Notes on Data Sources and Differences in Estimated Totals

All the figures and estimates provided in the *Housing the Richmond Region: Needs, Impediments, and Strategies* report are based on U.S. Census Bureau data collected through the American Community Survey. The Census Bureau uses 1-year sample data as well as 3 and 5-year pooled sample data, inflation factors and statistical estimation methods to provide estimates in published tables. The Bureau also provides Public Use Microdata Sample (PUMS) data files for preparing user-generated tables. The PUMS files include sample weights to generate estimates for the total population from the sample. These weights approximate but do not match the weighting algorithm used for the published estimates. None of the data used for this report is a "count," which would include every household at a single time in a single jurisdiction, so totals for different tabulations may not provide identical totals, especially when different data sets or tabulations were used to ensure the highest level of accuracy for a given tabulation or jurisdiction-tabulation combination.

PUMS files are only available for Public Use Microdata Areas (PUMAs) that require a minimum population of 100,000 people. Thus PUMS files are available specifically for Chesterfield, Henrico and Richmond; Goochland, Hanover, New Kent and Powhatan Counties are included together with King William and Charles City Counties in PUMA 51215. VCHR derived estimates for Goochland, Hanover, New Kent and Powhatan Counties through an estimation procedure that adjusted detailed tables generated for PUMA 51215 from the 2012 1-year ACS sample to fit the published county-specific estimates provided from the 2012 ACS 3-year and 5-year files. The Solver algorithm was used to calculate the best fit for each county that minimized the difference between the estimated distribution and the published estimates. VCHR tabulated estimates from 2012 PUMS files when jurisdiction estimates or detailed characteristics were not published by the Census.

Tables in this report have not been controlled to provide identical estimates for totals (e.g. total households, owners, renters) across all tables. This is the protocol followed by the Census Bureau for the tables the Bureau publishes from the ACS data. Such differences between tables reflect variations in the specific population covered by a table; by differences in the weights provided in the PUMS files and the weights used in generating the ACS published tables; and by the algorithm used to fit PUMA 51215 tables to published parameters for Goochland, Hanover, New Kent and Powhatan Counties.

Data Sources

- U.S. Census
  - 2000 Decennial Census Summary Files. https://www.census.gov/main/www/cen2000.html
  - American Community Survey Published Tables, http://www.census.gov/acs/www/data_documentation/data_main/
    - 2013, 1-year, 3-year, and 5-year estimates
    - 2012, 1-year, 3-year, and 5-year estimates
    - 2011, 1-year, 3-year, and 5-year estimates
  - American Community Survey Public Use Microdata Sample Files (PUMS), http://www.census.gov/acs/www/data_documentation/public_use_microdata_sample/
    - 2012 1-year file for Public Use Microdata Areas (PUMA) 51215, 51224-5, 51235, and 04101-04103.
- HUD
  - Comprehensive Housing Affordability Strategy (CHAS), http://www.huduser.org/portal/datasets/cp.html
    - 2011, 5-year estimates
- Weldon Cooper Center for Public Service Population Projections, http://www.coopercenter.org/demographics/national-population-projections
- Chesterfield County Population Projections

Please see Appendix 4 for more information regarding VCHR's housing demand projections.