2008–2012	2013–2017
Total Permits: Inner-Northern Virginia	5,877	2,848	4,645
Single-Family Permitted Units: Inner-Northern Virginia	2,429	1,045	1,274
Alexandria	123	84	176
Arlington	142	182	239
Fairfax	2,163	779	859
Multifamily Permitted Units: Inner-Northern Virginia	3,448	1,802	3,371
Alexandria	544	376	651
Arlington	1,385	1,182	1,470
Fairfax	1,519	244	1,250
Ratio of Multifamily to Single-Family Units: Inner-Northern Virginia	1.42	1.72	2.65
Alexandria	4.42	4.47	3.70
Arlington	9.74	6.49	6.14
Fairfax	0.70	0.31	1.46

58 A more robust discussion of this challenge can be found in NVAHA’s report on Northern Virginia’s Preservation Challenge: Trends, Threats, and Opportunities; Page 9.

59 Neighborhood Fundamentals, LLC analysis of HUD State of the Cities Data System Building Permits Data Query, 11/27/2018

60 Neighborhood Fundamentals, LLC analysis of RSMMeans data; 2019 Square Foot Costs Book. Page 30.

associated with attached housing are even larger within the “custom” and “luxury” categories.⁶¹ For multifamily housing, low-rise (1-3 stories) and mid-rise (4-7 stories) have similar cost profiles, but per square foot costs jump by approximately 20% for construction of 8 stories and higher, largely the result of the different construction techniques necessary for taller buildings.⁶² For

Why does reducing construction costs matter in high-demand markets?

Producers of market rate housing generally charge what the market will bear. As such, construction cost savings may not always directly result in lower prices. However, that does not mean that construction costs are irrelevant to affordability. Higher-cost construction raises the “floor” to which prices may fall. Furthermore, higher-construction costs can impact the market segment in which developers choose to compete. For example, lower construction costs can enable developers to build a smaller product with standard finishes and compete for moderate income households. If higher construction costs push new construction to a point that is unaffordable to moderate income households, developers inclined to serve that market through new construction either decline to produce new units in that location or “upgrade” plans in order to compete in the higher-end market. While the cost of land is another critical component of these calculations, high-construction costs can preclude the possibility of more affordable new construction in certain contexts.

multifamily housing, these construction costs premiums may be offset depending on the cost of the underlying land. Other factors, such as structured parking, can significantly influence the relative cost-effectiveness of different multifamily construction techniques.

Tenure, quantity and construction costs are among the many factors that influence the relative affordability of different building types. Other influencing factors may include unit/lot size, age, and amenities that are more likely to be associated with a given building type. It is outside the scope of this research to determine the relative influence of each factor on housing costs. However, existing data suggests that restricting certain building types may have negative consequences for affordability.

For multifamily rental housing, a recent national analysis by Enterprise Community Partners found that the small and medium sized multifamily stock (2-49 units) was the most affordable segment of the housing stock, despite the decline in production relative to historic trends over the last 25 years.⁶³ Moving forward, new construction is unlikely to be as affordable as the current aging stock. Furthermore, inner-Northern Virginia’s high land costs may make such small development infeasible. However, opportunities may exist in lower-density neighborhoods, smaller infill sites, and/or for somewhat larger properties that utilize the same lower-cost construction techniques.

Using the previously referenced analysis of assessed property values as a proxy for costs, inner-Northern Virginia’s ownership inventory is dominated by the most expensive housing typology – single-family detached homes. Single-family detached housing makes up nearly half of the ownership housing stock in Arlington and nearly 60% of the stock in Fairfax. Only in Alexandria is single-family detached housing not the most prevalent owner-oriented housing type. Of the three inner-Northern Virginia jurisdictions, Alexandria had the highest proportion of its ownership stock in the most affordable building types (though the overall value of the homes were higher than in Fairfax across each category; see Figure 14 on page 14).

61 Neighborhood Fundamentals, LLC analysis of RSMeans data; 2019 Square Foot Costs Book.

62 Neighborhood Fundamentals, LLC analysis of RSMeans data; 2019 Square Foot Costs Book.

63 An, Brian, Raphael W. Bostic, Andrew Jakobovics, Anthony W. Orlando, and Seva Rodnyansky. “Understanding the Small and Medium Multifamily Housing Stock,” March 30, 2017. <https://www.enterprisecommunity.org/policy-and-advocacy/understanding-small-and-medium-multifamily-housing-stock>.

FIGURE 14. Inner-Northern Virginia's ownership inventory is skewed towards highest cost building types

	Alexandria	Arlington	Fairfax
Median assessed value of ownership units	\$502,684	\$621,100	\$499,410
Typology with highest median assessed value	Single-family detached	Single-family detached	Single-family detached
Median detached single-family home value	\$795,806	\$801,800	\$606,750
Percent of median value	158.3%	129.1%	121.5%
Portion of ownership housing stock	22.0%	47.3%	58.0%
Typology with lowest median assessed value (fee simple)⁶⁴	Row (Townhouse)	Side-by-side	Duplex
Median typology value	\$596,723	\$407,500	\$371,765
Percent of median value	118.7%	65.6%	74.4%
Portion of ownership housing stock	16.1%	3.4%	0.69%
Typology with lowest median assessed value (overall)	Condominium - high-rise	Condominium - mid-rise	Condominium - medium rise
Median typology value	\$232,062	\$275,800	\$194,880
Percent of median value	46.2%	44.4%	39.0%
Portion of ownership housing stock	18.7%	5.1%	0.48%

Location/neighborhood characteristics

The location of new supply can have significant impacts on affordability and social equity. As previously discussed, the impacts of new supply vary at different levels of analysis. A substantial influx of new supply – particularly if it is accompanied by investments in infrastructure and/or new retail, commercial, or other amenities – can raise costs in a given neighborhood. In such contexts, this can jeopardize the housing stability of lower-income and more vulnerable households, particularly renters.

New development may have broader social equity implications in addition to potential affordability challenges. Supply growth that is spread evenly across neighborhoods is less likely to have a disproportionate impact on any one group or population. A perfectly even distribution of supply growth is neither realistic (given shifts in demand for different locations/housing types) nor desirable (given

potential implications on sprawl and the efficient utilization of infrastructure). However, over-concentration of demand in a relatively small number of neighborhoods can lead to gentrification and concentrate affordability pressures and other externalities on a smaller portion of the population. Neighborhoods with lower-property values that are closer to the urban core and/or are adjacent to transit or other amenities are of particular interest to real estate developers.⁶⁵ This investment could be beneficial if adequate preservation and tenant protection measures reduce displacement pressure for lower-income households. However, if restrictive development policies concentrate demand pressures in a smaller number of neighborhoods, those efforts become more difficult. Further exacerbating social equity concerns, some analyses have identified a significant number of formerly “redlined” neighborhoods – that is, neighborhoods that had suffered the historical impacts of de jure and de facto race/ethnicity-based

64 “Fee simple” refers to non-condominium properties. For the purposes of this analysis, fee simple properties were specifically called out because owners do not have to pay condominium fees, which can influence overall affordability. Condominium fees were not included in this analysis, and therefore the relative affordability of such properties may be overstated.

65 Practitioner interviews.
 Bousquin, Joe. “Suburbs Heat Up as Downtown Rents Cool.” Multifamily Executive, February 22, 2018.
http://www.multifamilyexecutive.com/design-development/suburbs-heat-up-as-downtown-rents-cool_o

segregation – that are experiencing gentrification pressures.⁶⁶ Failure to account for these factors can exacerbate structural inequities. For more information on the nexus of development and discrimination, see the Appendix.

As inner-Northern Virginia considers how best to accommodate supply growth, it is important to consider the types of neighborhoods that are increasingly in demand. There is significant debate around the extent to which housing demand is returning to urban vs. suburban areas, a debate that is complicated by a lack of definition of what constitutes each category.⁶⁷ There is evidence to support both the urban and suburban growth hypotheses.⁶⁸ Given inner-Northern Virginia's proximity to the region's "center city" and its blend of more urban and suburban characteristics, it can reasonably be postulated that its jurisdictions will continue to experience robust demand for a range of different housing and neighborhood typologies.

Regardless of whether demand is for urban core versus more suburban locations, there is evidence that there is a shift in demand toward locations that offer a greater level of convenience. A ULI Washington survey of neighborhood preferences for Millennials living "Inside-the-Beltway" found that four of the six most important neighborhood characteristics were directly or indirectly related to ease of access (walkability, proximity to transit, presence of restaurants, and convenient retail stores).⁶⁹

Neighborhoods exhibiting these characteristics may receive disproportionate demand moving forward. Accommodating this demand in a manner that improves affordability likely requires a dual strategy of allowing more supply growth in neighborhoods that already have these characteristics and improving access and convenience in neighborhoods without such features.

Factors that influence housing production and supply

As the prior sections illustrate, inner-Northern Virginia's current housing supply and projected growth is insufficient to affordably house the three jurisdictions' growing populations. There are several factors that inhibit equitable supply growth, including:

- The local land use, zoning and regulatory environment;
- The level of community support for growth and development;
- Construction costs;
- Capital availability.

Land use, zoning and local regulatory environment

Local policies have a significant impact on the supply of housing, across all dimensions. Land use, zoning and building codes are particularly relevant. According to a 2014 report by Enterprise and the Urban Land Institute's Terwilliger Center for Housing "many state and local regulations and fees have reasonable justifications, including environmental protection and ensuring adequate infrastructure... However, other regulations are inefficient at best and discriminatory at worst."⁷⁰ The report identified multiple barriers that applied across development typologies, including:

- Limits on by-right development, notably density, building height, and unit-size restrictions;
- Overly restrictive and/or prescriptive building codes;
- Excessive permitting and impact fees;
- Drawn out and/or unpredictable timeframes for the permitting and entitlement process;

66 Jan, Tracy. "Redlining Was Banned 50 Years Ago. It's Still Hurting Minorities Today." *The Washington Post*, The Washington Post, March 28, 2018, https://www.washingtonpost.com/news/wonk/wp/2018/03/28/redlining-was-banned-50-years-ago-its-still-hurting-minorities-today/?utm_term=.7c343ed0bb6d.

Zuk, Ph.D., Miriam, and Karen Chapple. "Redlining and Gentrification," Urban Displacement Project, 2015, <https://www.urbandisplacement.org/redlining>.

67 Lee, Hyojung. "Reconciling the Back-to-the-City Thesis with Sustained Suburban Growth," Joint Center for Housing Studies of Harvard University, October 16, 2018, <http://www.jchs.harvard.edu/blog/reconciling-the-back-to-the-city-thesis-with-sustained-suburban-growth/>.

68 Lee

69 Lachman, M. Leanne, Deborah L. Brett, and Dr. Lawrence J. Becker, "Millenials Inside the Beltway: Committed Urbanists" (Urban Land Institute Washington, September 2018), 27–29.

70 Jakabovics, Andrew, Lynn M. Ross, Molly Simpson, and Michael A. Spotts. "Bending the Cost Curve: Solutions to Expand the Supply of Affordable Rentals." Washington, DC: Enterprise Community Partners & ULI Terwilliger Center for Housing, January 2014. <http://www.enterprisecommunity.org/resources/bending-cost-curve-solutions-expand-supply-affordable-rentals-13127>.

- Poorly-managed public-engagement processes;
- Excessive parking requirements.⁷¹

Other reviews of literature have found that heavier regulation can increase housing costs, reduce construction, and/or reduce the responsiveness of the housing supply to demand shocks.⁷² In addition, one jurisdiction’s regulatory environment can have significant impact on housing markets of adjacent areas.⁷³ Another analysis found a relationship between strict local land use controls and income segregation. Such regulations allowed for the creation of concentrations of wealth, which can reduce the housing choices of low- and moderate-income households and potentially lead to unequal distribution of the impacts of development, both positive and negative.⁷⁴ Beyond the specific regulations, bureaucratic inefficiency can also inhibit new development. A Trulia report showed that lengthier approval processes for new development were negatively correlated with increases in housing supply.⁷⁵

A deeper regional analysis of local land use, zoning and regulatory barriers to development and affordability is forthcoming as part of a ULI Washington study to be released in early 2019. However, this research did identify several characteristics of the inner-Northern Virginia’s land use and regulatory framework that have impacted supply and affordability.

More affordable housing is rarely the “path of least resistance”

As a whole, the region has bifurcated development patterns, with the majority of land zoned for low-density, single-use, suburban-style development with urban, high-density mixed-use development concentrated along major transportation corridors. Alexandria is an exception to this paradigm. Having initially developed as a city-center, its underlying zoning is more reflective of an urban model with mixed-densities and uses.

The following map illustrates the extent to which single-family detached housing – the most expensive ownership typology – is the only residential use allowed fully “by-right” (that is, without having to seek any level of waiver, exception or approval). Though development outside the by-right paradigm does frequently occur, there is added time, complexity, cost, and risk associated with this process (see Figure 15 on page 17 and additional discussion below).

Alexandria allows by-right attached single-family housing and multifamily housing over a substantially larger proportion of its land area than both Arlington and Fairfax. Still, by-right multifamily development is barred in the majority of land area in each jurisdiction (see Figure 16).

FIGURE 16. Inner-Northern Virginia development opportunities for attached and multifamily housing limited outside of Alexandria⁷⁶

Percent of residential developable area available to build by-right:*	Alexandria	Arlington	Fairfax
Single-Family Detached Exclusive	42.63%	86.74%	82.25%
Single-Family Attached** or Detached or Attached, Multifamily not allowed	20.93%	2.00%	2.56%
Multifamily development allowed	36.44%	11.99%	15.19%

* Calculations exclude land where no residential construction is currently allowed by-right, such as industrial zones.

** Single-family attached housing can often also be developed on land zoned for multifamily development.

71 Jakabovics, et al. Hersey, John, and Michael A. Spotts. “Promoting Opportunity through Equitable Transit-Oriented Development (ETOD): Barriers to Success and Best Practices for Implementation.” Promoting Opportunity through ETOD. Washington, DC: Enterprise Community Partners, October 2015. <http://www.enterprisecommunity.org/resources/promoting-opportunity-through-equitable-transit-oriented-development-etod-barriers>.

72 Gyourko, Joseph, and Raven Molloy. “Regulation and Housing Supply.” Working Paper. Cambridge, MA: National Bureau of Economic Research, October 2014. <http://www.nber.org/papers/w20536>. Glaeser, Edward L., and Bryce A. Ward. “The Causes and Consequences of Land Use Regulation: Evidence from Greater Boston.” *Journal of Urban Economics* 65, no. 3 (May 2009): 265–78. <https://doi.org/10.1016/j.jue.2008.06.003>.

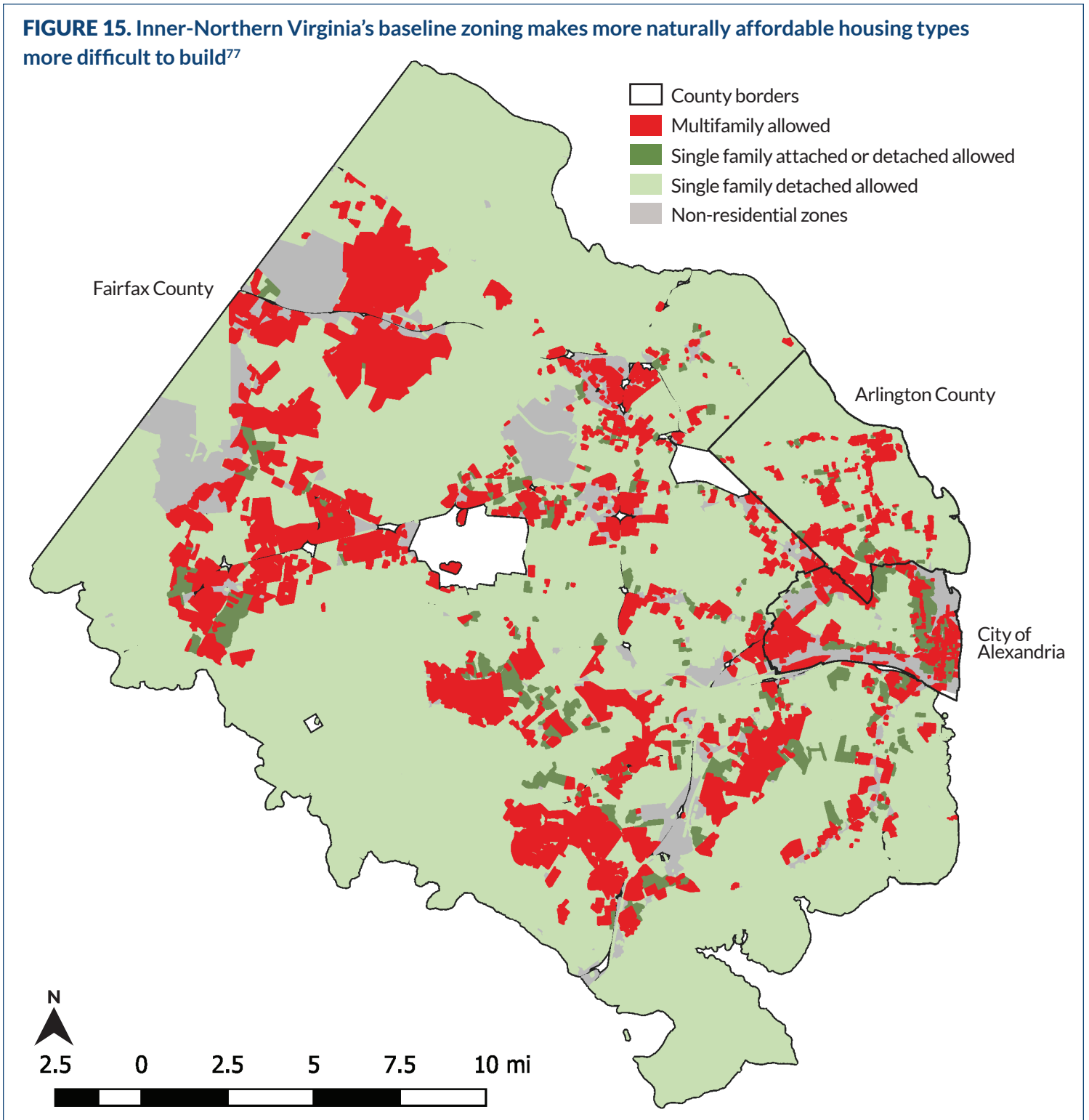
73 Gyourko and Molloy.

74 Lens and Monkkonen.

75 McLaughlin, Ralph. “Is Your Town Building Enough Housing?” Trulia’s Blog, July 19, 2016. <https://www.trulia.com/blog/trends/elasticity-2016/>.

76 Neighborhood Fundamentals, LLC analysis of zoning shapefiles available on the respective jurisdictions’ Open Data/Geographic Information Systems websites.

FIGURE 15. Inner-Northern Virginia's baseline zoning makes more naturally affordable housing types more difficult to build⁷⁷



This data may understate the permissiveness of zoning in certain areas. A number of small area and corridor plans that have been adopted, such as the Columbia Pike Neighborhoods Plan, provide a wider range of development opportunities beyond what is allowed by-right.

While development in that context may still be more difficult than a true by-right development, the burden of doing so is substantially reduced. In late December 2018, a separate analysis of regional land use policy was released by Tracy Hadden Loh, Ph.D. for the Greater

⁷⁷ Neighborhood Fundamentals, LLC analysis of zoning shapefiles available on the respective jurisdictions' Open Data/Geographic Information Systems websites.

Greater Washington that used different methodology but reached similar high-level conclusions.⁷⁸

Conversely, it should be noted that other regulatory factors influence whether a given building type can actually be constructed by-right. Specific density limits, height restrictions, off-street parking requirements, and lot-coverage ratios, among other regulations, can make it impossible, uneconomical, or simply less profitable to build a specific housing type on a given parcel. For example, the Westover neighborhood of Arlington allows multifamily residential development by-right. However, much of the existing garden-style construction is “non-conforming,” in some cases exceeding allowed density or providing insufficient off-street parking. Some market-rate purchasers/developers of these buildings have found it to be more profitable to demolish these rental units and replace them with high-end townhome ownership units.⁷⁹ This has negative implications across several factors, including the displacement of current residents, a reduction in the supply of moderate-cost rental housing, and a reduction in the overall supply of homes in Arlington.

Density is concentrated along transportation corridors

In some cases, the limitations on high-density and/or multifamily construction have been part of a “grand bargain.” Throughout the region’s recent history, there has been a tension between whether inner-Northern Virginia’s future was urban or suburban. Past compromises were made to allow denser development in key transportation corridors, particularly in Arlington with the building of the Orange and Blue Metro Lines.⁸⁰ This structure creates a dynamic in which the “path of least resistance” for most of the region’s land is the most costly, least affordable construction type in each category: single-family detached homes in low-density areas and high-rise multifamily in denser corridors. Furthermore, preserving the exclusivity of single-family detached neighborhoods had negative social equity implications by erecting barriers for lower-income/wealth families. However, more severe affordability

challenges were deferred until the region began to more fully build out and supply and development opportunities became more constrained in recent decades.

In response, the region’s jurisdictions sought to expand the number of transportation corridors included in the bifurcated model, rather than disrupt single-family dominance. The most dramatic example of an urbanizing corridor is the Tysons Corner Comprehensive Plan and other redevelopment plans associated with the Silver Line Metro extension. Other examples of corridor and/or station area redevelopment efforts include:

- Arlington’s Columbia Pike Neighborhoods Plan and forthcoming efforts related to Lee Highway;
- Fairfax’s Mosaic District redevelopment and Embark Richmond Highway plan;
- Alexandria’s South Patrick Street Initiative and Eisenhower East Small Area Plans.

Successful redevelopment of these corridors may relieve pressure on existing high-density corridors and mixed-use neighborhoods. However, these corridors also include a substantial number of existing affordable rental and ownership homes that are at risk of loss to redevelopment and cost increases. To that end, specific action is necessary to ensure that location-specific cost increases of regionally necessary supply growth do not disproportionately fall on the most vulnerable households. For more information on existing efforts and potential practices to address this issue, read *Northern Virginia’s Preservation Challenge: Trends, Threats, and Opportunities*.

Processes for obtaining regulatory relief have both costs and benefits

Thus far, this discussion of local regulatory policy has focused on by-right development and the development (by-right or otherwise) allowed by small area and corridor-based plans. All three jurisdictions have standard processes for allowing development that deviates from baseline zoning, which can include more limited

78 Hadden Loh, Tracy. “Here’s How Much of the Washington Region Is Off-Limits to Growth.” Greater Greater Washington, December 17, 2018. <https://ggwash.org/view/70211/zoning-for-incremental-growth-how-is-our-region-doing>.

Hadden Loh, Tracy. “Where the Washington Region Is Zoned for Single-Family Homes: An Update.” Greater Greater Washington, December 18, 2018. <https://ggwash.org/view/70232/washington-region-single-family-zoning-an-update>.

79 “Market-Rate Affordable Housing: An Approach for Preservation.” Arlington County, March 31, 2017. <https://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/15/2017/03/MARKS-REPORT-3-31-2017.pdf>. Pages 38-39.

80 Craft, Kevin., “When Metro Came To Town - Arlington Magazine,” Arlington Magazine, October 28, 2013, <https://www.arlingtonmagazine.com/when-metro-came-to-town/>.

administrative approvals or a more extensive process for larger changes. In exchange for additional density, height or other considerations, jurisdictions generally receive benefits such as fees, in-kind utility work, and other developer contributions. Importantly, the site plan process is one of the primary mechanisms for requiring that market-rate developers contribute to affordable housing, generally in the form of a financial contribution to the jurisdictions' housing trust funds or the construction of affordable units on-site. As such, one clear benefit of requiring developments to proceed through the site plan process is the ability to advance an inclusionary housing policy. It should be noted that a loosening of by-right zoning in more exclusive neighborhoods is not incompatible with maintaining the site plan structure for larger-scale development.

However, the benefits that accrue to jurisdictions as a result of site plan development are at least partially offset by costs associated with the process. Interviews with development practitioners from across the Washington, DC region indicated that the site plan process substantially raised the cost of development, which contributed to higher housing costs and/or led to more marginal projects from proceeding. Some of the direct costs of the site plan process - either in the form of contributions or required project elements - are reasonable and provide clear benefits; examples include affordable housing, public infrastructure, public school contributions, and stormwater and environmental management. Other requirements may be of more dubious value, such as specific design requirements or excessive parking levels. It should be noted that the merit of each specific site plan requirement is "in the eye of the beholder," and reasonable people may disagree on the relative importance of each, thus making prioritization difficult. However, the aggregate costs of these priorities can place a substantial burden on development.

These burdens are compounded by the delay, costs, and risks associated with navigating the site plan process. Some degree of review and analysis is necessary to ensure that a development seeking a site plan is fulfilling the necessary requirements to proceed. However, interviewees both inside and out of the private sector development community suggested that these processes often do not proceed

in an efficient manner, requiring multiple reviews and delays. Developers must pay land holding costs and absorb the staff time negotiating a difficult process – expenses that raise costs without providing significant value to the public. Finally, a lengthier process with multiple points of evaluation adds risk that the development cannot proceed, either because approvals are withheld or the development is no longer viable.

The aggregate direct and indirect costs of approval processes can raise the cost of housing and constrain supply.⁸¹ The barriers created by this process can also have distributional impacts, as development is centralized among well-capitalized companies that can absorb the risk and cost of the process and reducing the competitiveness of smaller-scale developers. The process also creates an incentive for larger-scale developments, as the sunk costs can be amortized over a larger number of units. Finally, lengthy and costly processes that concentrate development can exacerbate the "boom and bust" dynamic of real estate markets, both at a point in time between neighborhoods and across different market cycles.⁸²

Community support for growth and development

The level of public support has a significant impact on the likelihood of success for any individual development or local policy. As previously discussed, the region's bifurcated development patterns at least in part resulted from a compromise between competing visions for inner-Northern Virginia's future. Though the region has continued to evolve into a more urban place, the urban vision is still not the consensus. Many developments receive strong community-level support. However, a substantial number of developments and/or development-friendly policy changes provoke opposition as well.

Even when there is support for the macro-level development approach, there are usually jurisdictional- or neighborhood-level concerns around density, traffic, schools, and open space. In addition, lower-income households and members of demographic groups that have historically experienced discrimination in the housing market may have legitimate fears that they will experience the costs but not

81 McLaughlin.

82 Gyourko and Molloy. MacDonald, Graham. "The Effect of Local Government Policies on Housing Supply," 2016., 42.

the benefits of new development. Sadly, some opposition to development is still driven by class and/or race/ethnicity-based animosity. Finally, research from other regions also suggests that some opposition to development is driven by distrust and/or dislike of developers, who may be seen as profiting from the “inconveniences” of nearby neighbors.⁸³

Development policy has elements of a “tragedy of the commons,” caused in part by jurisdictional fragmentation. Though population and demographic changes are increasing demand for housing in the Washington, DC region, it is not uncommon to hear some variation of the phrase “they don’t have to live here” in reference to specific neighborhoods or jurisdictions. This sentiment fails to acknowledge the fact that a growing population needs places to live, and in a land and resource constrained environment that demand will need to be filled somewhere, with the attendant pressures on infrastructure and schools. The costs of forgoing development are less visible and concentrated, having been borne both via non-residents (those who cannot afford to move into an exclusionary neighborhood) and by diffusion (in the form of incrementally higher housing costs and more environmentally-damaging sprawl).

Also, community conversations often do not represent the diversity of a neighborhood. Certain populations – including residents with limited English proficiency and those working evening hours – may struggle to participate in traditional community engagement processes. Furthermore, groups that have been directly harmed by past development policies – such as victims of redlining and segregation – may be justifiably distrustful of any policymaking effort. Special outreach to traditionally unrepresented groups is necessary to ensure that their interests are heard. For example, as Arlington County was considering its Affordable Housing Master Plan and Implementation Framework in 2015,⁸⁴ the grassroots group *Mi Voz Cuenta* emerged to represent and amplify the perspective of South Arlington residents concerned about potential displacement.⁸⁵

This research did not conduct a more thorough analysis of the challenges and leading practices for building community support for increased housing supply. A more detailed analysis will be included in a forthcoming ULI Washington report. However, it should be emphasized that some level of community support must be generated to institute the local policy changes necessary to accommodate substantial increases in housing supply, given the democratic accountability of the elected officials charged with instituting those policies.

Construction costs

The cost profile of development can significantly influence supply. Though land is a primary driver of costs in high-demand markets such as inner-Northern Virginia, construction costs also matter. As previously discussed,

- Different housing types have different construction cost profiles and effects on housing affordability; and
- Some construction costs associated with specific design/construction elements may be driven by local regulations.

In addition, overall trends in construction costs can have an impact. Increases in costs can make marginal developments uneconomical. In addition, the relative cost effectiveness of different construction types (often driven by the cost of materials) can make certain building types more affordable to construct.

Despite the high overall costs of the region, local construction costs (exclusive of land) are not dramatically higher, and in some cases lower, than national averages. Regional developers, contractors, and sub-contractors are particularly cost-effective in terms of commercial construction, which includes multifamily housing (see Figure 17 on page 21).

Construction cost trends over time are not available across as many geographies. However, since 2008 construction costs have increased by almost exactly the rate of inflation in Washington, DC and only slightly higher than inflation in Alexandria, suggesting that

83 Monkkonen, Paavo and Michael Manville, “Opposition to Development or Opposition to Developers? Survey Evidence from Los Angeles County on Attitudes towards New Housing” (UCLA, February 22, 2018), <http://www.anderson.ucla.edu/Documents/areas/ctr/ziman/2018-04WP.pdf>.

84 Disclosure: the author of this report was a member of the working group charged with helping Arlington County develop the Affordable Housing Master Plan.

85 Mongilio, Heather. “New South Arlington Group Urges County Board to Accept Housing Plan,” *ARLnow.Com*, September 27, 2015, <https://www.arlnow.com/2015/09/17/new-south-arlington-group-urges-county-board-to-accept-housing-plan/>.

FIGURE 17. Regional single-family construction is consistent with national averages, while commercial construction is substantially more cost-effective)⁸⁶

Jurisdiction	Residential ratio (percentage of national average)*	Commercial ratio (percentage of national average)**
Washington, DC	0.92	0.95
Alexandria	1.03	0.93
Arlington	1.02	0.93
Fairfax	1.01	0.93
Richmond	1.02	0.89

* Residential construction costs include both attached and detached forms of housing, including townhomes.

** Commercial construction costs include multifamily housing and all other non-residential uses.

total development cost increases are the result of other factors.⁸⁷ Moving forward, anecdotal evidence as well as projections of national cost trends suggest that more substantial increases in construction cost that began in 2017 will continue or worsen through 2019.⁸⁸

Capital availability

The consolidation of the financial system that began in the mid-20th century has led to a shift from local, smaller scale capital sources to larger financial/investment entities. Financial institutions that sell mortgages and other financial products in the secondary markets and/or rely on federal insurance programs must conform to some level of standardization. This can put certain types of rental housing at a disadvantage and further exacerbate trends of consolidation into a narrower range of development types. As of 2016, 81% of federal loans and loan guarantees were dedicated to single-family homeownership.⁸⁹ Historically, smaller-scale mixed-use buildings had few financing options available, as federally-purchased and/or insured mortgages capped commercial space or income at 15 to 25

percent of multifamily projects.⁹⁰ These made “traditional” downtowns (with one floor of commercial/retail space below one-to-two floors of residential space) more difficult to finance and inhibiting the development of such buildings.⁹¹ Though some barriers still remain, both Fannie Mae and Freddie Mac created programs (or exceptions within programs) in early 2017 to facilitate more smaller-scale, mixed-use buildings.⁹²

Affordability and equity-related implications of historical production trends

The cumulative result of the above factors is concentration: a reduced number of developers have sufficient capital levels and risk tolerances to compete in the market, and their efforts necessarily rely on the most profitable/least risky development types and neighborhoods. More naturally affordable housing typologies are rarely the path of least resistance. Those that seek to provide either more naturally affordable housing or committed affordable units face higher costs in a tightly constrained market.

The concentration of the market is particularly problematic given the lengthy history of discrimination in urban development and growing income inequality (see Appendix on page 22). Low-income households and racial and ethnic minorities have faced de jure and de facto barriers to full participation in the housing market, with associated impacts on wealth creation. As property values continue to rise, those without a foothold on the economic ladder will find it harder to overcome those barriers. Supply growth is necessary to improve broad-based affordability and housing security for households of more modest means. However, failure to proactively address these barriers to participation in achieving that growth risks exacerbating current disparities in income, wealth and opportunity. If we are to achieve a more inclusive future, specific attention must be paid not just to the amount of supply growth, but the nature of supply growth.

86 Neighborhood Fundamentals, LLC analysis of RSMeans data; 2019 Square Foot Costs Book.

87 Neighborhood Fundamentals, LLC analysis of RSMeans data; 2019 Square Foot Costs Book.

88 Neighborhood Fundamentals, LLC analysis of RSMeans data; 2019 Square Foot Costs Book.

89 Regional Plan Association. “The Unintended Consequences of Housing Finance,” January 2016. <http://library.rpa.org/pdf/RPA-The-Unintended-Consequences-of-Housing-Finance.pdf>.

90 Regional Plan Association.

91 Regional Plan Association.

92 Regional Plan Association. “Main Street Gets a Boost From Washington.” Strong Towns (blog), January 25, 2017. <http://www.strongtowns.org/journal/2017/1/24/main-street-gets-a-boost-from-washington>.

Appendix:

Racial disparities in urban planning and resulting inequity

Disparities in income and wealth for racial and ethnic minorities are not a historical accident. Though some degree of differential treatment can be explained by explicitly and/or implicitly biased individuals, segregation and concentrated disadvantage has largely resulted from 20th century government practices that include explicit Jim Crow laws, federal and private sector redlining in mortgage financing, transportation and infrastructure investments, and public housing siting and tenancy decisions. For a comprehensive overview of this history, read:

- Rothstein, Richard. *The Color of Law: A Forgotten History of How Our Government Segregated America*. Liveright Publishing Corporation, 2017. <https://www.epi.org/publication/the-color-of-law-a-forgotten-history-of-how-our-government-segregated-america/>.
- Jargowsky, Paul A. "Architecture of Segregation: Civil Unrest, the Concentration of Poverty, and Public Policy." The Century Foundation, August 9, 2015. <https://tcf.org/content/report/architecture-of-segregation/>.
- Kahlenberg, Richard D. "An Economic Fair Housing Act." The Century Foundation, August 3, 2017. <https://tcf.org/content/report/economic-fair-housing-act/>.

Regardless of whether the impetus for these policies were explicitly based on race/ethnicity or using the "plausible deniability" of ostensibly race-neutral factors such as income and property values, the disparate impacts remain. Given the role of homeownership in creating intergenerational wealth and economic mobility, the harms created by these policies are especially pernicious.⁹³ Property values in neighborhoods rated "best" by the Home Owners' Loan Corporation (the progenitor of official federal redlining policy) continue to diverge from redlined neighborhoods.⁹⁴

Between 2005-09 and 2010-14, the share of poor residents living in concentrated poverty increased by 4.7 percentage points for Hispanics, 3.9 percentage points for African-Americans, and 1.4 percentage points for whites. Poor Hispanics were three times more likely to live in such neighborhoods as poor whites and poor blacks were almost five times as likely as poor whites.⁹⁵ Controlling for other factors, a recent study found that homes in majority-black neighborhoods were undervalued by \$48,000 per unit, on average.⁹⁶ In addition to impacting the wealth of the homeowner in question, these disparities may also limit their ability to assist future generations in attaining homeownership. Newly-released research showed a correlation between parental financial support and homeownership.⁹⁷ The study found that given existing disparities across racial/ethnic and socioeconomic groups, the relative inability of minority households to make such transfers can constitute a barrier to narrowing structural inequities.⁹⁸

93 "City Observatory - Racial Wealth Disparities: How Housing Widens the Gap." City Observatory, September 20, 2017. <http://cityobservatory.org/racial-wealth-disparities-how-housing-widens-the-gap/>.

94 Mikhitarian, Sarah. "Home Values Remain Low in Vast Majority of Formerly Redlined Neighborhoods." Zillow Research (blog), April 25, 2018. <https://www.zillow.com/research/home-values-redlined-areas-19674/>.

95 Kneebone, Elizabeth and Natalie Holmes, "U.S. Concentrated Poverty in the Wake of the Great Recession," Brookings (blog), March 31, 2016, <https://www.brookings.edu/research/u-s-concentrated-poverty-in-the-wake-of-the-great-recession/>.

96 Perry, Andrew M., Jonathan Rothwell, and David Harshbarger, "The Devaluation of Assets in Black Neighborhoods: The Case of Residential Property" (Metropolitan Policy Program at Brookings, November 27, 2018), <https://www.brookings.edu/research/devaluation-of-assets-in-black-neighborhoods/>.

97 Lee, Hyojung. "How Many Young Homebuyers Get Support from Their Parents and How Much of a Difference Does It Make?," Joint Center for Housing Studies of Harvard University, November 28, 2018, <http://www.jchs.harvard.edu/blog/how-many-young-homebuyers-get-support-from-their-parents-and-how-much-of-a-difference-does-it-make/>.

98 "How Many Young Homebuyers Get Support from Their Parents and How Much of a Difference Does It Make?"



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