American Planning Association
*Making Great Communities Happen*

July/August 2017

PAS MEMO

# Data-Driven Housing Assessments and Action Plans, Part 2: Analytical Techniques and Taking Action

*By Mel Jones*

Our communities' housing affects our residents' quality of life and the entire community's potential for economic growth. Inadequate housing can have consequences for residents' health, education, and economic mobility. Shortages of affordable and appropriate housing can have a variety of consequences for the entire community, including increased traffic congestion and limited economic growth. With so much at stake, communities need to conduct regular housing assessments and take action to promote and maintain housing stocks for households across the income spectrum.

This *PAS Memo* is a follow-up to "Data-Driven Housing Assessments and Action Plans, Part 1: The Data" (*PAS Memo*, May-June 2017). Part 1 introduced the most important publicly available housing data sources for planners. It provided important information about how to use the sources and ways in which each source contributes to a thorough housing needs assessment.

This *Memo* discusses analytical techniques in more depth and explores ways that municipalities can use these techniques to set goals, inform policymakers, and to develop or assess programs. It will prepare planners to analyze data and use their conclusions to help their communities meet housing needs. Data and assessment techniques discussed in this and the previous *Memo* should be applicable to existing planning efforts, including comprehensive planning, transportation planning, economic development strategies, and required planning for HUD programs.

## How to Analyze Publicly Available Data for a Housing Needs Assessment

This section introduces analytical techniques that may be useful as you undertake a housing needs assessment. Much of the assessment may be descriptive in nature, intended to provide a profile of the housing stock and the community's households. The techniques below go a step further and are meant to demonstrate ways that you can compare estimates and extend your analysis to help your jurisdiction make policy and program decisions.

A housing needs assessment typically includes the following elements:

- a profile of the housing stock, the supply of housing in your community;
- a profile of households and the workforce, the primary sources of demand for housing in your community;
- an assessment of housing affordability and appropriateness; and
- an analysis of future need.

Other components of a housing needs assessment are often included based on individual community contexts. Common considerations include the following:

- Housing for particular populations (e.g., seniors, millennials, students, people with special needs, individuals and families who are experiencing homelessness)
- Housing conditions, where age or maintenance of housing is a concern
- Income or racial inequity
- Disaster preparedness

The techniques discussed in this *Memo* address the typical elements of a housing needs assessment.

### *Data Reliability*

The data discussed in Part 1 is useful only when the user understands its reliability. Jurisdictions with small populations will need to be particularly vigilant about assessing and interpreting data reliability, but all jurisdictions will find that some

*Example: Calculating Coefficient of Variation (CV)*

The estimate from the 2015 1-year ACS sample of units with gross rent from $650 to $699 in Montgomery County, Virginia, is 943. The MOE for this estimate is +/-443. Use the CV to assess the estimate's reliability:

$$SE = MOE/1.645 = 443/1.645 = 269.3$$

$$CV = \left( \frac{SE}{Estimate} \right) X\ 100 = \left( \frac{269.3}{943} \right) X100 = 28.6\%$$

Since the CV is greater than 15 percent the estimate is not reliable, so it makes more sense to present the estimate as a range: there are between 500 and 1,386 units with gross rent between $650 and $699 in Montgomery County. However, ranges are only the best option in some cases. Another option is to aggregate estimates.

Also, note that the MOE will be lower for the 5-year pooled sample. In this case, none of the 1-year estimates from table B25063 for Montgomery County are reliable and no useful combinations have CVs below 15 percent. However, a number of the 5-year estimates, including the number of units with rent from $650 to $699, are reliable, so using the 5-year estimate is more prudent.

estimates provided by the American Community Survey (ACS) and the Consolidated Housing Affordability Strategy (CHAS) will not be reliable when examining characteristics of small subpopulations like severely overcrowded housing units or single-parent households.

The U.S. Census suggests using the Coefficient of Variation (CV) to test for reliability of the Census estimates and suggests the threshold of a CV no greater than 15 percent to allow for reliable data interpretation for state and local governments (Census 2009). This measure of reliability is applicable for both ACS estimates and CHAS estimates, since both are Census tabulations.

To calculate the CV for census estimates, first calculate standard error (SE) by dividing the Margin of Error (MOE) from the published tables by 1.645 (see example). Then divide the SE by the estimate from the published tables and multiply by 100 to convert to a percent. If the CV is greater than 15 percent, the estimate is not reliable. When an estimate is unreliable, you have two options: think of the estimate in terms of a range or combine the estimate with another estimate.

You may need to combine or aggregate estimates. For example, to tabulate all occupied single-family units built in the 1960s and 70s, you will need to combine two estimates from table B25127: owner-occupied "1, detached or attached" units built from 1960–1979 and renter-occupied "1, detached or attached" units built from 1960–1979.

The Census provides a formula for calculating the MOE for aggregated estimates: the square root of the sum of the squared MOEs (see example, p. 3) (U.S. Census Bureau 2009). Use the MOE of the combined estimates to calculate the CV as described above. The ACS handbook for state and local government users, *A Compass for Understanding and Using American Community Survey Data: What State and Local Governments Need to Know*, provides more discussion regarding these techniques for assessing data reliability and many other helpful resources.

Maintain the integrity of your analysis by working *within* datasets. Never use estimates from different years or datasets to figure percentages or other measures. Each set of estimates from each data source discussed in Part 1 has been created using a different sample or tabulation methodology, so using estimates from different sets in a mathematical equation is likely to create an inaccurate result. For example, to determine the percentage of occupied housing units use the estimates of occupied housing units and the total number of housing units from the same dataset, e.g., 2015 1-year ACS estimates. Using the number of housing units from a 5-year sample and the number of occupied units from the 1-year sample will create an incorrect, often bogus result. Similarly, only use reliable estimates to figure percentages and other measures.

### *Housing Affordability: Cost-Burdened Households*

Use the number of households that are cost burdened to determine if there are current residents who need more affordable housing. HUD coined the term ***cost burden*** to describe households that need more affordable housing: "Families who pay more than 30 percent of their income for housing are considered cost burdened and may have difficulty affording necessities such as food, clothing, transportation and medical care" (U.S. HUD n.d.). Families who pay more than 50 percent of their income for housing are *severely* cost-burdened and have to make tough choices between housing and other necessities.

Start with the percentage of households that are cost burdened: the number of cost-burdened households from CHAS table 3 or ACS tables B25091 and B25070 divided by the total number of households. The ACS tables provide more recent data, but the CHAS tables will provide aggregations that are more convenient and therefore, that have lower margins of error. There is no ideal level of housing cost burden, but

*Example: Calculating MOE for Aggregated Estimates*

Extending the example above, the estimate from the 2015 5-year ACS sample of units with gross rent from $650 to $699 in Montgomery County, Virginia, is reliable, but the estimate of units with rent from $700 to $749 is not reliable. Use the equation below to see if a combination of these two estimates is reliable. The estimate from the 2015 5-year ACS sample of units with gross rent from $650 to $699 in Montgomery County is 975. The MOE for this estimate is +/-236. The estimate of units with gross rent from $700 to $649 is 1,051. The MOE for this estimate is +/-296.

The MOE for the combined estimates is

$$MOE_{Combined} = \pm\sqrt{MOE_1^2 + MOE_2^2} = \pm\sqrt{236^2 + 296^2} = \pm 379$$

Note: The combined MOE equation can be solved in Microsoft Excel using the following syntax:

=SQRT(SUMSQ(236,296))

And, the CV indicates that the aggregate estimate is reliable.

$$SE = MOE/1.645 = 379/1.645 = 230$$

$$CV = \left(\frac{SE}{Estimate}\right) X\,100 = \left(\frac{230}{975+1051}\right) X100 = 11\%$$

understanding the context of housing cost burden can help a jurisdiction figure out if housing affordability is a problem or if providing more affordable housing may have advantages.

First, compare levels of cost burden over time to answer the question, "Is the level of cost burden getting worse or improving?" If you are using estimates from a 1-year sample in ACS, you can compare the level of cost burden on an annual basis. Less-populous jurisdictions may not have estimates from a 1-year sample because Census could not create an accurate estimate or could not maintain the privacy of respondents because of the small sample size. Using a 5-year sample from ACS or CHAS to plot estimates annually will result in a "smoothed" trend, so comparing estimates in 5-year increments may be more appropriate to determine the magnitude of change over time. If levels of cost burden are increasing, it is a sign that your municipality is becoming less affordable and households are beginning to struggle. Cities all over the country became less affordable over the past 5 years because housing costs, especially rents, increased faster than household incomes.

Next, compare levels of cost burden to nearby jurisdictions, a region overall such as an MSA, the state, or the nation. Ask, "Is our municipality more or less affordable than other municipalities or the overall geography of which our municipality is a part?" If your municipality has much higher levels of cost burden (5–10 percent difference) than neighboring jurisdictions or the region of which it is a part, there may be a shortage of affordable housing and that shortage may result in related consequences.

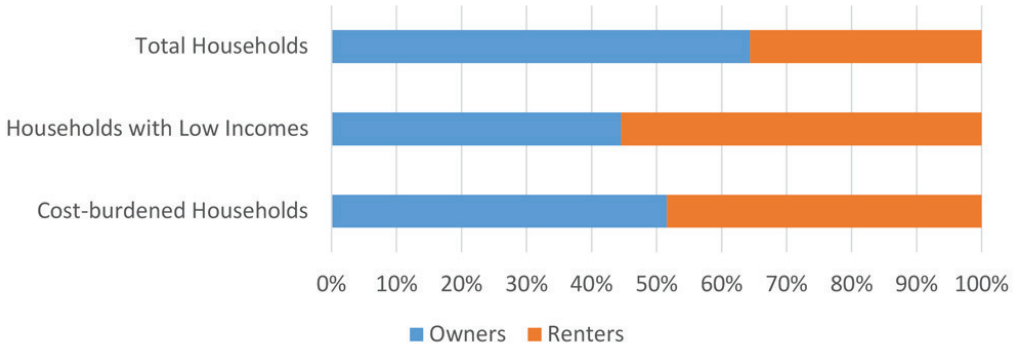
Examine the population of cost-burdened households to learn more about housing affordability challenges in your community and possible issues contributing to those challenges. Here are some questions that localities often find relevant.

- At what income levels are households cost burdened?
- Are renters or owners more likely to be cost burdened?
- Are particular age groups more likely to be cost burdened?

There are two ways to approach the first question: by using set income brackets provided in the ACS, table B25106, or by using the AMI categories provided in CHAS. There is value to using both approaches. The income brackets provided by ACS will make it easier to find an income threshold at which cost burden decreases. This threshold, if it exists in your municipality, may indicate a minimum level of income that is required to obtain housing affordably.

Alternatively, the CHAS data is more likely to show a smooth decrease in cost burden as levels of AMI increase because AMI levels take into consideration household size, income, and local costs (assuming that income is commensurate with housing costs at least to some degree). CHAS data is much more useful as a tool to determine the income levels of households in need. For example, jurisdictions with enough moderate- and

*Figure 1. Proportion of owners and renters in the total population of households compared with affordability-related subpopulations in Virginia Beach, Virginia (Virginia Center for Housing Research tabulation of 2014 ACS PUMS 1-year data).*




high-income housing may find that all cost-burdened households are households with extremely low income, less than 30 percent of AMI. Other municipalities may find that even moderate-income households making 80–120 percent of AMI struggle to find affordable housing.

The next two questions address levels of cost burden within subpopulations as well as disproportionality. First, use percentages within subpopulations to compare rates of cost burden. If 60 percent of renters are cost burdened, but only 40 percent of owners with a mortgage are cost burdened, then renters are cost burdened at higher rate than owners.

When comparing a single subpopulation to the entire population, disproportionality may be a more useful measure. For example, if households headed by a person 65 and older represent 40 percent of all households, but households headed by a person 65 and older represent 50 percent of cost-burdened households, senior households represent a disproportionally large part of the cost-burdened population. Disproportionality is a good approach to identifying subpopulations that experience excessive or unequal hardship.

Figure 1 shows the relative proportions of owners to renters in the entire population, in the low-income population, and in the cost-burdened population for the city of Virginia Beach, Virginia. By comparing the proportions of renters and owners among all households to the subpopulations—low-income and cost-burdened households—the graph shows that a disproportionately large share of renters have low household incomes (less than 80 percent of AMI) and that renters are disproportionately cost burdened.

### *Housing Affordability Gap Analysis*

The number of households that are cost burdened is the simplest and most straightforward measure with which to assess if there are households that need more affordable housing. Conducting a housing gap analysis using CHAS data is one of the most detailed and thorough ways of understanding the landscape of housing affordability in a given jurisdiction. Roughly, a housing affordability gap is the number of households that need more affordable housing (cost-burdened households) minus the number of vacant (available) affordable units. However, data is available in the CHAS to complete a far more nuanced analysis.

Use CHAS tables 14A, 14B, 15A, 15B, and 15C to conduct a housing gap analysis. Tables 14 A and B provide the number of available units (vacant for-sale and vacant for-rent) by level of affordability. CHAS categorizes the units as affordable to particular income groups based on gross rent, value, or owner costs. Tables 15 A, B, and C categorize units based on affordability and the incomes of the occupants. You can use these tables to compare the affordability of the housing stock to the needs of jurisdiction households, and you can use information about the incomes of occupants to begin to understand housing affordability dynamics in more detail. Figure 2 (p. 5) shows CHAS data from tables 3, 14B, and 15C:

- renters with incomes between 30 and 50 percent of AMI that are *not* cost burdened,
- renters with incomes between 30 and 50 percent of AMI that are cost burdened,
- vacant rental units that are affordable to households with incomes between 30 and 50 percent of AMI, and
- occupied units that are affordable to households making between 30 and 50 percent of AMI by the income of the occupants.

The bar on the left shows households that have incomes between 30 and 50 percent of AMI. Households in green are not cost burdened. Households in blue are cost burdened and need more affordable housing.

The right bar shows housing units. Units in blue are vacant, available units. The orange block shows the number of units that are occupied by residents with incomes lower than needed to afford the unit they live in. These occupants are likely to be cost burdened and may have been "forced" to accept higher priced units because there were no appropriate, affordable units available.

The gray block shows the number of units that are occupied by households with income between 30 and 50 percent of AMI. The yellow block shows housing units that are occupied by households making more than 50 percent of AMI.

The housing market does not match affordable units with households that need them, and many households prefer to spend much less than 30 percent of their income on housing. Households with higher incomes compete better for housing. They are more desirable to landlords and mortgage finance entities because they often have higher credit scores and longer rental histories; therefore, they can "crowd out" households

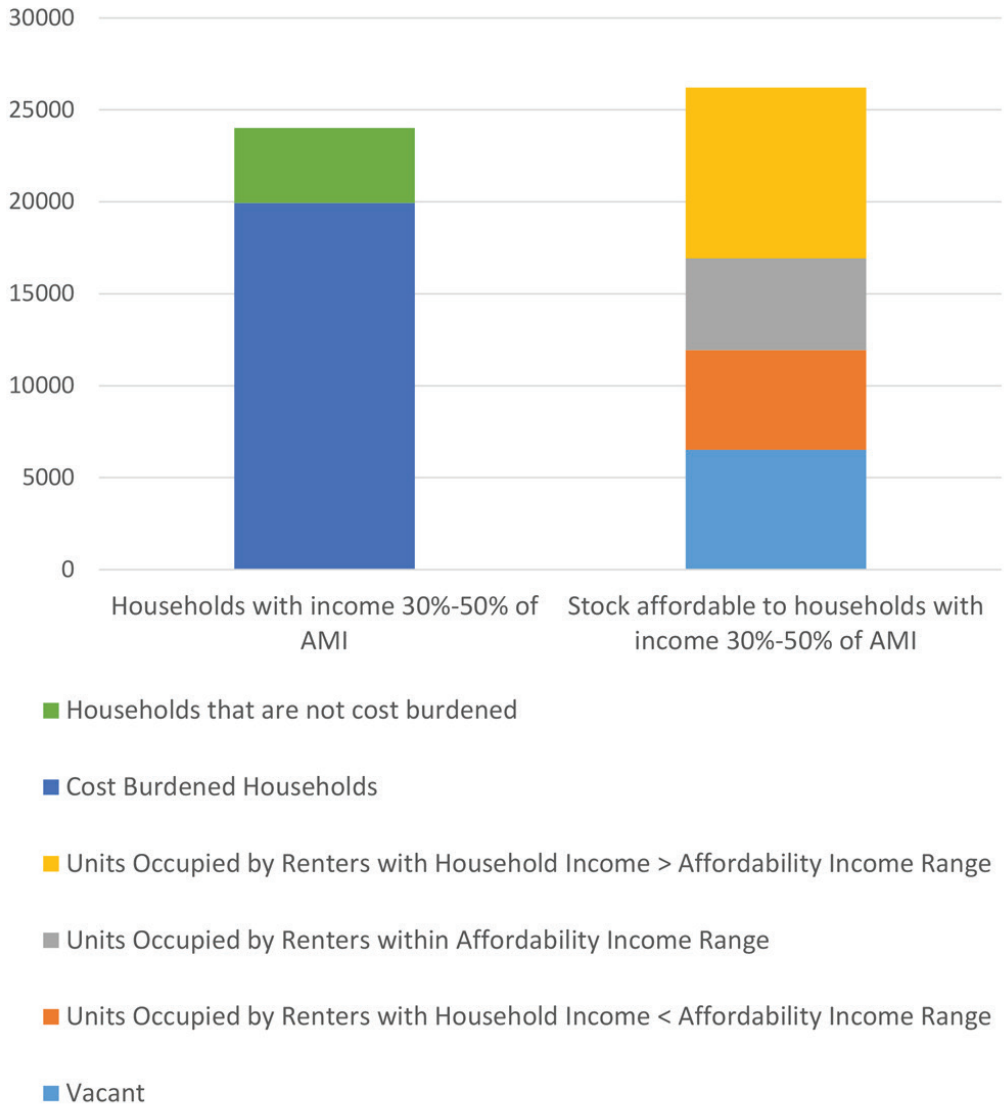



*Figure 2. Rented/for-rent housing gap in the Richmond, Virginia, MSA (Virginia Center for Housing Research tabulation of 2009–2013 CHAS data).*

with lower incomes.

In the example depicted in Figure 2, there is physically enough stock to accommodate households with incomes between 30 and 50 percent of AMI, but these households are effectively "crowded out" by households with higher incomes. Households with higher incomes may choose to live below their means for many reasons, but housing availability is the most relevant to this discussion. Households may choose to consume "less" housing if their desired housing is not available. If a locality works to provide housing that is desirable to household with higher incomes, those household may upgrade, freeing up lower-cost housing for households that need it.

### *Appropriateness*

Evaluating appropriateness requires the analyst to consider both supply and demand. In other words, an analyst must compare households to housing units. For example, let's say you've used the strategies above to determine that households with lower incomes are more likely to be cost burdened and that households making less than $45,000 per year are disproportionately cost burdened. Based on what you know about your municipality you suspect that many of these households might be singles.

You can use ACS data to investigate your theory further. Use table B11016 to determine the number of 1-person households in your jurisdiction. Use table B25041 to get an estimate of the number of housing units with no bedrooms (efficiencies) and the number of units with one bedroom. Note that if information about the size of units is readily available in your municipality's administrative data—e.g., assessment data or certificate of occupancy data—this count is likely to be more accurate (Keller et al. 2016), but remember to compare estimates and counts from the same year.

If you find that that there are far fewer small units than 1-person households, singles may be cost burdened because they cannot find an appropriately sized unit in your jurisdiction. You can continue your investigation of this topic by expanding the ACS tables you use beyond the ones discussed in this article.

*Calculation: Housing Appropriateness*

For example, the median annual income of 1-person households in the city of Richmond, Virginia, in 2015 was $24,401, based on the 2015 ACS 1-year sample. A household earning $24,401 annually can afford monthly housing costs or rent of

$$\textit{Annual Income} \div 12 \times 0.30 = \$24.401 \div 12 \times 0.30 = \$610$$

Approximately 8,356 units rented for less than $600 per month in Richmond, according to the 2015 ACS 1-year estimates provided in table B25063.

According to table B25009, there were approximately 23,073 1-person households renting in Richmond in 2015. If roughly half of these households earn below the median, it is unlikely that there are enough rental units with rents below $610 to accommodate all 1-person households who need them.

For example, use table B19019, Median Household Income in the Past 12 Months by Household Size, to determine what the median 1-person household can afford: divide annual household income by 12 to get monthly income and then multiply by 30 percent (0.3) to determine the household's maximum affordable monthly housing cost. Then compare this number to the number of units available at that rent level from table B25063 (see example).

Comparing median affordable rent or housing costs of a subpopulation with median rent or housing costs for the jurisdiction can be a powerful tool. Many municipalities find it useful to compare wages in dominant occupations to rents in their municipality. A simple approach to this kind of analysis uses BLS data and the tables mentioned above.

Start with the BLS OES data for your MSA. Sort the data by employment, from highest to lowest. Then isolate the top 10 occupations by employment. Use the annual median wage to calculate the maximum amount someone in that occupation earning at the median can afford to pay for housing costs. Compare this number for each occupation to the median rent or owner costs in your jurisdiction. This comparison is a general indicator of whether or not employees in these occupations can afford to live in your municipality. It may also be useful to compare the maximum affordable rent for two earners to the median rent or housing costs in your region, because many households include two workers.

Use the same data to pinpoint occupations in which workers cannot earn enough to afford the median rent in your municipality. For this analysis, calculate the maximum affordable housing cost for all occupations using the annual 90th percentile wage for each occupation. Employees earning in the 90th percentile represent the highest earners in each occupation. Sort the data by maximum affordable rent, from lowest to highest. Those employees in occupations with earnings that are too low to afford the median rent in your jurisdiction even when earning in the 90th percentile are likely to struggle to live in your jurisdiction or simply not be able to live in your jurisdiction. Those who could not afford the median when earning in the 90th percentile and doubled up (simulating a two-worker household with both workers earning at the same level) are even less likely to be able to live in your jurisdiction. This analysis is particularly pertinent if the majority of housing units in a municipality are priced close to the median.

Tables B25087 and B25063 give information on number of units by gross rent and owner costs. You can use these estimates to get general information about the spread of the units in your jurisdiction. So, for example, comparing median wages to the median rent may indicate that certain occupations cannot afford the median-priced unit, but on further examination you may find there are just as many lower-priced units as units priced near the median. In this case, it may be more prudent to compare median wages to a lower-rent threshold.

Location appropriateness of housing influences housing affordability and may affect the community and local infrastructure through associated transportation needs. You can use LAI data and On the Map data to detect weaknesses and threats due to housing affordability and location appropriateness.

Use the LAI to assess whether the housing plus transportation costs might be an advantage or disadvantage in a given jurisdiction. If the LAI in a community is relatively high, use the LAI breakdown to see if housing or transportation is the larger contributor. If housing costs are a small part of households' expenses but transportation costs are large, households may be choosing to live in the jurisdiction because the housing is more appropriate for the members of those households. They may be trading high transportation costs for low housing costs. If the opposite is true—housing costs are high but transportation costs are low—households may be willing to accept higher housing costs in the jurisdiction because they know they can save on transportation costs. However, high housing costs could also represent a threat.

If housing costs are too high, workers in a given jurisdiction may choose to live elsewhere to access a higher quality of life or to be able to afford housing at all. Commuting trends, available from On the Map, can shed light on the impact of housing and transportation costs. If relatively few residents live and work in a jurisdiction but the jurisdiction has many out-commuters, then households may be choosing that jurisdiction because of the quality of life. Conversely, if relatively few residents live and work in a jurisdiction but the

jurisdiction has many in-commuters, then households may be choosing to live elsewhere because their quality of life is better in another jurisdiction. If households are working and thereby earning in your jurisdiction but choosing to live elsewhere, they are likely spending the dollars that they earn at home and in a sense, extracting money from your jurisdiction. Further, high levels of commuting may strain municipal transportation infrastructure.

## Taking Action

This section discusses some of the most important steps planners and other municipal staff should consider as they take action based on the conclusions from a housing needs assessment. The discussion emphasizes the importance of stakeholder engagement, partnerships, and practicality as you set goals and take action. It includes an overview of useful policies and programs as well as an approach to tracking your success and monitoring housing needs over time.

### *Setting Goals*

There are three main considerations for setting housing-related goals. First, observe the market and be careful not to overbuild. Second, be practical: Understand the extent to which municipal resources will be available and consider how you can collaborate with builders, developers, and employers to extend municipal goals. Third, measure your success. This section will include a discussion of the first and second points. A discussion of how to monitor and evaluate efforts makes up the final section of this *Memo*.

First, understand that the market is fluid and does not match households to housing based on need. Unless housing units are income restricted or 55-and-older communities, housing units are not reserved for those households that need them. If your jurisdiction sets a goal to add an additional 100 units that are affordable to households with very low incomes, keep in mind that households with higher incomes may also demand more affordable housing and that higher-income households compete more effectively for the housing that they want. On the other hand, building housing that is more desirable for households with moderate incomes may free up housing for households with lower incomes.

Next, be careful not to overbuild. It takes time for the market to absorb units. If you find that there is a need for more units affordable to households with incomes between 30 and 80 percent of the area's median income—very low and low-income households—do not plan to build all of the units at once, flooding the market. Instead, focus on a combined effort of preserving units that are already affordable to this group and encouraging development of units that are affordable to this group along with units that might be more appealing to households with higher incomes that currently occupy units that might be affordable to this group. Municipalities can work with experienced developers that can gauge the market and its rate of absorption and thereby pace the rate of building so units can be sold or rented easily.

Being practical will help pace your building goals. Municipalities have limited resources and should not stretch staff too thin. Try a trial run to experience the effects of providing incentives such as density bonuses for energy efficient, affordable housing. Small-scale, trial approaches may also be more palatable to the community and the elected officials who represent them. There are a few ways to approach an experiment: limit the area where a new policy and or program will be applied, limit the number of developments that can be built under a new policy or program, or limit the time for which a new policy or program will be available.

Many municipalities limit the availability of density bonuses to areas where they deem increased density to be most appropriate. Communities have implemented accessory dwelling unit ordinances in areas where they believe such a program will be most successful. If you implement a program or policy where you believe it will be most successful and it is successful, you may expand it. If it is not successful, you may need to adjust the policy or even go back to the drawing board. Alternatively, you can pilot a policy or program by making it available for a limited amount of time or allowing a limited number of units to be built under the program.

### *Engaging Stakeholders*

Explaining the data is one of the most important parts of a housing needs assessment. Your assessment will need buy-in from builders and developers, employers, and the community at large if it is going to be used to take action. You will also need to be able to make a case for action to your colleagues and to the elected officials who are responsible for local government and, sometimes, those who are responsible for state policy.

Builders and developers, employers, and households in your community are also great resources to help assess the validity of the data and your analysis. Ask builders and developers about their experience: what kinds of housing are in high demand and are there certain types of housing that are challenging to build? Ask employers if their employees have a hard time finding affordable, appropriate housing or if their employees must commute from other jurisdictions. Ask households in your community about their housing challenges. The conversations you have with each of these groups will help you better understand the data and improve your analysis. Further, you will collect anecdotes and stories that will help you explain the data and your analysis to others.

Finally, municipalities can collaborate with developers, nonprofits, employers, philanthropists, and volunteers to achieve housing goals. Engaging these groups at the beginning will make partnering to achieve housing goals more productive later on. Further, partnerships can extend programs and policies and make them more efficient and effective.

## Builders and Developers

Builders and developers can be allies as you interpret the housing needs assessment data. Ask them what they are experiencing in the market and use their insight to either question the data or validate it. Once you, your colleagues, and the elected officials for your community have a clear understanding of housing gaps and needs, be very clear about your goals and ensure that the local policies support those goals.

Reducing uncertainty and risk reduces costs for developers. If they know that a locality needs a particular type of housing and that the local government is going to support their efforts to build it, it is very likely that the locality can achieve its housing goals. The more information a locality can provide to developers about where residents want to see housing built, what type of housing they are looking for, what they want it to look like, etc., the more likely developers are to respond the community's plans and goals. The more time developers have to spend revising designs or proposals and the more often they are turned down for rezoning because they don't have a clear idea of what the municipality is looking for, the less likely it becomes that the municipality will achieve its housing goals.

Finally, developers are indispensable partners in building affordable housing and housing for special populations. For example, municipalities should consider developing relationships with developers that have experience doing Low Income Housing Tax Credit (LIHTC) deals, so that your municipality can become more competitive and efficient at developing affordable housing with tax credit incentives. The more often your municipality works with a particular developer, the more efficiently and cost-effectively that developer will be able to do business in your community, and the more effectively your municipality will be able to respond to housing needs.

**Employers**

Housing costs are among the top five factors affecting where households choose to live and work (Wardrip, Williams, and Hague 2011), so having enough affordable, appropriate housing to support the workforce is an important issue for employers, especially those who are thinking about expansion.

Employers look for the workforce they need within a particular commute shed, often 60 miles, in order to locate or expand in a particular locality or region. A job-housing imbalance can impede economic development by making it difficult for businesses to recruit and retain employees (Morrison and Monk 2006). Chakrabarti and Zhang (2015) find evidence that unaffordable housing has a significant and negative impact on local employment growth in their study of California cities. Slowed, stalled, or negative employment growth can in turn negatively affect businesses and communities.

Jonas, While, and Gibbs (2010) suggest that workforce housing, along with other major infrastructure, is a common problem for city-regions that are growth "hotspots." The Joint Center for Housing Studies and Center for Workforce Preparation (2005) report an example: Citistorage, Inc. in Brooklyn, New York, noticed that over the last 20 years many of its employees have had to move farther and farther away from work to find housing they can afford. Consequently, Citistorage had to reduce its working hours to offset longer commuting times in order to retain employees.

Further, if housing is affordable and appropriate, employers will experience less turnover. Costs associated with replacing employees include the search and recruitment of substitutes, selecting between candidates, orientation of the substitute, and job training (Ongori 2007).

Given the importance of housing for employees, the importance of employees to businesses, and the importance of businesses to communities, it makes sense to partner with employers to learn about their employees' needs and to offer complementary programs. For example, many employers offer down-payment assistance or other kinds of benefits to recruit and retain employees. Municipalities can partner with employers to provide programs such as assistance bringing homes up to code or funds to help upgrade the stock in particular areas. A combination of down-payment assistance and rehabilitation funds could make homeownership possible for many moderate-income households, including millennials and young professionals.

**Staff and Elected Officials**

Staff and elected officials want to know how many residents and households cannot afford housing, how the lack of affordable housing impacts the community, and how housing cost burdens affect households.

First, explain the cost-burden measure: Households that pay more than 30 percent of their income for housing are cost burdened and may have to make choices between housing and other necessities like medical care, child care, clothing, and food. Further, households that are cost burdened have little money to save for emergencies and are not likely to have extra money for home maintenance or upgrades. Some cost-burdened renters may accept poor housing conditions to obtain housing at all. Willingness to accept poor housing conditions, either as a homeowner or as a renter, threatens the upkeep, quality, and marketability of the local housing stock.

Next, give more details about the cost-burdened households. For example, relying on your analysis of the BLS data, tell elected officials which workers likely struggle to afford housing. If municipal service workers or people who work at a primary employer in your area cannot afford housing, it is usually cause for concern. Seniors and families are also populations that draw particular concern. You can build stories, hypothetical or real, about people in your community who work in occupations that do not pay enough to allow them to comfortably afford housing in your jurisdiction. Explain how long they would have to work at their job or how much more they would need to make to afford the median rent. Answer questions like "Can they afford to live alone, or would they need a roommate?" "Can they afford to start a family in your community?" "Could they retire in your community?"

If there are people who work in your community that cannot afford to live there, ask yourself if their commute is a burden on the community and its infrastructure. If traffic congestion is a problem in your jurisdiction, a lack of affordable housing may be making everyone's life harder. Also consider the retail leakage that your community may be experiencing if workers are earning in your community but spending their paycheck where they live.

**Community at Large**

The community at large will be more interested in examples and anecdotes than the data. Provide the number of house-

holds that are experiencing housing affordability or appropriateness challenges and then give stories about or examples of households that experience housing affordability or appropriateness challenges.

Your goal should be to help the community empathize with those who experience housing challenges and realize that the people who experience these challenges are very often important members of the community: policemen, firemen, other municipal employees, health service workers that staff doctor's offices and hospitals, the staff of their favorite restaurant or barber shop. Without including these people in the community by ensuring that they are able to find appropriate and affordable housing, the community cannot have the amenities it enjoys. As housing gaps worsen, businesses will not be able to find the employees they need and the growth or stability of the community will suffer.

The community will also have questions about how affordable housing or housing for special populations, if encouraged, will affect the community. It is best to rely on examples to dispel myths. You likely have some examples of attractive affordable housing, senior housing, or housing for people with special needs that works well in your community or in a nearby community. Find some examples and share them with interested citizens. To get some inspiration, read "Learning from Mount Laurel" by Douglas Massey (2012).

### *Your Tool Kit*

You have three categories of tools to provide housing needs: policy, programs, and partnerships. Your most powerful policy tool is zoning. Then, you can create programs that offer incentives for the provision of affordable housing and housing for special populations. Programs often complement municipal policies. Last, you can establish partnerships that make it easier to achieve your community's housing goals. The section above highlights the wide range of stakeholders you can partner with.

This section highlights the types of policies and programs that may be useful in your community. It is too short to provide in-depth descriptions of the policies and programs that have been successful for communities across the country. However, many resources describe these policies in detail and provide examples. HUD USER (www.huduser.gov) is a great place to begin your search for more information.

### Policy

Inclusionary zoning is the most powerful policy tool with which to ensure that new housing developments address housing affordability gaps, but there are additional zoning tools and considerations that can support housing goals. Municipalities can employ a variety of zoning techniques to ensure that affordable housing and housing for special populations fits into their community, benefiting everyone and not isolating any one subpopulation.

Inclusionary zoning is the requirement that new housing developments include housing that is accessible to low- and moderate-income households. Inclusionary zoning promotes diversity and sends a clear message that a community values residents that earn at all income levels. Municipalities should use inclusionary zoning to set a minimum requirement for affordable housing, keeping in mind that asking too much could discourage development all together. Many communities allow developers to pay cash in lieu of building or subsidizing affordable units, but allowing developers to pay to have affordable units built somewhere else may segregate households with lower incomes and cause harm to the community.

You can use floating zones to encourage high-priority housing. Floating zones are a set of criteria that developers or property owners can apply anywhere or in particular regions of your jurisdiction. The zoning criteria "float" until a property owner or developer wants to apply them in a particular place. This type of zoning allows for great flexibility in location but should be very specific regarding use, form, and design. For example (state law permitting), your municipality could design a floating zone for housing of which at least 20 percent of the units are designated for seniors with low and moderate incomes. The floating zone could require mixed use development and energy efficiency and universal design standards for the senior units. Municipalities can pair this type of zone with programmatic incentives (discussed in more depth below) to further support the development of high-priority housing.

Finally, being as specific as possible about housing goals and how the community would like to see them achieved removes the guesswork for developers and builders. Communities should add housing sections to their short- and long-range planning documents. Include as much detail as possible regarding where the community would like additional housing to be built, how much housing the community would like to add, what types of housing they would like to see (single family, single family attached, multifamily), what they would like the developments to be like, what they would like the buildings to look like, and the housing gaps the community is trying to target.

Remember that transportation availability and utilities affect the affordability of homes, so encouraging transportation-oriented development and energy-efficient homes will extend municipal efforts to provide appropriate, affordable housing that will stay affordable for longer. Ideally, your municipality will develop small-area plans that can help developers fully understand municipal visions.

### Programs

Municipalities can provide a variety of incentives to encourage builders and developers to address housing gaps. Density bonuses, tax abatement, fast-track reviews, and fast-track permitting are all valuable incentives that can make the provision of affordable housing a positive cash flow for developers.

Municipalities can provide additional density in exchange for income-restricted housing and other housing attributes like universal design and energy efficiency. However, the density must be over and beyond what developers can build by-right and, as some municipalities have learned the hard way, what developers know elected officials will approve through a rezoning process. That is, if developers know that elected officials are likely to allow additional density through a rezoning process without providing

affordable housing or other desired housing attributes, they will not find value in participating in the program.

Municipalities often provide real-estate tax abatement to nonprofit affordable housing developers and property managers to encourage housing for low-income households, but there are other financial incentives that can be useful as well. These include waiving hook-up fees for municipal utilities and waiving permitting fees. Fast-tracking zoning and permitting reviews and on-demand building inspections are also valuable incentives for builders.

Municipalities can also provide incentives to residents directly. These types of incentives often include financial incentives to make housing more appropriate. Municipal efforts that benefit residents directly can be as simple as providing a list of recommended contractors for accessibility modifications. If residents feel confident that they will not be cheated by a contractor, they are more likely to spend a portion of limited funds on home improvements. Some municipalities directly fund accessibility modifications for low-income seniors in their community.

Some municipalities offer down-payment assistance to allow moderate-income workers and renters to get a foothold in the community and begin building equity. Shared-equity programs are another option to help residents become homeowners. Land banks, land trusts, and housing trust funds are useful tools with which municipalities provide housing directly, provide shared-equity opportunities, and "bank" land as an investment in future affordable housing.

## Monitoring and Evaluation

Monitoring your progress and evaluating the results of your efforts are important parts of taking action to fill housing gaps, especially because housing demand and housing gaps are ever changing. In many communities, the housing affordability gap is growing so fast that it will take many years to close the gap before beginning to meet demand. Still, monitoring your success by measuring your progress toward goals and evaluating the effectiveness of programs will be an important aspect of maintaining community buy-in and showing stakeholders that your efforts are well organized and that you continue to consider their perspectives.

You will need to establish a baseline from which to track the success of the policies, programs, and partnerships that you have established after completing your housing needs assessment. Apply the insight you've gained from publicly available data to assess your jurisdiction's housing inventory and answer the questions:

- Which market-rate developments or neighborhoods are affordable to households making low and moderate incomes?
- How many income-restricted units are in the municipality?
- Which affordable developments or neighborhoods are well located?
- Which units could be rehabilitated to provide appropriate and affordable housing?
- Which neighborhoods or housing types are becoming less desirable?

You may find municipal assessment data, zoning violation data, and subsidized housing data useful in this process, especially if your jurisdiction is very large, but it's likely that you and your colleagues can answer these questions based simply on your knowledge of the jurisdiction you serve.

Using this inventory baseline, you can set goals for preservation, upgrades, and redevelopment. Combined with goals to add new inventory, you will have plenty to track, both changes from regular market forces and from the actions you take. You will be able to share the number of net new affordable and appropriate units that have been added and explain which units were lost, which units might have been lost without your efforts, and which units were added.

Over the long term you will be able to track whether your community is becoming more affordable and whether you are addressing the housing challenges experienced by individual households and the community as a whole, using the data discussed in this and the previous *Memo*. Keep in mind that if you are using 5-year pooled estimates from the ACS or CHAS, you will see little change in these estimates from year to year; it may be more prudent to measure change every five years. If your jurisdiction is larger or more densely populated, you may have access to ACS 1-year estimates, in which case you should see movement annually with the understanding that there is a one-and-a-half- to two-year lag in ACS data.

Tracking the number of cost-burdened households will be the easiest way to discern whether your community's housing is becoming more affordable. Use the comparison of the occupation earnings to the median rent and median owner costs to assess the trajectory of the jobs-housing balance. Finally, use the CHAS data to monitor the affordable housing stock and to guide your continued efforts. Remember, the housing stock is sticky and changes far more slowly than the households in your community, so adjusting to meet housing needs will be an ongoing, ever-changing challenge.

## Conclusion

This *Memo* presents a number of techniques with which to analyze publicly available housing data and provides an overview of ways to take action based on the results of a housing needs assessment. In addition to the programs and policies that help municipalities respond to housing needs, this *Memo* discusses considerations for setting practical goals and engaging stakeholders, as well as approaches to monitoring and evaluating municipal efforts to address housing needs.

Housing influences household quality of life and the community at large. Further, it is deeply interconnected to other planning issues such as transportation and economic development. As such, elements of the housing needs assessment can and should be applied in comprehensive planning, transportation planning, economic development strategies, and required planning for HUD programs. The information provided in this *Memo* and the prior issue should help you in both carrying out a housing needs assessment and in using that analysis to inform a wide range of planning efforts to improve your community's overall well-being.

**About the Author**

**Mel Jones** is a research scientist with the Virginia Center for Housing Research at Virginia Tech. Jones leads housing affordability research at the center and conducts housing needs assessment for localities throughout Virginia. Recently she has completed analyses for the Richmond Regional Planning District Commission, Fairfax County, James City County, Central Appalachia, and the Virginia Housing Trust Fund. Jones has a Master of Urban Affairs and Planning degree and a master's degree in applied economics from Virginia Tech. Her areas of expertise include statistical and qualitative economic and policy analysis.

**References**

Chakrabarti, R., and J. Zhang. 2015. "Unaffordable Housing and Local Employment Growth: Evidence From California Municipalities." *Urban Studies* 52(6).

Joint Center for Housing Studies and Center for Workforce Preparation. 2005. *Strengthening Our Workforce and Our Communities Through Housing Solutions.* www.jchs.harvard.edu/research/publications/strengthening-our-workforce-and-our-communities-through-housing-solutions.

Jonas, A., A. While, and D. Gibbs. 2010. "Managing Infrastructural and Service Demands in New Economic Spaces: The New Territorial Politics of Collective Provision." *Regional Studies* 44(2).

Massey, Douglas. 2012. "Learning from Mount Laurel." *Shelterforce*, Summer. www.shelterforce.org/article/2890/learning_from_mount_laurel/.

Morrison, N., and S. Monk. 2006. "Job-Housing Mismatch: Affordability Crisis in Surrey, South East England." *Environment and Planning* 38.

Ongori, H. 2007. "A Review of the Literature on Employee Turnover." *African Journal of Business Management,* June, pp. 49–54. www.academicjournals.org/article/article1380537420_Ongori.pdf.

U.S. Census Bureau. 2009. *A Compass for Understanding and Using American Community Survey Data: What State and Local Governments Need to Know.* Washington, D.C.: U.S. Government Printing Office. www.census.gov/content/dam/Census/library/publications/2009/acs/ACSstateLocal.pdf.

U.S. Department of Housing and Urban Development (HUD). n.d. "Affordable Housing." portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/affordablehousing/.

Wardrip, K., L. Williams, and S. Hague. 2011. *The Role of Affordable Housing in Creating Jobs and Stimulating Local Economic Development: A Review of the Literature.* Center for Housing Policy. www2.nhc.org/media/files/Housing-and-Economic-Development-Report-2011.pdf.

 PAS Memo (ISSN 2169-1908) is published by the American Planning Association, 205 N. Michigan Ave., Ste. 1200, Chicago, IL 60601. James M. Drinan, JD, Executive Director; David Rouse, AICP, Managing Director of Research and Advisory Services; Ann F. Dillemuth, AICP, Editor.

PAS Memo *is a bimonthly online publication of APA's Planning Advisory Service; learn more at www.planning.org/pas.*