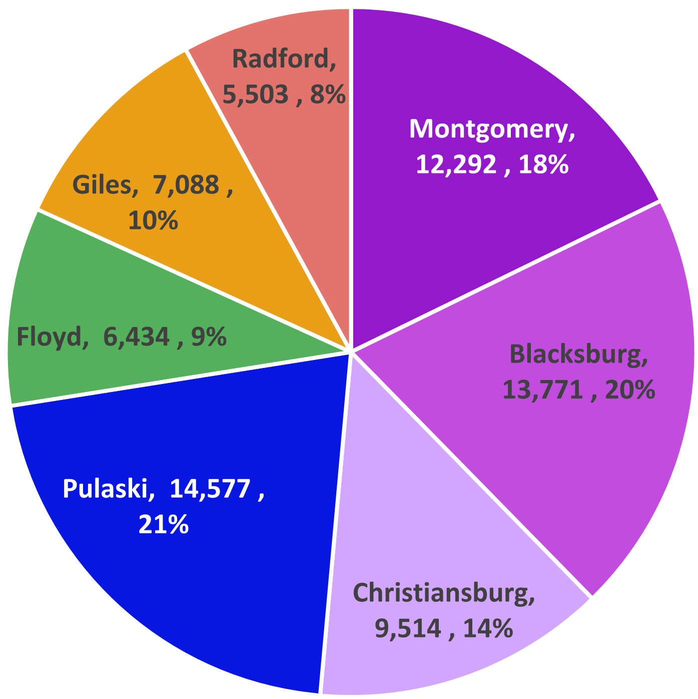
5. The Region

The NRV region includes four counties, Floyd, Giles, Montgomery, and Pulaski, as well as the City of Radford and 10 towns. The NRV population is 181,860 and comprises 69,180 households[2], each including two to three people on average. Just over half (51 percent) of households reside in Montgomery County and 21 percent live in Pulaski County. Fewer households live in Floyd (9 percent), Giles (10 percent), and Radford (8 percent). The Town of Blacksburg and the Town of Christiansburg are densely populated and include 65 percent of Montgomery County's 35,580 households.

Figure 2: Households by Jurisdiction

NRVRC-VCHR Tabulation of 2017 ACS 5-year Estimates



The NRV jurisdictions comprise the Blacksburg–Christiansburg–Radford MSA. The MSA designation[3] is based on the strength of intra-regional commuting patterns, which can be used to approximate a housing market. This is because households generally seek to buy or rent a home within a reasonable commute of their job just as households generally seek employment within a reasonable commute of their home. In total, 70 percent of workers living in the NRV also work in the region[4].

[2] US Census subject definition for "household": A household consists of all the people who occupy a housing unit. A house, an apartment or other group of rooms, or a single room is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters; that is, when the occupants do not live with any other persons in the structure and there is direct access from the outside or through a common hall. A household includes the related family members and all the unrelated people, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated people sharing a housing unit such as partners or roomers, is also counted as a household. The count of households excludes group quarters.

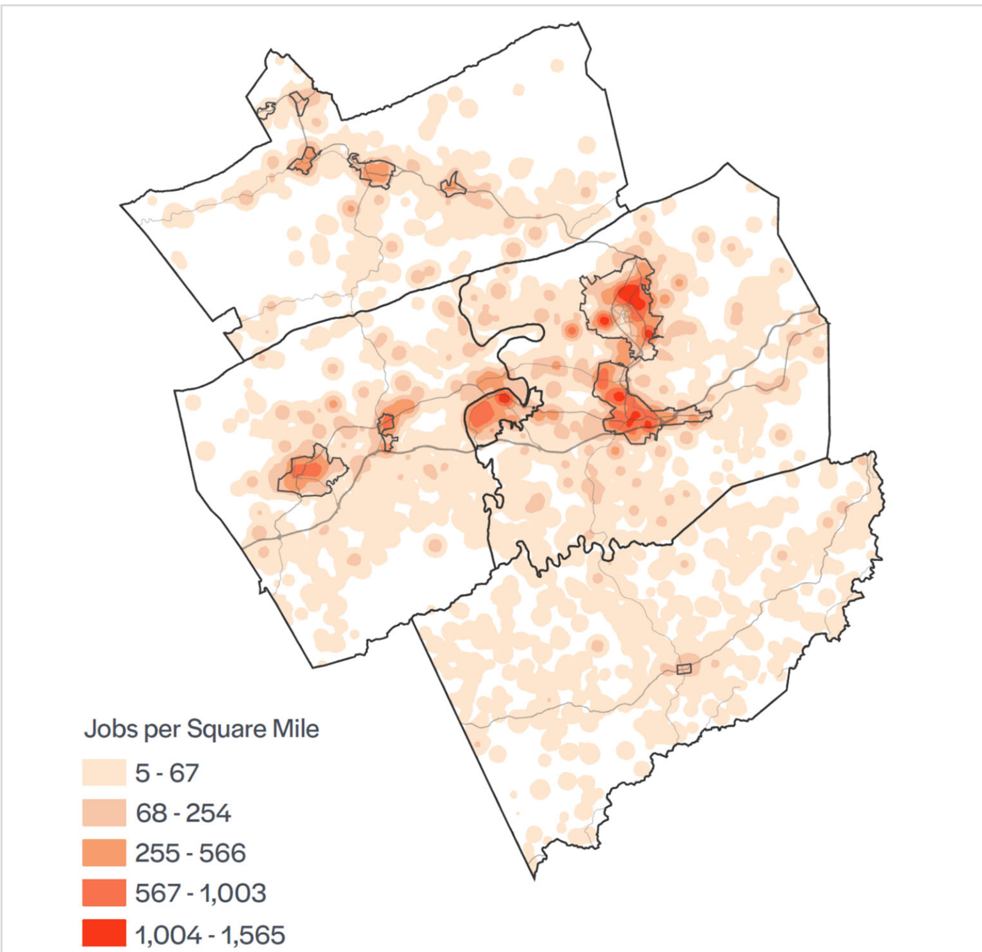
[3] The United States Office of Management and Budget (OMB) delineates MSAs and micropolitan statistical areas according to published standards that are applied to Census Bureau data.

[4] 2017 On the Map, All Primary Jobs

Employment in the NRV is concentrated in the college towns, retail areas, and manufacturing facilities in the region, with the largest concentration of jobs in Blacksburg, Christiansburg, and Radford. Virginia Tech is the region's largest employer, with approximately 7,000 employees at the Blacksburg campus. More than 200 companies located at the Virginia Tech Corporate Research Center employ an additional 3,300 in the region. Many of the town's retail, hospitality, and service businesses are supported by the student population (30,000+) and visitors to the university or events. Many workers with jobs in Blacksburg live in Christiansburg and other nearby commuter towns such as those in Giles County and Radford.

Figure 3: NRV Job Density

U.S. Census Bureau, Center for Economic Studies, 2017



A cluster of technology companies related to innovations at Virginia Tech has developed in Blacksburg, especially in the Corporate Research Center office park and downtown Blacksburg. In employer focus groups conducted for this study, companies described their efforts to attract talented workers to the region while competing with technology companies in more established clusters in large cities and metro areas. Potential new hires that cannot find suitable apartments or houses may decline to move to the region and instead accept a job in another place with more housing options. Several employers noted that a shortage of available housing for these new employees was a major impediment to their successful growth in the region.

Large manufacturing plants in the NRV represent an important destination for the region's commuters, with several large firms at locations outside of towns near interstates or railroads, often in rural areas outside of towns. These well-paying entry level jobs are typically not located near residential areas or transit systems, which is a major housing issue for those in poverty or struggling with homelessness. Several focus group participants noted the importance of stable transportation, day care, and other support services near jobs that are available for lower-income residents. Often, these jobs are in locations far from affordable apartment units or other housing that lower-income residents can afford, making reliable transportation essential to their ability to keep stable employment.

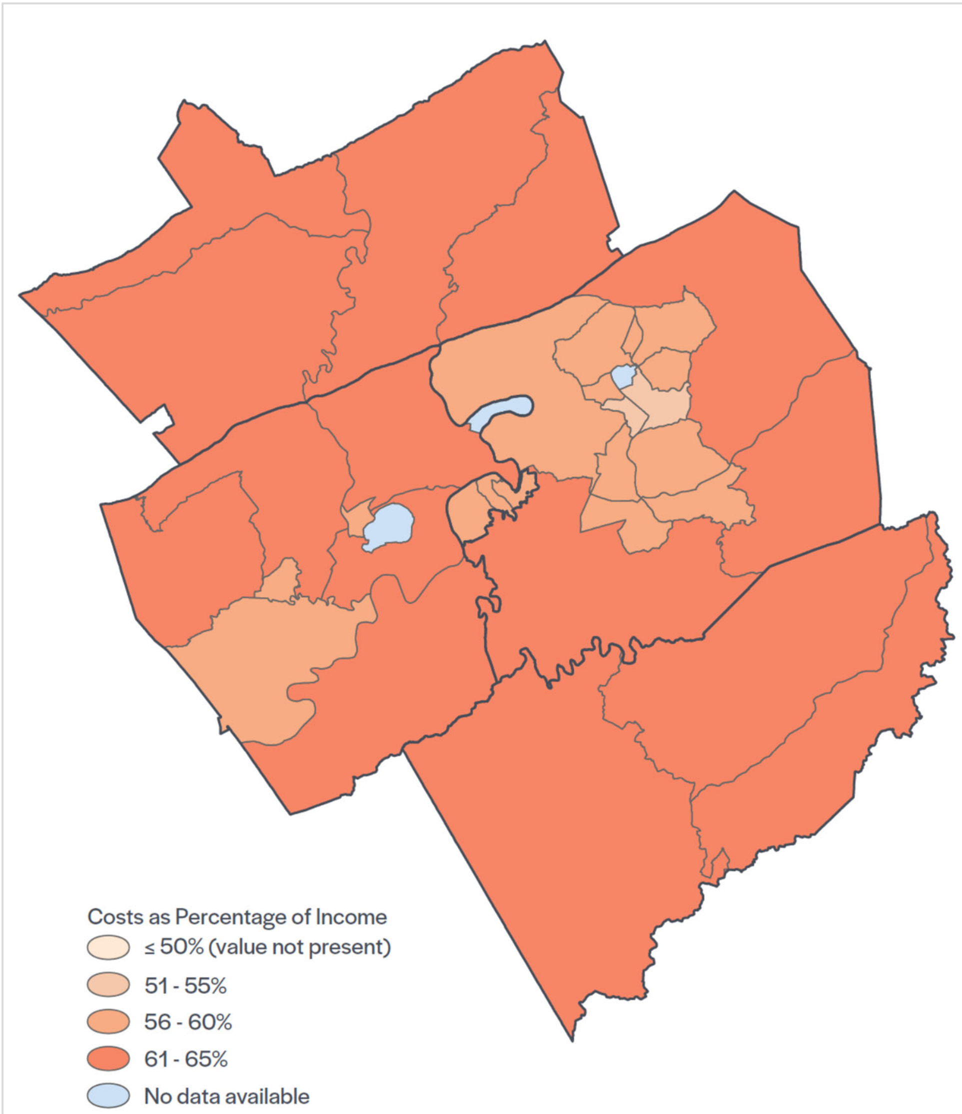
Many residents struggle to afford housing near their jobs in the region's towns and cities as well. Many jobs do not pay wages that allow workers to afford rents or mortgages in the towns where these jobs are available, especially Blacksburg. Housing affordability by occupation is discussed in more detail in "Workers" section, 6.3.2.

Location efficiency is an important concept in understanding submarkets within the region. Transportation is usually the second-highest household expense after housing[xxxi]. Location-efficient housing is typically close to good transit and public services, and it has features that reduce automobile dependency such as good walking and cycling conditions. Location efficiency tends to improve households' economic resilience; that is, households are better able to respond to unexpected financial burdens such as fuel price increases, vehicle failures, or income losses.

Walking and cycling conditions along with public transit make commuting without a car possible for some places in the NRV. Other location-efficient places have lower-cost housing options within short commutes of jobs, shopping, and services. Map 2 measures relative location efficiency in the NRV by showing housing and transportation costs as percentage of household income for a median-income family. The most location-efficient places are the towns of Blacksburg and Christiansburg in Montgomery County, the City of Radford, and the towns of Dublin and Pulaski in Pulaski County. Maps showing housing plus transportation costs for other household types are included in Appendix 1.

Figure 4: Housing and Transportation as a Percentage of Income for a Median-income Family by Census Tract

VCHR tabulation of HUD 2012-2016 Location Affordability Index data



Location efficiency of housing is more critical for lower-income households, as high transportation costs may negate savings from living far from the workplace. Very low-income individuals and families struggle with living costs even in the most location-efficient places. More information regarding housing affordability for low- and moderate-income workers is presented in the "Housing the Community" section.

The NRV offers housing options in urban, suburban, exurban, and rural settings with a well-connected road network. The NRV is relatively affordable compared to other Virginia metro areas, with the third-lowest median housing costs. However, relatively low housing costs cannot attract growth or offer the region a competitive advantage, because relatively few new homes are being built and market vacancies are low. Furthermore, high housing demand throughout the region drives up housing costs, especially in the two largest towns, Blacksburg and Christiansburg, which are both employment and amenity centers in the region.

Demand for housing in the NRV is increasing, as evidenced by decreasing days on market, low market vacancies, and increasing sale prices and rents. The median days on market (i.e., the number of days a home is listed on the MLS before it sells) has decreased steadily from 83 in 2010 to 9 in 2019, an 89 percent decrease over 9 years. Median days on market have decreased 83 percent since its pre-recessionary low in 2007.

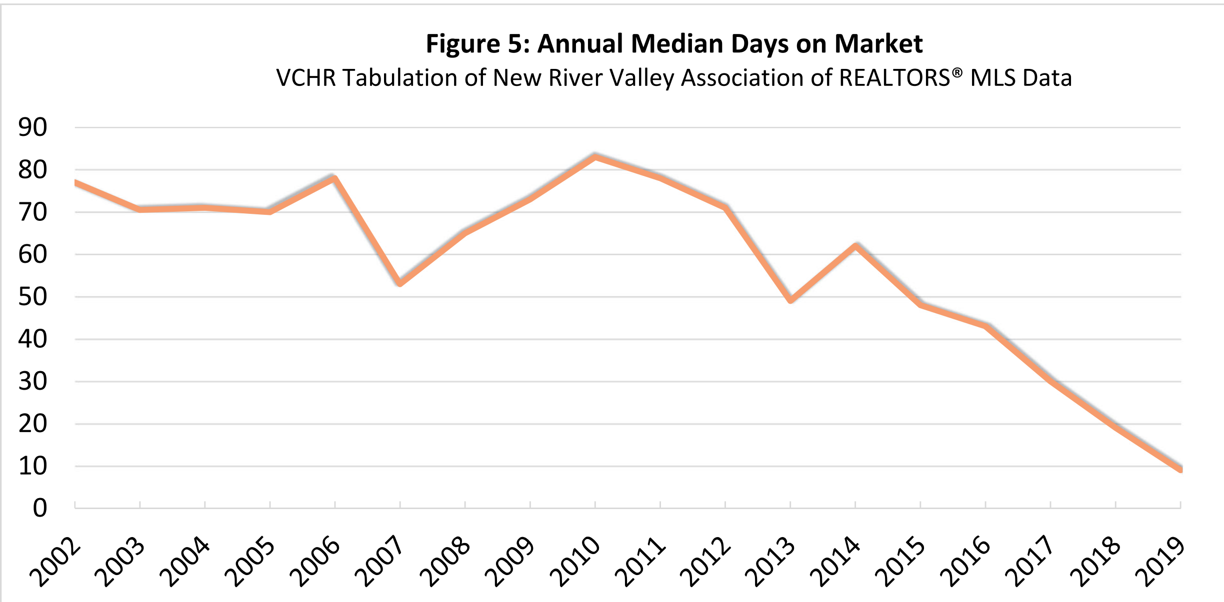


Table 5: 2019 Median Days on Market by Jurisdiction

VCHR tabulation of New River Valley Association of REALTORS® 2019 MLS data

Town of Blacksburg*	Montgomery County	Floyd County	Radford City	Town of Christiansburg*	Town of Pulaski*	Giles County	Pulaski County
3	18	36	13	7	13	15	12

*in town limits

Concurrently, sale prices and rents have increased. Sales prices increased 56 percent from 2002 to 2019 and 16 percent from their pre-recession peak in 2007, indicating a complete recovery from the housing crash and the Great Recession. Median price has increased in each jurisdiction, with the most substantial increase in the Town of Blacksburg.

Table 6: 2019 Median Sale Price and 2007–2019 Percent Change in Median Sale Price

VCHR tabulation of New River Valley Association of REALTORS® 2019 MLS data

	Giles County	Pulaski County	Town of Blacksburg*	Montgomery County	Floyd County	Radford City	Town of Christiansburg*
Median Price	$133,000	$153,440	$268,751	$250,000	$187,750	$160,000	$205,000
Percent Change	26%	23%	28%	4%	25%	19%	18%

*in town limits

Gross rent, including both rent and utilities, increased nearly 40 percent between 2007 and 2017. Vacancy among for-rent units is also low. Less than 2 percent of NRV-wide rental units are vacant, indicating that the rental market is nearly as tight as the homeownership one is. Furthermore, most rental units are located near the region's universities and serve the student population that rents units on a July–June lease cycle. The domination of the rental market by university students makes finding an available unit outside of this cycle challenging. Focus group participants consistently mentioned that non-students moving to the region for jobs have difficulty finding rental and high-quality units that are not in student-dominated developments.

Each jurisdiction plays a role in the NRV economy and housing market. The NRV's urban places surround both current and historic jobs centers. Blacksburg has become both the employment and amenities center of the NRV owing to the jobs provided by and large student population of Virginia Tech. Blacksburg's housing stock is the most location-efficient in the region because of its proximity to jobs and a relatively comprehensive public transit system that includes road networks, buses, trails, and sidewalks. Given these characteristics, Blacksburg is ideal for low-wage employees who work there, but it is both the highest-priced submarket of the NRV and subject to the greatest market pressures.

Blacksburg's housing is about 70 percent rental. With more than 25,000 students living in town and an average of 2–3 people per rental unit, the 9,500 rental units in town are targeted at and largely occupied by students. Demand for additional rental units add significant pressure to the ownership market because investors in such rentals compete with prospective owner-occupants. Owing to the intense demand, at the beginning of 2020, the Town of Blacksburg had projects under construction comprising nearly 1,500 net new multifamily bedrooms and 7 affordable townhomes. In addition, projects adding more than 5,000 multifamily bedrooms and 100 single-family lots have been approved for development, and ones adding more than 1,300 additional bedrooms are under review.

The neighboring town of Christiansburg is another employment and amenities center in the NRV and is very conveniently located for households that work in Blacksburg. Christiansburg is also an efficient location for households with a member commuting to Blacksburg while other members commuting to other places in the NRV or beyond. Christiansburg offers more accessible housing prices and newer stock than nearly any other jurisdiction, and it has both urban and suburban neighborhoods to suit a more diverse set of housing preferences. Christiansburg currently has the largest number of non-student entitled developments in the region. In total, 906 units are slated for development, comprising 187 single-family detached units, 319 townhomes, and 400 apartments.

Montgomery County manages growth around the two largest towns. Large developments are entitled near the village of Prices' Fork, just outside Blacksburg, responding to demand for new housing close to the town. These developments are suburban in character in contrast to the exurban and rural settings in most of the county. Both Giles and Montgomery Counties have housing in a rural setting within a 15-minute drive to Blacksburg; therefore, both counties are working to respond to housing demands while preserving rural and bucolic settings and lifestyles.

Giles is one of the most-rural jurisdictions in the region. It has a history of town-centered development along the 460-corridor that the county continues to promote to maintain its rural, mountainous setting for residents and is the focus of the county's economic development strategy centered around outdoor recreation. Access to water and sewage helps direct the density of residential development and preserve rural and wilderness areas in the county. Housing demand and development interest growing in the Newport and Pembroke areas of Giles, stemming from growth in the region's largest employment centers in Blacksburg and Christiansburg.

The City of Radford is home to Radford University and is in the geographic heart of the NRV. Bordered by the New River on three sides, the city offers residents recreational opportunities and river access at the 57-acre Bisset Park. The city's housing stock is relatively affordable and more rental units are available, reducing pressure from investors in the for-sale market. Other characteristics of the city's housing stock include small homes on small lots that were built for industrial workers in the 1930s and 1940s that continue to serve moderate-income families today.

Pulaski County is the second-most populated county in the region. Pulaski has large-scale employers that attract households to live in the area. Pulaski County includes two towns, the historic Town of Pulaski and the Town of Dublin. Pulaski has among the most-affordable housing prices and rents in the region, but the percent of the stock available for rent or for sale is relatively low. Pulaski has entitled new housing and is working to address long-term vacancies along with community development improvements.

Floyd County is known for its rural, agrarian atmosphere and the artisans who have made the county their home. Amenities in the Town of Floyd as well as rural housing paired with high-speed, reliable internet infrastructure has made Floyd an ideal residence for millennial and boomer households that prefer rural lifestyles. Although Floyd's sale prices have increased 20 percent since 2007, homes have stayed on the market longer than any other jurisdiction, possibly signaling a mismatch between regional demand and location or type of housing.

The "Local Profiles" section provides more detail on housing in each jurisdiction, and local strategies complement or extend regional strategies. Local and regional perspectives are emphasized equally because submarkets are critical to the region-wide market dynamics. Moreover, municipal investments, incentives, and regulations help define submarkets and are important components of both regional and local strategies.

6. Housing the Community

Households are economic agents that seek the best "housing package" based on their needs, preferences, and resources. Their choice is based on a host of needs and preferences ranging from house characteristics (e.g., size, utilities, number of bedrooms, number of bathrooms, number of levels, and finishings) to location characteristics (e.g., neighborhood, schools, commute to jobs, distance to shopping, and proximity to friends and family). Households consider tradeoffs among these needs and preferences in the context of financial accessibility or affordability. Because households are diverse in composition and income, housing needs and preferences also vary.

6.1 Housing Preferences

Location

Communities in high demand can be broadly characterized by accessibility to employment centers, shopping, and services. Whereas community preferences vary by income (which influences their purchase motivations), distance to employment is important across all income brackets[xxxii]. Key characteristics of the communities that consumers pursue also depend on their age and household type. Younger people prefer communities that reflect their success and achievements, whereas older people prefer communities that offer healthy lifestyles and social opportunities[xxxiii]. Many homebuyers prefer the suburbs, especially those with a mix of business and shopping. However, the proportion of potential homebuyers that prefers living in small towns and rural areas is not small. The National Association of Home Builder (NAHB) survey shows that 24 percent of respondents prefer rural places and 11 percent prefer the central city[xxxiv]. Millennials are most likely to prefer buying a house in the city center (23 percent) compared to gen Xers (11 percent) and baby boomers (8 percent).

Type

Detached single-family homes are the most-popular housing type nationwide, accounting for 82 percent of home purchases[xxxv]. In response, 85 percent of new homes are single-family detached homes[xxxvi]. However, 23 percent and 13 percent of young millennials would consider living in townhouses and condominiums, respectively. Consumers interested in more-affordable and more-accessible locations are willing to consider smaller options rather than the pricier and larger single-family detached homes[xxxvii].

Size

The average house purchased was built in 1991, spans 1,900 square feet, and has three bedrooms and two bathrooms. Buyers aged 39 to 53 tend to choose larger homes, at 2,100 square feet, reflecting needs of more family members and purchasing power. In contrast, young adults and older people aged over 55 prefer smaller homes in the 1,500 to 1,900 square-foot range[xxxviii]. Since 2016, there has been a trend toward smaller homes: according to U.S. Census Bureau, as of 2018, the average home size has declined and home builder supply has focused on units with less than four bedrooms and less than three bathrooms[xxxix].

Features

Heating and cooling costs are considered the most important environmental features when purchasing a home[xl]. According to the NAHB survey, 86 percent of homebuyers prefer open-style or partially open-style kitchens and dining rooms[xli]. They prefer stainless-steel appliances (67 percent) as well as top finishes and granite or natural-stone kitchen countertops (57 percent). Depending on the type of household (e.g., age and whether they have a family), other recent trends include farmhouse styles incorporating ample amounts of wood; engineered quartz countertops for color flexibility; vinyl and resilient flooring, especially for aging in place; wireless controls; and higher-end fixture installations in the bathroom such as wall-mounted sinks, faucets, and toilets.

Internet Access and Broadband

Single-family homes with access to a 25 Mbps broadband connection pay approximately 3 percent more for their homes than similar ones in neighborhoods with 1 Mbps connections[xlii]. According to a study by the Strategic Networks Group (2019), 40 percent of those aged 18–34 said they would relocate for broadband, whereas more than one third of those over 65 would do so. A Pew Research Center survey (2015) finds that 40 percent of non-high-speed users say that lack of access to broadband is a major disadvantage for learning about or accessing government services; in addition, 37 percent say that lacking broadband at home is a major disadvantage for learning new things that might enrich their lives[xliii]. Approximately 58 percent of rural residents lacking access to high-speed internet in their area believe that this is a problem[xliv].

6.2 Housing Shortage and Needs at all Income Levels

Data regarding housing availability and that collected from housing expert focus groups suggest that households at all income levels are experiencing a housing shortage. Decreasing days on market and increasing sale prices indicate that demand for owned housing is outpacing supply, and increasing rents and low vacancy rates suggest that the supply of rental housing may also be inadequate to meet demand.

Homeownership Opportunities

Potential homebuyers face a tight market in the NRV, with 9 median days on market in 2018. Highly competitive markets favor experienced buyers that can make cash offers. Limited supply implies that potential buyers who are less willing or able to make offers quickly after a home is listed for financial or time considerations are likely to be excluded from the market. NRV buyers are fatigued in their home search owing to few median days on market, and some give up the search all together. Realtors report that homebuyers who need financing can no longer compete in the tightest submarkets, because bidding wars often push offers above appraised value and thereby exclude buyers that need financing. Realtors have described the Town of Blacksburg as "closed" to moderate-income, first-time homebuyers unless they can purchase a condominium with cash. One survey respondent described their experience as exhausting and exasperating. The respondent felt that affordable homes were being purchased by parents of students or others in their position that were making cash offers that exceeded list prices.

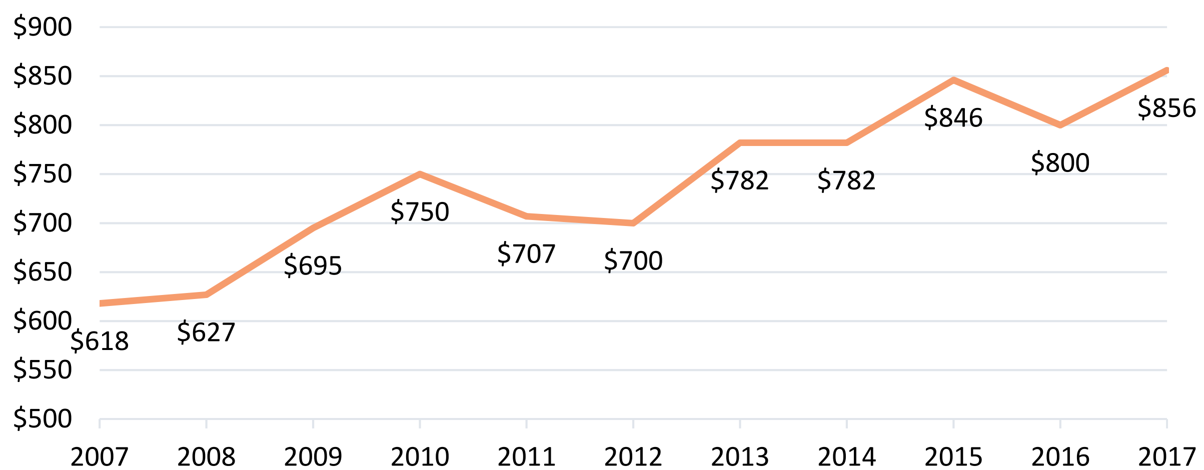
Over the June 2018–May 2019 period, 1,650 homes were sold in the NRV. Homes in the 25th to 75th percentile range were priced between \$132,000 and \$275,000 during this period. Competition for these homes was highest, with 13.5 median days on market. Higher-priced homes were also in relatively high demand, with 20 median days on market. Home prices lower than \$132,000 were on the market the longest, at a median of 27 days. Homes priced lower than \$100,000 tended to stay on the market even longer, with 38 median days on market. This may mean that they did not readily meet the needs of most households in terms of location, size, or condition.

Rental Opportunities

Most of the region's rental stock (72 percent) is in Montgomery County and the City of Radford, much of which is intended to serve students attending the region's universities. Households headed by students occupy about 38 percent of the NRV's rental stock; therefore, much of the stock is on a July–June rental cycle. Long-term occupants who moved into their units in 2009 or earlier occupy another 20 percent of the rental housing stock. The remaining stock is occupied by non-student households who have moved in 2010 or later.

Although too few vacant rental units in the NRV exist to provide a precise value, we can reliably estimate that the rental vacancy rate is 1.5–2.4 percent. Except for the City of Radford, units throughout the region are likely to be rented nearly continuously. Rents have therefore trended upwards, with median rent increasing 38.5 percent over the 10-year period 2007–2017.

Figure 6: NRV Median Gross Rent
2007-2017 ACS 1-year Estimates



Employers, economic development professionals, service providers, and residents have expressed frustration with the tightness of the rental market. Employers explained that new employees have difficulty finding appropriate, high-quality rental housing when they accept jobs in the region. Economic developers and employers expressed that high-quality rental housing for professionals is imperative for employee quality of life. This is because many prefer to rent and those who would like to purchase a home must rent while they learn the market and either endure a long search process or build a new home.

Like the homebuying market, competition for rental units marginalize low- and moderate-income households, especially those who are new to the market. Although some income-restricted units exist in the NRV, they represent only 9 percent[5] of the rental housing stock. Therefore, some households must accept rents that are higher than they can afford to obtain housing.

6.3 Vulnerable Populations

The housing shortage in the NRV creates economic, infrastructure, and health vulnerabilities throughout the community for residents, businesses, and workers, particularly affecting some residents and workers.

6.2.1 Households Requiring More Affordable Housing

At least 14,500 non-undergraduate households living in the NRV[6], or 23 percent of non-student households, spend more than 30 percent of their income on housing and may need more affordable housing. Households spending more than 30 percent of their income on housing are considered cost-burdened. These households are included in the dark blue segments in Figures 8 and 9. Despite potentially improved affordability, finding a new place to live is difficult in the tight NRV housing market. Thus, residents likely continue to be cost-burdened, sacrificing other needs like medical care or home maintenance. This situation is compounded for those seeking units costing less than $275,000 and for those with additional requirements that limit their search (e.g., remaining in the same school district, accessibility requirements for aging in place, and locating within a particular distance to a job or childcare provider). Examples were provided by survey respondents:

"We have been looking for over three years and have not found anything that meets our requirements or budget. We need a handicap-accessible home for my aging mother, and it all needs to be on one level with a two-car garage and on a level lot. The prices are completely unreasonable in the area. Only the rich can afford to live here anymore. Prices in Christiansburg are even higher than Blacksburg now and that has never been the case."

"I need a bigger house (four-bedroom unit) that is priced at no more than $105,000, which is hard to find."

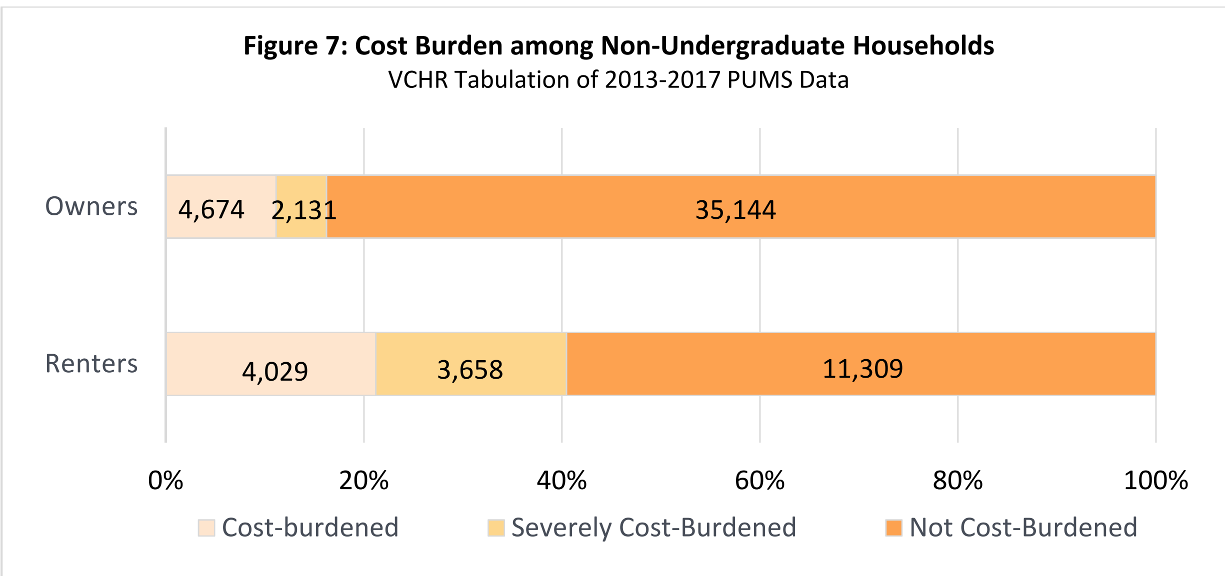
[5] The National Housing Preservation Databased indicated that there are 2,205 units in the region with active subsidies. Subsidies generally have associated income restrictions.

[6] Undergraduate households have been excluded from this analysis because of lack of data on housing income and expenses.

"I have a budget of $50,000 and the only thing I can find for a family of five is run-down and needs a lot of work. I cannot afford to pay a mortgage and pay rent while I make a home livable for three small children."

Nearly half of all households spending more than 30 percent of their income on housing are severely cost-burdened, with a spend of more than 50 percent of their income on housing. Severely cost-burdened households are likely making choices between housing and necessities like food and clothing. Severely cost burdened households with incomes below the regional median are at risk for homelessness. **At least 5,500 income-restricted units are needed to relieve and stabilize community members that have been unable to access housing without sacrificing other elements of their basic well-being.**

Renters are more likely than owners to be housing cost-burdened because their housing costs are more variable and the mortgage financing process prevents owners from obtaining unaffordable housing. Nonetheless, 5,900 owner households need more affordable housing and likely became housing cost-burdened due to economic hardship (e.g., job loss, income stagnation, or major home repair).



Housing Gap Analysis

VCHR's gap analysis for low- and moderate-income households indicates a shortage of units affordable to renters with extremely low incomes of less than 30 percent of AMI. As shown in the two leftmost columns of Figure 8, more households exist with incomes less than or equal to 30 percent of AMI than rental units within this affordable range. Households with incomes greater than 30 percent of AMI occupy more than half of the units that are affordable to extremely low-income renters.

Households with higher incomes often compete better for housing units because they are more attractive to landlords and finance agencies. Households with higher incomes than they need to afford their unit occupy nearly 46 percent of rental units affordable to households with low incomes of 30–50 percent of AMI. Because lower-income households must compete with higher-income ones for affordable units, many accept a housing cost burden to obtain a home. For example, there exists sufficient stock to accommodate renters with very low (30–50 percent of AMI) and low incomes (50 to 80 percent of AMI), but households with higher incomes (shown in yellow) occupy much of that stock. Many households in these two low-income groups must therefore accept housing that they likely struggle to afford. Households with income less than needed to afford their unit (shown in orange) occupy 63 percent of units affordable to very low- and low-income households.

Although many low-income households may be student households for which we do not have reliable income data, nearly 7,690 non-student renter households are cost-burdened. Of these, more than 5,400 are extremely low-income and 1,700 are very low-income households. With less than 5,000 rental units affordable to extremely low-income households and 54 percent of those units occupied by households with incomes greater than 30 percent of AMI, a significant gap remains even when student households are removed from consideration.

There are 1,450 vacant units affordable to renters with incomes below 80 percent of AMI. Most of these units are affordable to households with incomes between 30 and 50 percent of AMI; however, more than 7,500 households with incomes below 80 percent of AMI could benefit from an affordable unit. These units may not be occupied because they do not match households' other criteria for appropriateness, such as size, location, or quality.

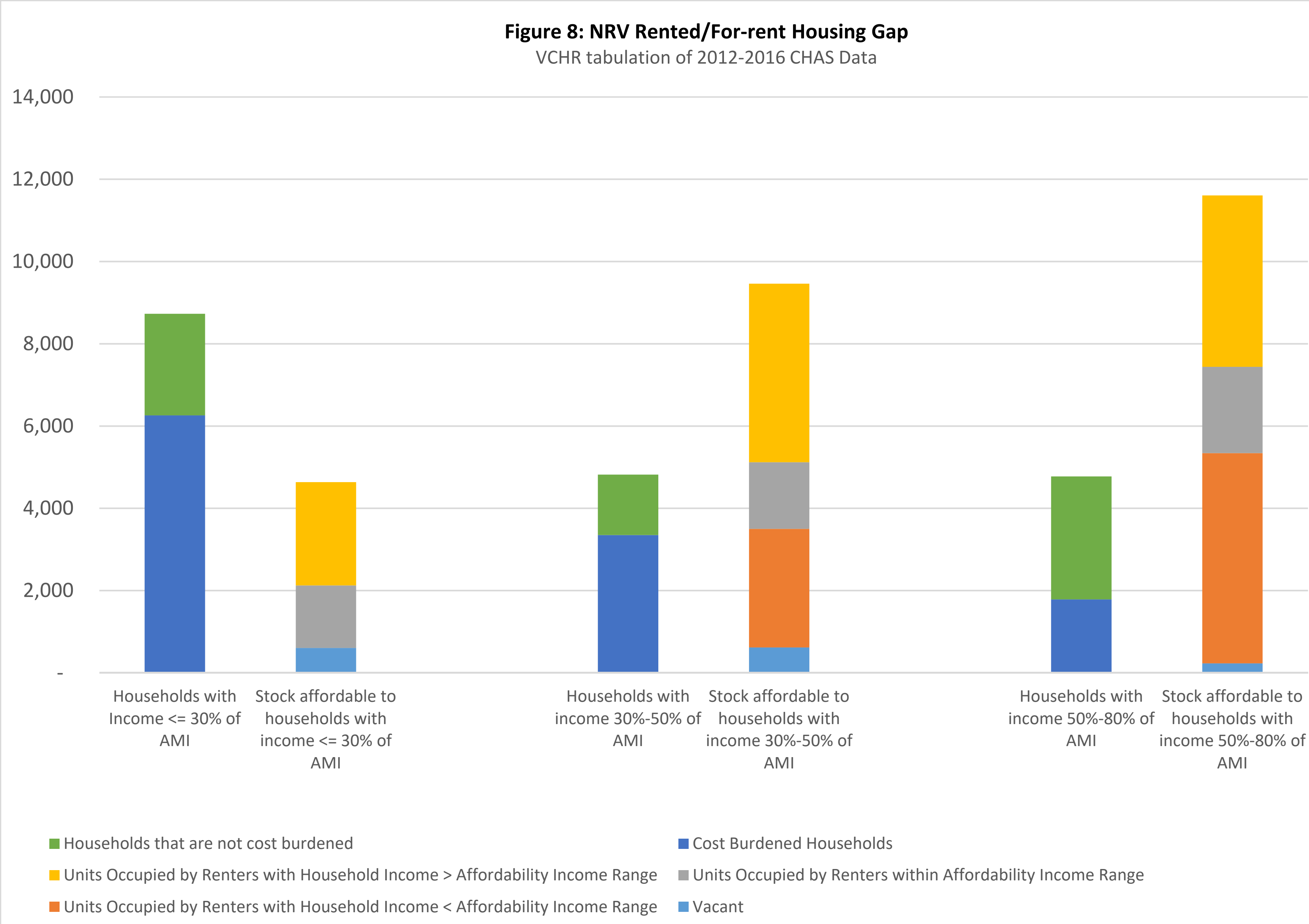


Figure 8: NRV Rented/For-rent Housing Gap
VCHR tabulation of 2012-2016 CHAS Data
14,000
12,000
10,000
8,000
6,000
4,000
2,000
-
Households with Income <= 30% of AMI
Stock affordable to households with income <= 30% of AMI
Households with income 30%-50% of AMI
Stock affordable to households with income 30%-50% of AMI
Households with income 50%-80% of AMI
Stock affordable to households with income 50%-80% of AMI
Households that are not cost burdened
Cost Burdened Households
Units Occupied by Renters with Household Income > Affordability Income Range
Units Occupied by Renters within Affordability Income Range
Units Occupied by Renters with Household Income < Affordability Income Range
Vacant

There are approximately 6,800 cost-burdened owners in the NRV. Although this number is not substantially impacted by students, undergraduate-headed households have been removed from the count. These households are represented in dark blue in Figure 8. In addition to the points noted earlier, homeowners benefit from relatively fixed housing costs and access to home equity that can smooth long-term consumption despite temporary economic hardship.

Most households living in owner-occupied units affordable to households with low and moderate incomes have incomes higher than needed to afford their unit comfortably. Figure 8 shows a clear preference among households for spending less than 30 percent of their income on housing. Owners with higher incomes than needed to afford their home occupy 70 percent of units affordable for households with incomes less than 100 percent of AMI. The owned stock that is affordable to households with low incomes (more than 24,923 units) far outnumbers units that are affordable to moderate-income households, that is, those with incomes of 80–100 percent of AMI (5,786 units). Despite preferences to consume housing that costs less than 30 percent of household income, some households currently occupying lower-priced units may want to “upgrade” if there were more moderately priced appropriate units available (most of which are occupied by households with higher incomes).

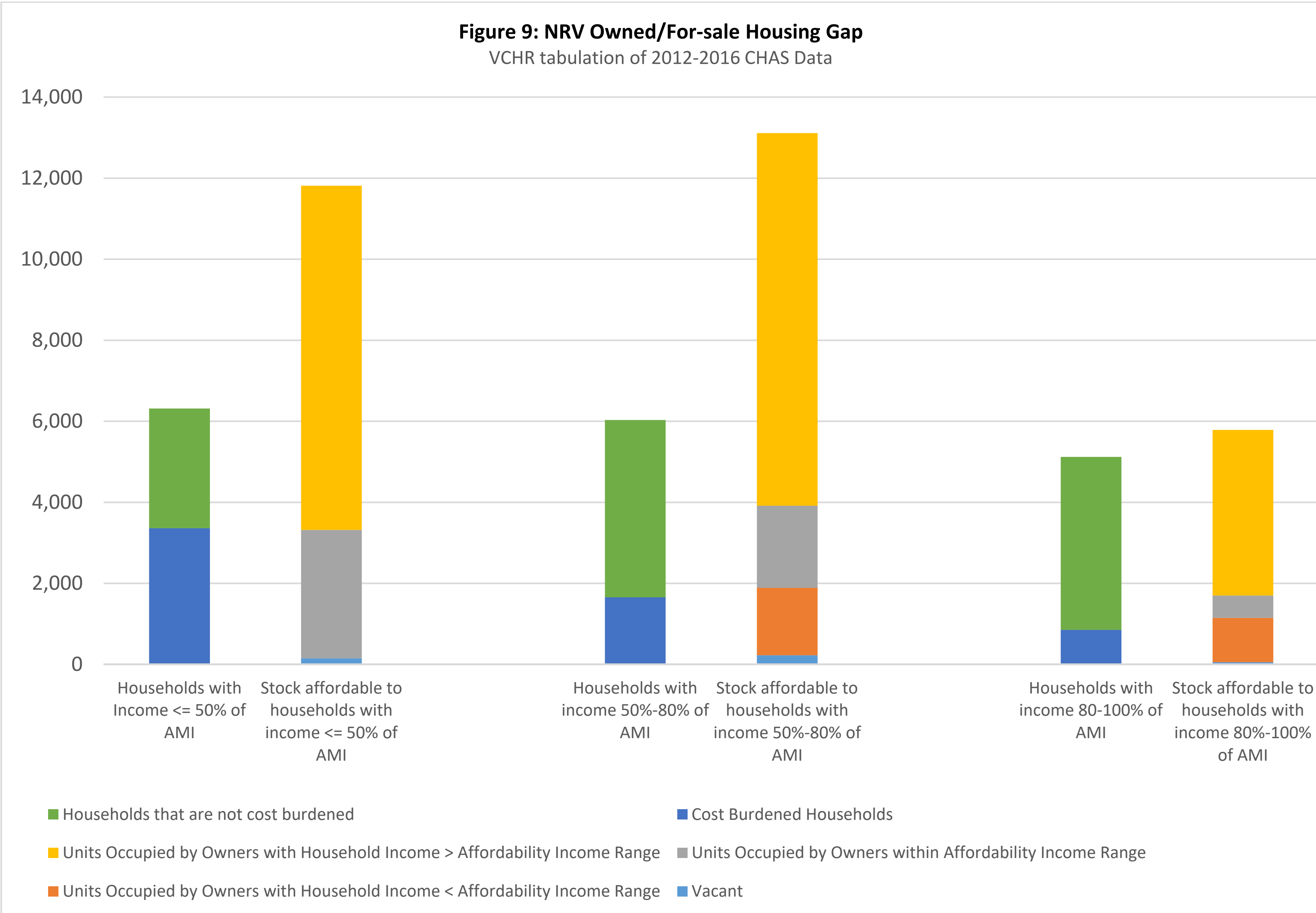
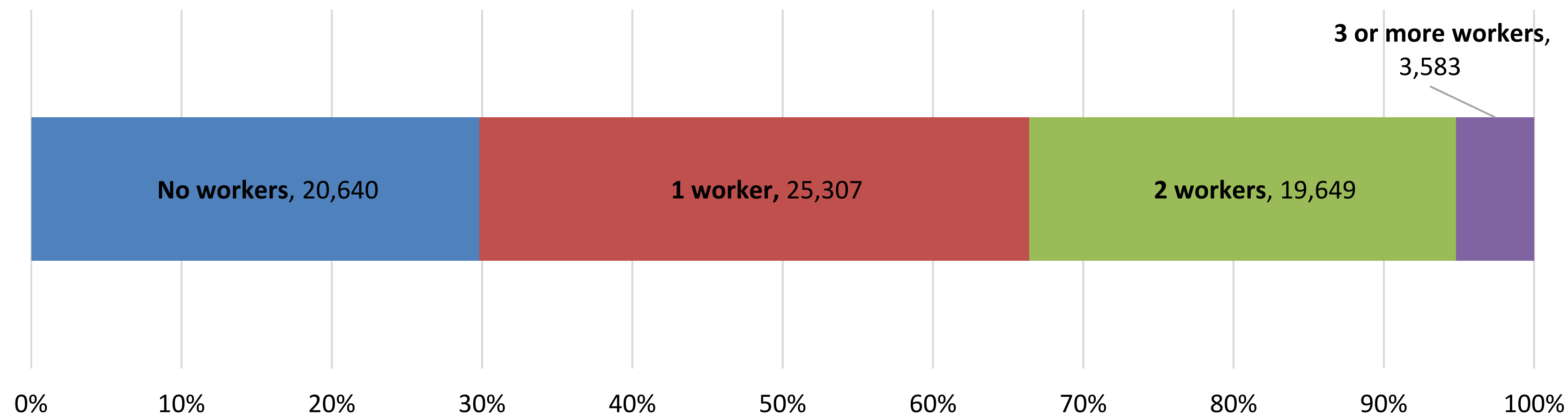


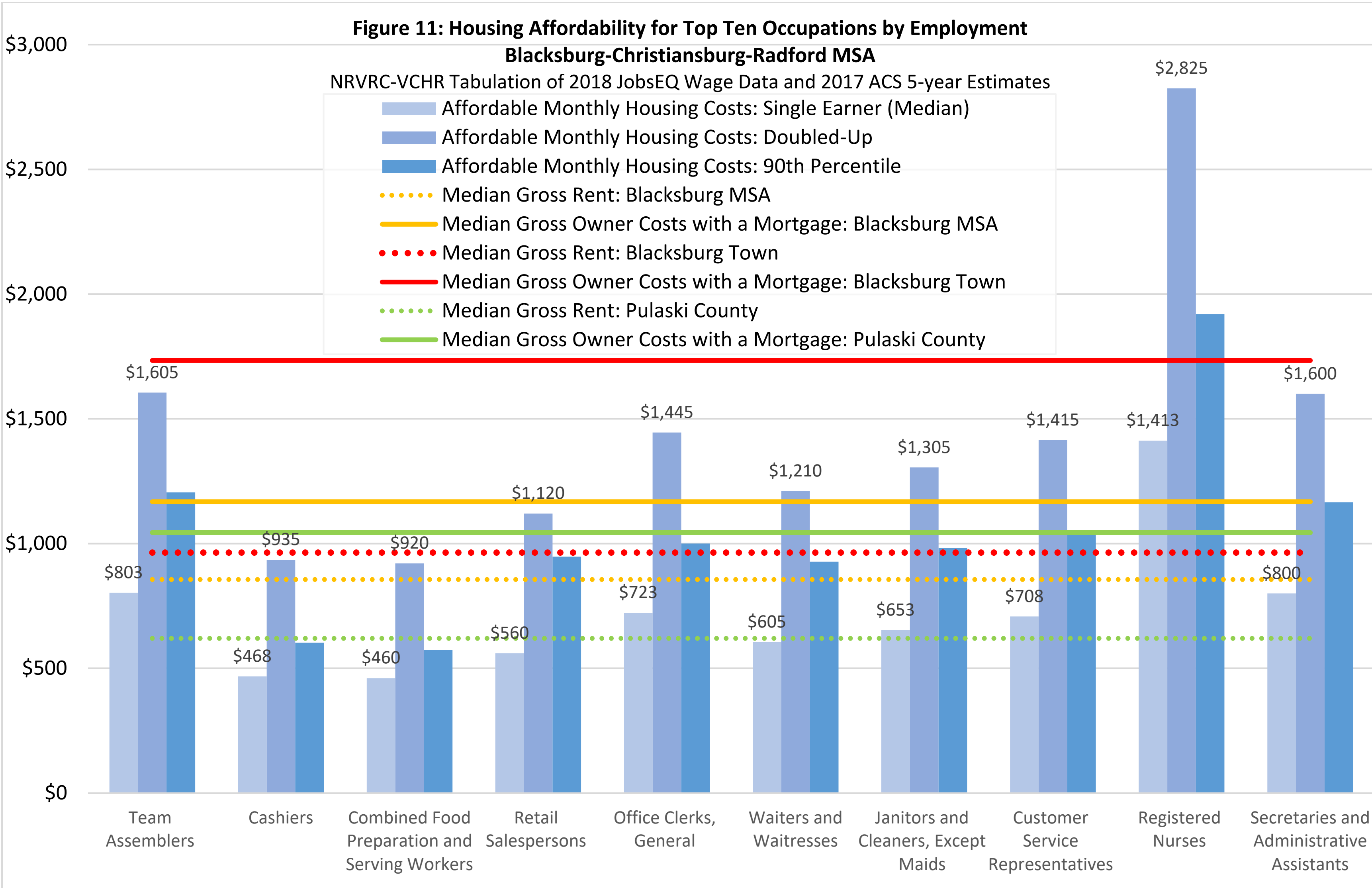
Figure 9: NRV Owned/For-sale Housing Gap
VCHR tabulation of 2012-2016 CHAS Data
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Households with Income <= 50% of AMI
Stock affordable to households with income <= 50% of AMI
Households with income 50%-80% of AMI
Stock affordable to households with income 50%-80% of AMI
Households with income 80-100% of AMI
Stock affordable to households with income 80%-100% of AMI
Households that are not cost burdened
Cost Burdened Households
Units Occupied by Owners with Household Income > Affordability Income Range
Units Occupied by Owners within Affordability Income Range
Units Occupied by Owners with Household Income < Affordability Income Range
Vacant

6.3.2 Workers

Over 70 percent of NRV household include at least one worker, and more than 80 percent of family households (which largely exclude undergraduate students) are working. We can characterize some households that struggle to find housing that is affordable anywhere in the region by examining wages by occupation. Workers in 124 occupations in the region cannot afford the median rent ($865) or median owner costs with a mortgage ($1,168) in the NRV as single earners earning the median for their occupation. Workers in 24 occupations comprising 10,146 total employees cannot afford the median rent or owner costs in the NRV when they are earning at the 90th percentile for their occupation. Moreover, workers in 9 of the top 10 occupations by employment cannot afford the median rent as single earners earning the median wage, and median owner costs are affordable only when sharing housing costs with another earner for those earning the median wage for 7 out of the top 10 occupations. As the region grows, low-wage service and retail jobs outpace high-paying jobs.

Figure 10: NRV Households by Number of Workers
2017 ACS 5-year Estimates





As the region grows, low-wage service and retail jobs outpace high-paying jobs. More income-restricted units that are affordable to low- and moderate-income households are required to sustain the desirability of our community with services such as healthcare and childcare as well as with amenities like restaurants, shopping, and entertainment.

Table 7: Housing Affordability for Mandatory Service Occupations		Maximum Affordable Monthly Housing Costs		
Occupation	**Number of Employees**	**Single Earner at the Median**	**Single Earner at the 90th Percentile**	**Dual Earner**
Elementary and Middle School Teachers	1,010	$1,158	$2,315	$1,508
Registered Nurses	1,104	$1,533	$3,065	$2,198
Secondary School Teachers	512	$1,153	$2,305	$1,528
Childcare Workers	400	$493	$985	$680
Preschool and Kindergarten Teachers	307	$685	$1,370	$1,233
Special Education Teachers	252	$1,180	$2,360	$1,735
Postal Service Workers	209	$1,308	$2,615	$1,688
Police Officers	350	$1,223	$2,445	$1,635
Home Health and Personal Care Aides	961	$545	$1,090	$740
Firefighters	140	$1,083	$2,165	$1,788
Librarians	128	$2,020	$3,048	$4,039
Emergency Medical Technicians and Paramedics	79	$843	$1,685	$1,310
Criteria for Affordability (Based on median gross rent and median gross owner costs with a mortgage, 2017, 1-year estimates, ACS)				
Cannot afford median rent; can afford only lower-quartile rent (affordable monthly housing cost <$856)				
Can afford median rent (affordable monthly housing cost $856–$1,167)				
Can afford to rent and own (affordable monthly housing cost >$1,167)				

6.3.3 Children

The consequences of housing unaffordability and instability challenges are arguably the most severe for children. Nearly 4,200 cost-burdened households in the region include children. K–12 educators, professionals and service providers described substandard housing and housing instability experienced among families and kids in the NVR. They explained that some families must accept housing that is overcrowded and/or in poor condition. They further described the stress that children face when parents struggle to provide childcare and work long and/or opposite shifts. One participant gave an example of parents who must wake their children each night to accommodate one parent's night shift commute while meeting the household's other transportation needs with their single vehicle.

Research also shows that family cost burden is related to child development and educational achievement. Several studies find that increases in a family's disposable income significantly improve children's test scores[xlv]. Newman and Holupka (2014) find that families that are not cost-burdened are more likely to spend a portion of their income on child enrichment, which affects child cognitive achievement[xlvi]. Furthermore, level of cost burden is inversely related to the amount of money households are likely to spend on child enrichment.

According to the MIT Living Wage calculator, a household with one adult and one child must earn a full-time wage of $25.39 to cover typical expenses. In a household with two househ adults and one child, each adult must earn at least $14.01 per hour, full time. For a single earner with one or more children, earning minimum wage in a full-time position means that the family lives below the poverty line.

Table 8: Living Wage Calculation for Blacksburg–Christiansburg–Radford, VA[7]

Source: 2020 Dr. Amy K. Glasmeier and the Massachusetts Institute of Technology

Family Composition and Workers		Living Wage	Poverty Wage	Minimum Wage
1 Adult (working)	0 Children	$11.82	$6.00	$7.25
	1 Child	$25.39	$8.13	$7.25
	2 Children	$30.01	$10.25	$7.25
	3 Children	$37.01	$12.38	$7.25
2 Adults (1 working)	0 Children	$18.82	$8.13	$7.25
	1 Child	$23.12	$10.25	$7.25
	2 Children	$25.59	$12.38	$7.25
	3 Children	$29.27	$14.5	$7.25
2 Adults (both working)	0 Children	$9.26	$4.06	$7.25
	1 Child	$14.01	$5.13	$7.25
	2 Children	$16.3	$6.19	7.25
	3 Children	$19.19	$7.25	7.25

[7] More detail and typical expenses provided at https://livingwage.mit.edu/

Parents that are forced to work multiple stressful jobs to afford their housing costs may not be able to be as involved in and supportive of their children as parents that can comfortably afford their homes[xlvii]. Yeung, Linver, and Brooks-Gunn (2002) reviewed an array of empirical studies and concluded that "economic hardship diminishes parental abilities to provide warm, responsive parenting[xlviii]."

6.3.4 Students

Substandard, inappropriate or unaffordable housing can affect students' academic performance no matter if they are adults or children. Negative impacts on academic performance impact students' wellbeing and future opportunities. Furthermore, diminished academic and labor-market accomplishments can diminish community-wide economic opportunity.

K–12

Limited research has found that unaffordable housing contributes directly to children's poor attendance and performance in school[xlix]. Gagne and Ferrer (2006) find that major home repair requirements and short length of residence negatively affect children's math scores[l]. Low-income children who live in more affordable areas tend to have better health and educational outcomes, and effects are stronger on adolescents than on school-aged children. For children of all ages, grade retention increases as housing affordability decreases[li].

Parents constrained by residential instability may not be able to prioritize helping children with their homework or be involved in school activities[lii]. Family and child stress may directly impact a student's education and future career success. Stress during early childhood years (e.g., that caused by parental unemployment or their demanding jobs), may diminish subsequent academic and labor-market accomplishments of the children[liii].

College

Housing challenges among college students are hard to document using publicly available data as they often live with roommates and all sources of financial support are not readily documented. However, research on housing challenges nationwide has shown that many college students experience housing insecurity. The concept of housing insecurity includes not only homelessness, which is an extreme form of insecurity, but also unaffordability, which is represented by difficulty in paying rent or utilities or in moving frequently. Major causes of housing insecurity for students include shortage of affordable housing, high college costs, and insufficient financial aid. Limited expansion of financial aid has created significant financial stress on individuals and their families[liv]. If the total cost of attendance is overlooked, students may have limited access to the amount of financial aid they need to pay for college[lv]. This, in turn, may reduce food and housing spend[lvi]. Broton and Goldrick-Rab (2014) estimate that just one quarter of families who need housing support receive it[lvii]. Non-tuition college costs, which account for more than 60 percent of the costs of attending college, are missing from the Section 8 income eligibility formula. Furthermore, students working to earn living expenses may be disqualified by exceeding the Section 8 voucher income limits. A HUD Office of Policy Development and Research (PD&R) article titled "Barriers to Success: Housing Insecurity for U.S. College Students" notes that both college tuition and housing costs are rising while real incomes remain stagnant or even decrease, making it harder and harder for students to afford both tuition and necessities like housing, food, and medical care[lviii].

In a survey of 4,000 students in 10 community colleges, the Wisconsin HOPE Lab found that nearly half of respondents struggle with food or housing insecurity[8]. The article explains that many students struggle to find adequate affordable housing and that at least 56,000 college students experience homelessness. A survey of 390 undergraduate students at the University of Massachusetts Boston shows that about 5 percent of students are homeless[lix]. Broton and Goldrick-Rab (2018) explore the housing insecurity of college students using four surveys conducted by the Wisconsin HOPE Lab research team and affiliates. They find that approximately two thirds of two-year students are housing insecure, over 14 percent of them are homeless; furthermore, 11–19 percent of four-year students are housing-insecure[lx].

Students who pursue degrees without consistent access to affordable housing are more likely to leave college without degrees[lxi]. Students experiencing housing insecurity, including homelessness, are often disconnected from their peers and face challenges. The Chronicle of Higher Education (2015)[lxii] explains that college student homelessness is not well documented and that "homeless college students remain a largely invisible population — often indistinguishable from their peers and overlooked in policy debates. They get less attention than former foster youth and are often excluded from programs and policies benefiting such students. Many hide their homelessness from professors and peers out of shame or fear of being pitied. Many college administrators aren't even aware that homeless students are present on their campuses." The experience of homelessness creates a tendency for such students to isolate themselves from others on campus. Students experiencing housing insecurity rarely come to an instructor or advisor for guidance on their personal situation[lxiii]. They tend to avoid contacting their peers and experts for support and cannot obtain information that solves mental and physical problems[lxiv]. Their health and academic achievements are worse than their peers. Students who experience housing insecurity at the University of Massachusetts are 13 times more likely to fail class than their stably housed peers[lxv].

6.3.5 Seniors Aging in Place

The future living arrangements of aging adults continue to gain relevance with all boomers reaching age 65 by 2029 and elevating the portion of the senior population to one fifth of the entire nation. NRV households are aging, and the Weldon Cooper Center projects that about one in six citizens in the region will be 65 or older by 2030. By 2040, projections suggest the region will be home to nearly 35,000 residents 65 or older.

Many aging adults want to stay in their current home if possible, and most want to remain in their community. Such sentiment reflects a desire to age in place, which the Center for Disease Control (2013) defines as the "ability to live in one's own home and community safely, independently, and comfortably, regardless of age, income, or ability level."[lxvi] Kwon et al. (2015) note that "baby boomers showed a strong

[8] HUD PD&R guidebook "Addressing Housing Insecurity and Living Costs in Higher Education" (2016).

desire to age in place if they indicated higher residential satisfaction."[lxvii] The choice to age in place offers immense practical and familial value[lxviii]. Most boomers attribute distance to friends/family, places they want to go, and church/social organizations as important reasons for their desire to age in place[lxix].

Conventional assumptions of aging in place suggest that although individuals may age in their present home, seniors increasingly shift their housing tenure or downsize with age. Life-changing events rarely lead a homeowner to immediately begin renting. However, the loss of a spouse, retirement, and onset of a disability exert a statistically significant influence upon an eventual shift in tenure[lxx]. Residing in a more fitting home within the same community provides a more flexible or practical form of aging in place[lxxi]. However, tightness in the housing market and availability of appropriate and affordable housing may making moving difficult for many aging NRV residents.

Classic building designs often lack elements of universal accessibility, such as a master suite on the main level and a no-step entrance. Although demand for such elements are increasing as the number of older Americans with both ambulatory limitations and a desire to age in place grows, the U.S. housing stock is not well-equipped to accommodate people with disabilities. According to the 2011 American Housing Survey (AHS), most U.S. homes are not fully accessible. Bo'sher et al. (2015) created an accessibility index to measure the availability of accessible features in housing for persons with serious difficulties walking or climbing stairs or who use a mobility device for a condition that is not a temporary injury[lxxii]. Although approximately one third of units have essential accessibility features and may be modifiable, fewer than five percent have the features needed to accommodate a person with moderate mobility difficulties. Moreover, less than one percent of all units are equipped with features that would allow a wheelchair user to live independently.

More than 3,600 households headed by seniors spend more than 30 percent of their income on housing and may struggle to pay for other necessities or make home modification. Such households are often on fixed budgets. Owing to increasing costs, ongoing housing maintenance and repairs may be deferred, creating an unsafe environment over time. Furthermore, many aging-related house modifications represent out-of-pocket expenses that are not affordable for all homeowners. Even for senior households with financial means, tightness in the housing market and a scarcity of contractors may make it difficult to either find a more-appropriate unit than their current one or modify their current home.

6.3.6 Marginalized Populations

Other households exist that may be marginalized because of their disabilities, health, socioeconomic status, criminal background, poverty, and/or housing background. More than 35,650 of our neighbors, coworkers, classmates lived in poverty in 2017 and approximately 6,770 households lived on extremely low incomes and with severe cost burden, paying more than 50 percent of their income for housing. Extremely low-income households earn less than $26,200 for a family of four. Those that spend more than 50 percent of that income annually on housing are at risk for homelessness.

There were only 73 homeless individuals (24 under the age of 18) listed in the 2019 regional point-in-time count; however, many more individuals have experienced homelessness and housing insecurity. Public schools in the region identified 383 students that experienced homelessness over the 2018–2019 school year. Focus group participants and region experts explained that homeless individuals may be living with other households temporarily. Furthermore, an accurate count may be difficult to achieve because others may have to leave the region once becoming homeless owing to lack of shelters and other resources in the region.

Focus group participants emphasized that appropriate housing is an important part of stabilizing marginalized households and explained that few landlords accept tenants with housing vouchers or other kinds of housing support, making it difficult for individuals with disabilities or other hardships to find housing even when they do have the supportive services they need. Not only is it difficult to find housing with vouchers, but voucher holders are less likely to meet the requirements for moving into a mixed-income development[lxxiii]. Voucher holders and people who need supportive services can be "hard-to-house" because they are more likely to have substance abuse, criminal records, family problems, mental and physical health problems, as well as poor education and work records[lxxiv] which allow landlords to exclude them. Furthermore, appropriate housing that supports accessibility and safety within their home and needed proximity to care providers or other support services may be scarce.

Service providers also explained that transportation costs, connectivity, and reliability are imperative for helping households maintain a job and thereby afford housing. Homeless individuals often struggle to find housing that allows them reliable access to their employment. Safe, stable housing for individuals in recovery from drug abuse is also critical. Service providers in the focus group explained that although individuals receiving supportive services are not likely to be a threat to landlords, their recovery may be slowed or threatened if they are unable to obtain housing in a safe and stable environment.

Housing assistance can promote sustained sobriety, self-sufficiency, and a sense of security for adults coping with recovery from substance addiction[lxxv]. In particular, supportive housing helps individuals learn effective coping skills while dealing with external issues that hinder the management of an individual's health-related condition[lxxvi]. Treatment programs and housing assistance help them recover their normal lives, but after graduating programs, their lives often go back. Graduates participating in substance-abuse interventions and residing in supportive housing programs remained abstinent from substances at a rate of 90% while 55% of graduates residing in other types of housing remained abstinent[lxxvii].

Likewise, discrimination based on criminal background can leave residents homeless or forced to accept substandard housing. This means that regardless of their economic ability, it can be difficult to enter the private housing market. Ex-offenders can take a variety of housing options, including residing with family members, community-based correctional housing, non-correctional transitional housing, homeless and special needs shelters, subsidized housing, and private housing, but due to a number of factors, it is likely that private housing is the only option[lxxviii]. They are also discriminated against on the basis of criminal records in private housing markets. 67% of property managers check criminal records in the application process[lxxix]. People with a criminal record are likely to be discriminated against during the application process, which depends on the degree of crime[lxxx]. Their applications are denied because of the negative perception of people with criminal records and a desire to protect the community. 43% of people with criminal records were denied applications[lxxxi]. 66% of people will not rent to people with a criminal record, but the decision depends on whether the crime is a felony or a misdemeanor[lxxxii].

7. Housing Market Challenges & Opportunities

The NRV grapples with housing market challenges as the region's communities work to create a housing mix that allows existing residents and newcomers to find appropriate and affordable homes. Challenges can be roughly divided into demand-side and supply-side challenges that relate to and affect each other. Furthermore, these specific challenges are exacerbated by the overall housing shortages described in the previous sections.

Challenges related to the NRV's growth and changes in housing preferences are included in the demand-side section. The quality, quantity and appropriateness of the housing stock is discussed in the supply-side sections. Some challenges are associated with opportunities to improve the region and communities, whereas others must be overcome using strategies to provide housing types not readily addressed by the market.

7.1 Demand-side Challenges

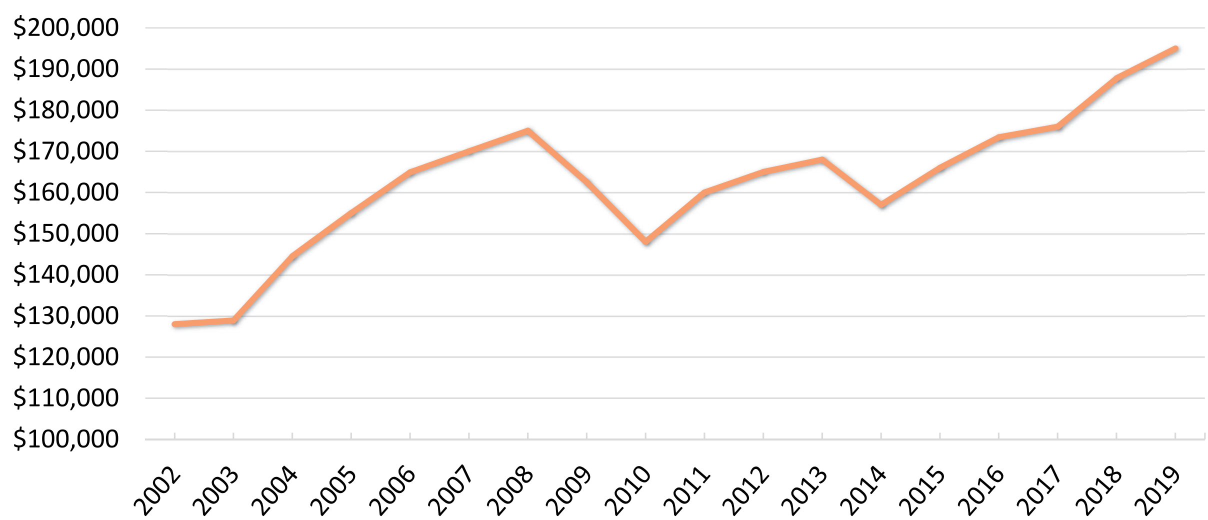
Demand-side challenges stem from household characteristics or level of housing demand. Challenges related to increased demand for housing owing to school, work, or amenities are presented in this section. The challenge whereby existing stock cannot respond to changes in housing preferences is also presented.

Burgeoning Demand

The NRV is becoming more desirable for more households thanks to job growth, Virginia Tech expansion, increasing amenities, and preservation of natural resources. As evidenced by increasing prices, demand has outpaced housing supply.

Figure 12: Annual Median Sale Price

VCHR Tabulation of New River Valley Association of REALTORS® MLS Data



Sustained demand is important to a housing market because it ensures a return on housing investments and allows for worker and resident mobility. However, when intense demand outstrips supply, low- and moderate-income households may be "crowded out," threatening their stability and ability to afford housing and the success of the community. Comments from focus group participants and low days on market indicate intense competition for housing. As a result, some submarkets become inaccessible to households with low and moderate incomes and may require them to "settle" for substandard housing or pay more than higher-income households do for appropriate housing.

Blacksburg-centric Demand

The Town of Blacksburg has become one of the NRV's primary jobs and amenities centers, and the Blacksburg-strand schools are reputably the best in the region. As Blacksburg is the most location-efficient place in the NRV, the area's housing demand has centered on the Town of Blacksburg and nearby parts of Montgomery County. Housing prices in town have thus risen faster than any other part of the NRV, and the market has become extremely tight. The fast-paced market for homes has effectively excluded some buyers, favoring those who can make cash deals.

Student Population

The NRV has two universities and therefore a large student population. Most student-headed households rent, accounting for approximately 23 percent of the rental stock. Many rental units therefore rent on a July–June cycle. Some rental complexes and neighborhoods are dominated by undergraduate students and become less desirable to non-student households. In addition, because students may be supported by their family, some student households can afford higher rents than typical two-earner households. With higher spending power and guaranteed demand, Blacksburg housing has become attractive for investors who add additional competition to the homebuying market.

Short-term Rentals

Focus group participants discussed the considerable impact of short-term vacation-rental properties on the NRV market. There are more than 2,250 properties held for seasonal or recreational use around the region. Although recreation and tourism are important economic development drivers for the region, accommodations compete with residential needs in a tight housing market. Home sharing and short-term rentals may be critical secondary income for struggling families; however, visitors can be disruptive to neighbors and change the character of a neighborhood.

Preference Shifts

Economic shifts and changing housing preferences have also caused challenges. Economic shifts have made some homes less relevant and manifests as long-term vacancies. Floyd County and Pulaski County have the highest levels of long-term vacancy in the region.

Table 9: Long-term vacant units as a percentage of all units

VCHR tabulation of 2017 ACS 5-year estimates

Floyd	Giles	Pulaski	Montgomery	Radford
8.6%	7%	8.4%	3.5%	4%

In contrast, converging preferences among millennials and baby boomers have sharply increased demand elsewhere. A large generation of aging adults (specifically, baby boomers) combined with new millennial homebuyer preferences have increased demand for small, convenient housing. Boomers exiting their long-term home often transition to central cities and active communities, which corresponds with preferences of millennials. Rappapart (2016) indicated that adults aged 50–69 occupied nearly 2.5 million additional multifamily units over the period 2000–2013, which accounts for most of the increase in overall multifamily occupancy. Part of this trend stems from the rise in households of those aged 55+ occupying condos within central cities, a location also desirable to recent college graduates. Millennials are driving the trend of increased construction in multifamily developments, but this growth will be sustained by the baby boomer generation over the long run (Rappaport, 2015). Demand from these two groups along with limited supply can rapidly inflate rents and house prices (Keates, 2013).

Residential developers have found that entry level homes marketed to young families are being acquired by boomers (Lawrence, 2016). These homes include features such as a single story and smaller footprints that appeal to both generations. Community features including open spaces and exercise paths that compel select boomers to depart from their conventional suburban or rural home in pursuit of a more active, socially connected lifestyle (Bernstein et al., 2011; Lawrence, 2016). Empty-nest boomers raised millennial children. Lawrence (2016) suggests that "they want to live side by side with their kids, the millennials, in physically and socially active neighborhoods." Proximity to children ultimately betters the promise of aging in place and can avoid an eventual transition to a nursing facility (Desjardins, 2013; Painter & Lee, 2009).

In addition to overwhelming demand for smaller, more centrally located housing, the market still grapples with effects of pent-up demand from the Great Recession. Those jurisdictions with the lowest median days on market, Blacksburg and Christiansburg, meet the largest number of preferences for the most people. Although these towns have experienced the highest demand, every jurisdiction in the region has relatively low days on market compared to the statewide averages. Finally, new demand for rural and small-town living generated from the COVID-19 pandemic may put additional pressure on amenity-rich rural places.

7.2 Demand-side Opportunities

Burgeoning Demand

Growing demand in the NRV offers many opportunities for housing and amenity development. The region can focus on the development of high-quality, market-rate housing; the preservation of existing affordable housing; and community development in well-located places. Each jurisdiction has multiple roles to play in meeting demand and opportunities to capitalize on growth.

Owing to high Blacksburg-centric demand and its associated challenges, many buyers and renters must look elsewhere. This presents an opportunity to introduce prospective residents to the various communities and lifestyles available in the NRV. Communities that have a close connection to Blacksburg, such as Christiansburg, Montgomery County, and Giles, already experience demand from households working in Blacksburg but offer lifestyles and settings that are not readily available there. Job growth throughout the NRV and "spillover" demand from Blacksburg may benefit communities that focus on community development and respond to demand for varied housing types and settings. High demand indicates that communities must direct development in ways that emphasize a variety of housing needs as well as the importance of the natural environment, rural settings, and small, close-knit communities. Successful strategies will be tailored to local conditions, seek to build a stronger sense of place, and integrate new residents with long-term ones[lxxxiii].

Focus-group participants urged localities throughout the NRV to respond to demand for walkable, convenient places. They emphasized that among workers, demand is Blacksburg-centric because the town has options for alternative modes of transportation (e.g., bus, biking, and walking) and community amenities. Participants explained that many would want to live in other places if similar amenities and desirable housing were available.

Growing demand also offers opportunities to create and preserve affordable housing. As demand grows, housing becomes more expensive throughout the NRV. Places with amenities such as services, retail, entertainment, recreation, and beautiful settings are particularly desirable. Increasing housing prices are desirable to a point: sharp increases in prices restrict mobility (upgrades and downsizing) for residents, and recruitment and turnover become burdensome for employers. A healthy housing market is important for both economic and community development.

Places with high demand can leverage this demand to encourage varied development and incorporation of income-restricted housing through policy, incentives, and guidance for developers. In places with steadily growing demand (i.e., steadily increasing prices and decreasing days on market), plans to preserve affordable housing and overall market affordability should begin before communities are unattainable to portions of the population and workforce. Steadily adding housing of various sizes and types to "meet" demand, encouraging reinvestment in existing housing, and finding ways to proactively reserve housing for essential, low-income workers and their families are all important components of market health.

Adequate housing supply and access to homeownership for households of all income levels creates opportunities for wealth building and encourages workers to stay in the region.

7.3 Supply-side Challenges

Inventory & Production

The residential construction industry consolidated in the wake of the Great Recession[lxxxiv]. Nationwide, building construction has not reached prerecession levels despite growing demand. The region lost nearly 60 establishments and 200 workers in the building construction industry sector since its pre-2008 peak, with the largest decreases seen in new single-family home construction and residential remodelers. Although employment has recently grown, the NRV average annual decrease for these sectors of 4–5 percent per year over the past decade is significantly worse than the national average. Similarly, specialty trades (e.g., plumbers, electricians, masonry) lost nearly 100 establishments and 700 jobs. As a result, many NRV projects must seek contractors from surrounding areas or states, increasing project costs and contributing to a further erosion of local skilled trades workers and firms. The shortages are likely to worsen without a significant increase in the pipeline of new skilled workers to replace the large cohort of existing workers nearing retirement age.

The constricted industry combined with increasing labor, material, and regulation-related costs make building enough housing at the right prices challenging. Focus-group participants discussed challenges related to inflexible regulation, few subcontractors, shortages of general labor and those related to changes in immigration regulations, and increasing material prices. Although local builders are encouraging entrepreneurship and finding ways to negotiate obstacles, the pace and scope of building is limited by the challenges. Overcoming these challenges requires strategic increases in density, building and development innovations, creative financing, and subsidies. Strategies outlined in this report recommend ways for the region and individual localities to continue and extend existing efforts to realize housing goals.

The market is largely producing for-sale housing priced higher than $230,000. The median price of existing units is $195,000; however, inventory is limited and intense competition leaves little opportunity for low- or moderate- income households that need financing to buy a home near or less than the median price. Building new housing affordable to low-income households requires innovative approaches and/or subsidies. Owing to federal devolution, state and local governments are largely responsible for subsidies, strategies, and the promotion of innovations that create more affordable housing.

With a regional rental vacancy rate of 1.5–2.4 percent, rental housing is also scarce in the region; moreover, new development has been dominated by student units. Regional economic development leaders suggest that high-quality, 1-to-2-year rental units are required to house employees who move to the region and who may eventually buy or build a home. Businesses in the region also suggested that many of their existing employees prefer to rent and have not been happy with housing options available in the region.

The tightness in the housing market affects regional economic development. Businesses cannot recruit and retain the employees they need to grow if they do not have housing, and the region struggles to attract additional businesses that can employ underemployed residents because the pool of workers is too small. Jonas, While, and Gibbs (2010) suggest that workforce housing along with other major infrastructure are common problems for rapidly growing cities[lxxxv]. Workforce housing[9] supports successful economic development because businesses may have trouble attracting or retaining workers without nearby affordable housing options or convenient and affordable transportation. This job–housing imbalance impedes economic development by making it difficult for businesses to recruit and retain employees[lxxxvi]. Saks (2008) argues that when the supply of affordable housing is restricted, often by land use controls, the pattern of labor migration changes and results in lower employment growth[lxxxvii].

Affordability

Market tightness affects housing affordability, particularly for households with low and moderate incomes, because they face intense competition for homes in their price range and there are very few income-restricted units. Approximately 25,900 units in the region are affordable to households with extremely low or very low incomes, and more than 19,860 households need such units. However, 60 percent of units affordable to extremely low and very low-income households are occupied by households with incomes higher than needed to afford their unit. A lack of income-restricted units implies that many households must accept housing cost burdens or overcrowded or otherwise substandard housing.

In the long run, the lack of affordable housing excludes low- and moderate-income households from the communities and diminish regional diversity and economic vibrancy. Such households struggling to live in our community include childcare workers, preschool and kindergarten teachers, cashiers, food service workers, and home health and personal care aids.

Housing Reinvestment & Replacement

Realtors and builders described most moderately priced homes as needing significant repairs and upgrades. Furthermore, potential homebuyers have reported frustrations with the quality of moderately priced homes. Because households have long struggled with housing costs rising faster than real incomes, deferred maintenance and little investment in upgrades have become prominent features in the U.S. existing housing stock. Homes require regular maintenance and generally need upgrades every 20–30 years. Housing characteristics such as number of bedrooms and bathrooms, types of heating and cooling, and additional features vary by the decade in which the house was built. Generally, construction quality has increased over decades, and "the quality of the housing stock, measured in such terms as completeness of plumbing facilities, age of structures, structural quality, and equipment and furnishings available, improved in every major respect during the decade of the 1970s[lxxxviii]." Adams (1987) explains that the energy crisis of the 1970s forced a lot of industry changes that conserved energy and improved

[9] Workforce housing is generally described as the housing that is affordable to households earning less than 120 percent of area median income (Cohen & Wardrip, 2011).

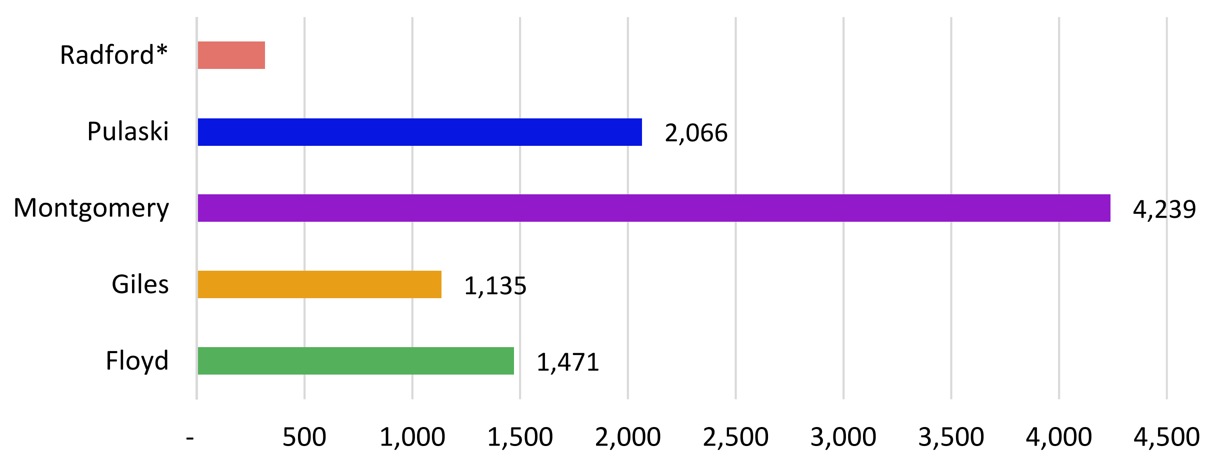
construction quality[lxxxix]. However, some building practices that encouraged heavy insulation and tight building envelopes caused condensation and subsequent wood rotting. Advances in building science have resolved these issues in newer homes. Construction quality may have decreased in the early 1980s[xc]. This is because builders responded to demands for more affordable units as consumers were facing high mortgage interest rates and the effects of two back-to-back recessionary periods.

Mobile Homes

Our region's housing stock includes nearly 2,000 pre-1976 mobile homes, about 75 percent of which are occupied. The Manufactured Home Construction and Safety Standards Program (HUD Code) established national design, performance, and installation standards for manufactured homes built after June 15, 1976 ("Manufactured Home Construction and Safety Standards," 2015). Mobile homes built prior to 1976 are considered the "worst housing stock" in America by affordable housing advocates and industry representatives[xci]. These homes suffer from leaking roofs, dangerous or inefficient heating sources, lack of insulation, and deteriorating foundations[xcii]. Homes built post 1976 also have shown problems due to poor construction and placement standards. Early manufactured housing units are prone to formaldehyde exposure problems owing to materials used[xciii]. In 1985, sections that set formaldehyde emission limits and increased ventilation standards were added to the HUD Code (Krigger, 1998). Replacement of these mobile homes is often recommended over retrofitting because energy efficient construction practices and materials are more cost-effective than weatherizing existing homes.

Mobile homes built before the HUD Code was established are generally far less energy efficient than manufactured homes built after its adoption. Pre-HUD Code mobile homes consume approximately 53 percent more energy than every other kind of home and are concentrated primarily in the South[xciv]. For some low-income individuals, energy bills can consume more than half their income on a regular basis[xcv].

Figure 13: Mobile and Manufactured Home Units
NRVRC-VCHR Tabulation of 2017 ACS 5-year Estimates



*The estimate of mobile and manufactured homes in Radford is not reliable, so the margin of error is applied to show the reliable range: 175-457.

Accessibility

Much of the existing housing stock would need modifications to meet the accessibility needs of the population. According to the 2011 AHS, most U.S. homes are not fully accessible. Bo’sher et al. (2015) estimates that approximately one third of units in the US have essential accessibility features and are potentially modifiable; fewer than five percent of units have the features needed to accommodate a person with moderate mobility difficulties; and less than one percent of all units are equipped with features that allow a wheelchair user to live independently[xcvi].

More than 10,000 households include at least one person with an ambulatory limitation. Fifty-seven percent of these households have incomes below 80 percent of AMI, and may struggle to afford modifications to their homes. Housing program leaders and experts on aging in our region have identified funding for home repair and modification as a major challenge for our region. Addressing this challenge requires community investment and advocacy at the state and federal levels.

Infrastructure

Strategic water and sewer system expansion can be used to effectively limit sprawl but may be a barrier to desirable developments. While using infrastructure to limit geographic expansion, localities must provide opportunities for growth by emphasizing creative density with policy and clear goals and guidance for developers. The region has varying degrees of water and sewer system availability. Some localities have identified restrictions as challenges for both new and existing housing; for example, Floyd has a small water supply and sewer system for housing in and near the Town of Floyd, but residents in the rural areas of the County rely on well water and septic systems. The water supply is also restricted by Floyd’s geography and the limited watershed of the Little River. Some leadership and focus group participants identified septic services for mobile and manufactured home communities as a barrier to housing reinvestment and affordable housing preservation.

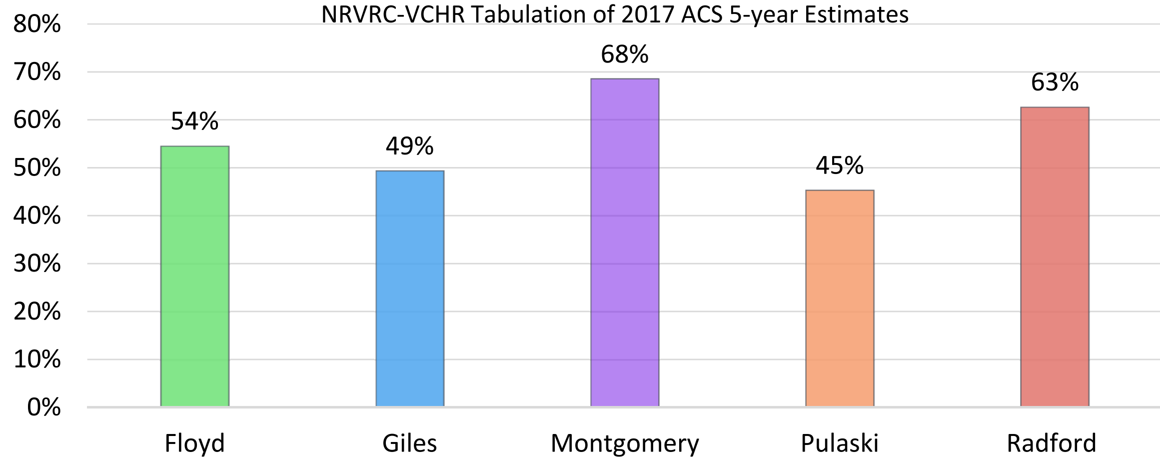
A community that lacks sufficient affordable housing often has insufficient housing for its essential, low-income workers. These workers either accept substandard housing or commute from longer distances, which result in increased congestion. Sturtevant and Chapman (2013) conclude that “without an adequate supply of housing [for workers], there will be untenable strains on the region’s transportation and transit networks, and an erosion of the region’s economic base[xcvii].”

Local governments across the country rely heavily on developers and builders to provide safe, sustainable, and properly resourced neighborhoods and to contribute to infrastructure and community improvements that offset the public costs of development. Regardless of funding sources, costs of developing housing to meet higher public and private standards are increasing. Participants in developer and builder focus groups emphasized that local governments should be flexible (where possible) to reduce costs. Some participants suggested greater flexibility in project phasing and more individual consideration for practical implementation of project proposals. One participant gave an example of sidewalks needing reinstallation at developer expense in the last phase of development so they are not damaged by construction vehicles.

Strict regulation, standards, and precedents are critical to managing government capacity; therefore, flexibility requirements may indicate a need for additional public support for planning and development.

In-home technology and communication are becoming increasingly important for household needs such as work and education. Nearly 3,000 people in our community work from home, many of whom need access to internet infrastructure to be productive and/or conduct business. In addition, both physical and digital communities are becoming more highly valued, especially among maturing millennials.[xcviii] Researchers foresee that "advances in digital technology will make the home a more intensely multifunctional place for living, socializing, entertaining, learning, and working. The benefits from integrating these advances into housing units may change the cost-benefit ratio of owning or renting for many households[xcix]." To meet growing demand for and better access to the internet, our communities must continue to expand infrastructure to more than 12,600 households that do not have internet access and to another 12,500 that do not have high-speed broadband access.

Figure 14: Precent of Households with Broadband Access*
(cable, fiber optic, or DSL)
NRVRC-VCHR Tabulation of 2017 ACS 5-year Estimates



* ACS includes DSL in its definition of Broadband, which does not always meet the speed thresholds of 25Mbs/down 3Mbs/up. Also note, data does not reflect broadband expansion project in Floyd which began in 2017.

7.4 Opportunity to address Supply-side Challenges

Local Government Leadership

Housing challenges in the region will intensify without concerted leadership from local governments to raise and dedicate funds for housing, encourage the development of a variety of housing choices, promote innovative approaches to density, and work regionally to establish market-wide housing goals, policies, and programs. Local governments have tools available to help address housing (e.g., land use and zoning regulations and incentives, tax abatement, resource dedications, influence, development decision making and supports); however, each of these tools requires resources to develop and wield responsibly. Acting to incentivize and remove barriers to the development of housing types that serve individuals and families of all income levels is fundamental to creating an inclusive, prosperous, happy, stable, and growing community.

Local governments can be active stewards of the housing stock and community development. In addition to owner financial interests, communities, and thereby local governments, must realize their stake in the maintenance and regular investment in housing throughout the community. A deteriorating housing stock can lead to decreased real property values and, later, blight. Deteriorating housing stock may also affect economic development as a shortage of turn-key housing and negative impacts on property values deter prospective residents. This, in turn, may reduce the draw of new employees to companies in the region. Tools and incentives available to local governments for this purpose include code development and enforcement, tax incentives for value-increasing investments, and low-interest financing for improvements or maintenance.

Community development and housing are linked and depend on each other in many ways. Residents support community development initiatives as participants and patrons, whereas community amenities attract and anchor residents. Communities should thus embark on housing and community development initiatives in tandem and plan with combined efforts in mind. Local governments are well-positioned to lead these efforts by connecting plans, programs, funding sources, and partners.

Regional Collaborations

Local government cannot and should not address housing challenges alone. A responsible housing plan must have regional consideration and include a variety of partners. Housing markets are not defined by jurisdiction and rather by consumer preferences. Markets can be roughly defined by prevailing commute patterns. Submarkets are defined by considerations including preferences for schools, amenities, housing type, and social networks. The NRV market is closely aligned with the region while steadily increasing connections with Roanoke. Many submarkets are defined within our region based on varying preferences such as living within the Blacksburg School District or along the 460 Corridor, having large lots with privacy and views or high-speed internet, or being in or out of town. Locales throughout our region and in each jurisdiction offer land and housing matching households with diverse preferences. Employers, institutions, and the public must collaborate with local governments and developers to maintaining the variety of home settings (urban, suburban, exurban, rural) while responding to diversity of demand.

Employer Housing Benefits

Since the Great Recession, employers have become more involved in addressing housing challenges beyond raising wages, such as making philanthropic donations to address homelessness, providing benefits to employees including down-payment assistance and second mortgages, and building housing. Such collaborations between companies, builders, and local governments help alleviate shortages and address issues directly.

Early steps employers can take are to understand and document their employees housing needs and preferences and communicate those to builders and elected officials. Employees that currently do not live in a jurisdiction but work there have little voice in local government proceedings; in contrast, employers located in a jurisdiction can represent employee housing needs. Employers can also provide housing benefits directly or by negotiating with local banks and non-profits. Finally, large institutions can provide innovative solutions (e.g., social impact bonds) and support strategies addressed at the partnership, local, and regional level.

Construction Industry Entrepreneurship and Innovation

Entrepreneurship and innovation in the industry are well-timed owing to rising costs of production and few available builders and contractors. Participants in the builder and developer focus group explained that few new subcontracting businesses have emerged, partially because of risk aversion lingering from the Great Recession and partially because of financial and capital barriers to licensure and starting a business. However, focus group participants noted that their associates who have become entrepreneurs and who have started new business have begun closing the gap in subcontractors and have been extremely successful. Local, regional, and state-level opportunities exist for mobilizing resources and supporting entrepreneurship in the trades.

Additional possibilities include integration of innovations in building and varying building types in the region. Innovation may reduce both immediate and long-term costs of building, including energy use, production waste, and durability. Innovation can initially be integrated into the structure, implemented through building monitoring and proactive maintenance, and achieved through creative financing that predicts that savings can be achieved through building performance.

Innovation in housing is a paradox: although the industry values innovation, it is inherently risky, and the housing industry is risk averse. Construction organizations depend on a trusted production path that has historically provided profits. Many innovations have failed. For example, exterior-insulation-finishing systems (EIFS) were widely litigated before becoming a successful synthetic stucco product in the market. Many in the housing industry have therefore chosen to wait, becoming second movers and allowing others to attempt and potentially fail before implementing innovations. Innovations in housing thus generally involve improvements in the cost and functionality of established products and processes. Of implemented innovations, few have succeeded in driving down production costs or making housing more affordable to consumers: gains benefit the builder and are not shared along the supply chain for general improvement. Radical housing innovations are less common and are frequently prompted by innovations and shocks outside of the housing sector.

Other endemic characteristics of the industry persist in resisting innovation. The industry is highly fragmented with many stakeholders along the path from raw material to end user who can either veto or endorse the product. Risk and uncertainty in residential construction are unique to the production of a home, and include low concentration, supply chain and path, subcontractor networks, market cycles, site-based complexities, and reduced productivity. Firms that produce housing are diverse, ranging from affordable housing non-profits to speculative developers of multimillion-dollar luxury mansions; from producers of units with a small footprint to large commercial residential high-rises; and from sophisticated financial investments to small, independent offices. The industry must become more sophisticated, using innovation for better understanding of the market and responding to its demands and its risks.