



CONSTRUCTION, CODES, AND COMMERCE

Residential Construction Data Review (2005-2017)



THE SOUTHEAST ENERGY EFFICIENCY ALLIANCE (SEEA)

The Southeast Energy Efficiency Alliance (SEEA) is one of six regional energy efficiency organizations in the United States working to transform the energy efficiency marketplace through collaborative public policy, thought leadership, outreach programs, and technical advisory services. SEEA promotes energy efficiency as a catalyst for economic growth, workforce development, and energy security across 11 Southeastern states. These states include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia. Visit SEEA online at www.seealliance.org.

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CONSTRUCTION, CODES AND COMMERCE:

RESIDENTIAL CONSTRUCTION DATA REVIEW

The following review, conducted by the Southeast Energy Efficiency Alliance (SEEA), examines the relationship between implemented residential building energy codes and new, single-family residential construction permit data from 2005 to 2017 in SEEA's 11-state territory in the Southeast.

RESIDENTIAL CONSTRUCTION DATA SOURCE

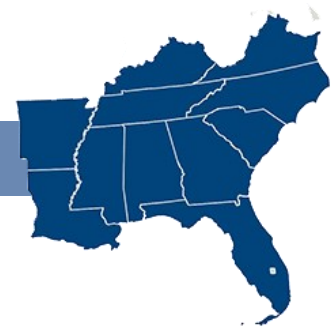
The residential construction data used for this report is provided by the United States Census Bureau's Building Permit Survey (BPS). All data is free and available to the public at <http://www.census.gov/construction/bps/>. The data represents new, privately-owned, single-family residential building projects and is based on estimates of the number of permits calculated by imputation (in lieu of reported only). For additional information on imputation methodology refer to the Resources section at the end of this document.

This report does not contain information on residential renovations or remodeling projects. The U.S. Census Bureau discontinued the Survey of Residential Alterations and Repairs (SORAR) in 2007, though residential renovation data is still available for purchase from a number of companies. This report also does not reference information related to the costs of new residential construction projects. Although this data is available through the BPS, it does not have enough detail for comparison and is not included in this report.

HOW TO USE THIS REPORT

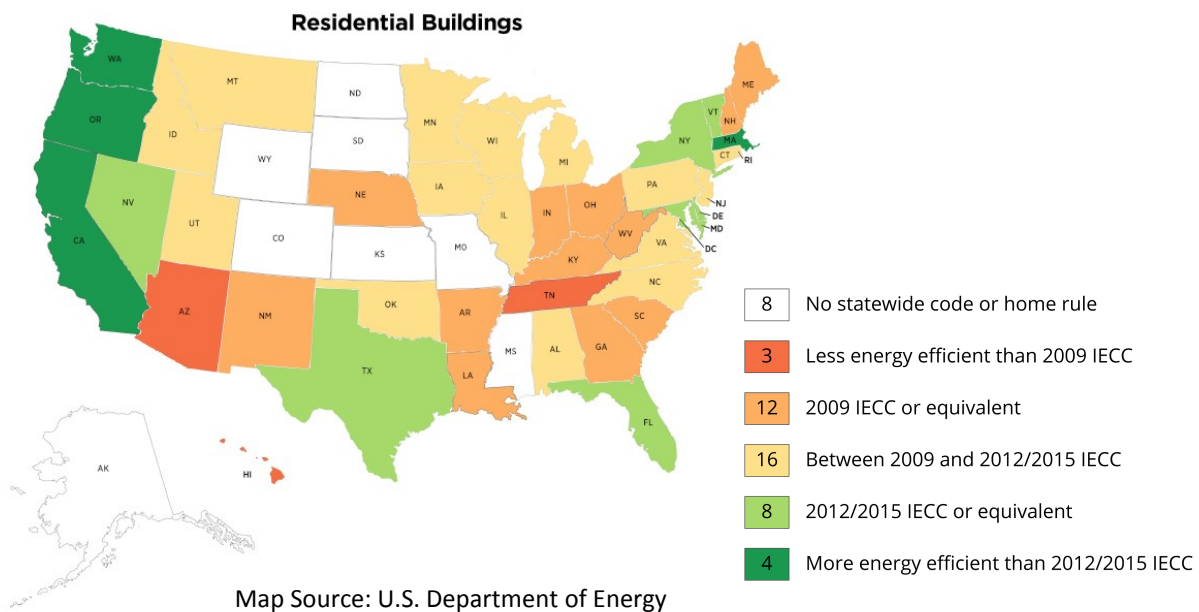
SEEA embarked on a review of new residential building construction data to better understand overall residential construction trends in the Southeastern United States. As states continue to adopt new state-level energy codes, it is important to understand what impact these new codes have had, and may have in the future, on the residential building market in the region.

This report provides useful insight on residential construction activity across the Southeast and can be used by state energy offices, local planning departments, utilities, and other groups to tailor educational materials, trainings, and outreach related to residential construction and building energy code compliance for optimal impact.



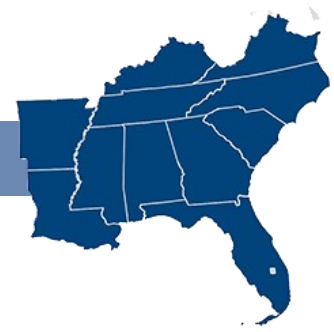
REGIONAL REVIEW: THE SOUTHEAST

The information on the following pages summarizes the status of residential energy codes and new residential construction at the regional level.



State	Code	Effective Date	Percent of Population in Permit-Issuing Places ¹
Alabama	2015 IECC with Amendments	10/01/2016	70%
Arkansas	2009 IECC with Amendments	01/01/2015	61%
Florida	2015 IECC with Amendments	12/31/2017	100%
Georgia	2015 IECC with Amendments	01/01/2018	97%
Kentucky	2012 IRC with Amendments (equivalent to the 2009 IECC)	10/01/2014	75%
Louisiana	2009 IRC with Amendments	01/01/2015	96%
Mississippi	No statewide code	-	67%
North Carolina	2015 IECC with Amendments	01/01/2019	100%
South Carolina	2009 IECC	01/01/2013	99%
Tennessee	2009 IECC with Amendments	02/02/2017	88%
Virginia	2015 IECC with Amendments	09/04/2018	100%

¹Percentages based on the 2010 Census of Population and the 20,000 permit-issuing place series.

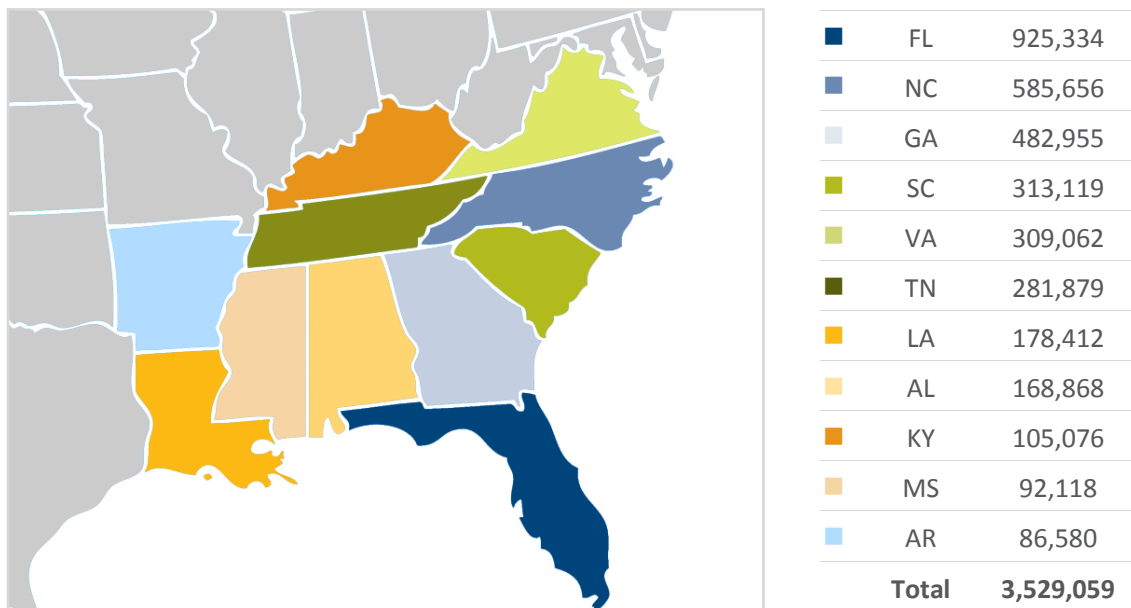


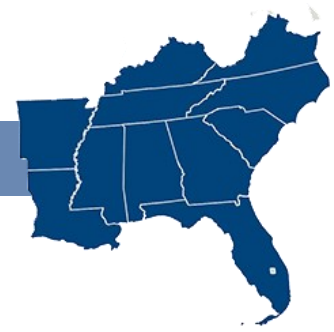
REGIONAL REVIEW: THE SOUTHEAST



*Chart reflects single-family residential new construction projects only

Total Single-Family Residential New Construction Permits By State (2005-2017)





REGIONAL REVIEW: THE SOUTHEAST

OBSERVATIONS

As a result of this review of construction data in the Southeast from 2005 to 2017, SEEA finds the following:

The overall trend, at both the regional and state level, is that:

- Residential permit numbers decreased from 2005 through 2008.
- From 2009 through 2011 residential permit numbers remained steady.
- From 2011 through 2017 residential permit numbers have increased.
- This mirrors the regional trends found in the commercial building market. Information on construction trends in the commercial building sector can be found in SEEA's whitepaper [*Construction, Codes, and Commerce: The Economic Impact of Commercial Energy Codes in the Southeast*](#).
- There is no evidence in the data indicating that stronger residential building energy codes depress residential construction activity. As states have adopted new energy codes with updated standards, the number of building permits has continued to increase throughout the region, showing that updated residential building codes are not a factor in holding back residential construction.
- Factors other than building energy codes appear to be influential in affecting the level of residential construction activity. These factors may include mortgage interest rates, credit availability, population growth, income demographics, and the size of the available housing stock, though they are not addressed in this report.

MOVING FORWARD:

POTENTIAL USES FOR THESE FINDINGS

We hope that this report will be useful for many applications. The following is a list of possible ways that organizations and individuals can use the data and conclusions provided in this report:

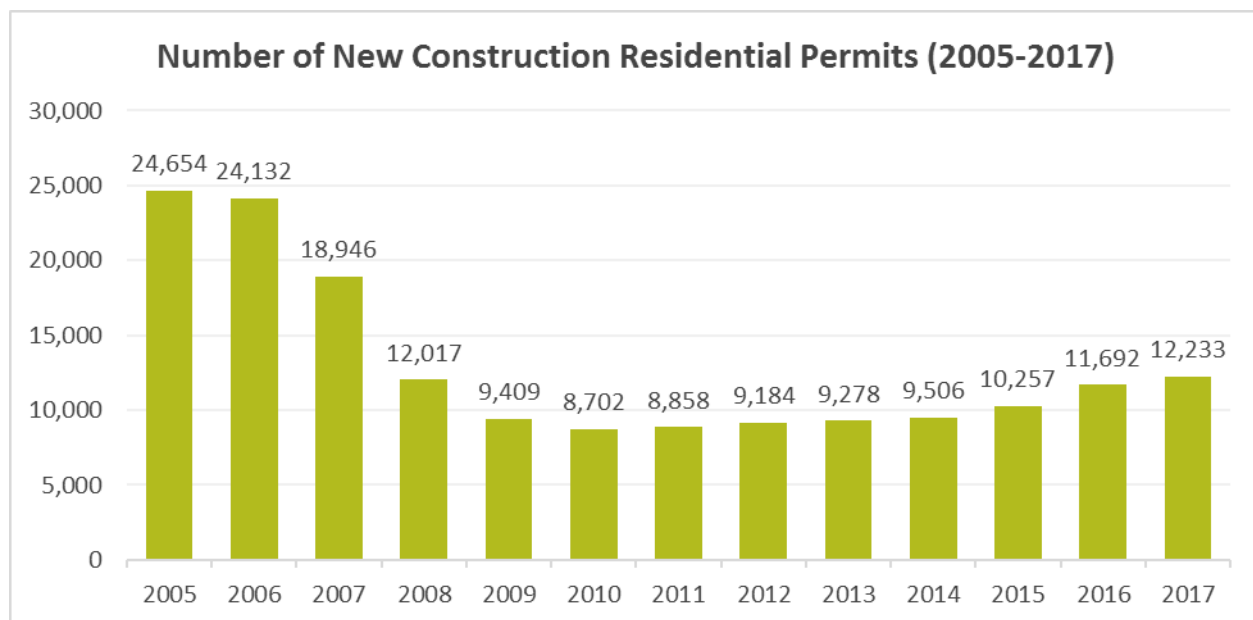
- If you or your organization works with energy code adoption, we hope this information will be helpful in addressing misconceptions that may exist among your stakeholders about the impact of stronger energy codes on construction activity.
- If you or your organization is involved with developing educational resources and trainings on energy codes, we invite you to tailor the state-based information to address your specific needs. For example, knowing the type and volume of residential construction in your area can make your teaching materials more impactful for your audience.
- If you or your organization is involved in planning, the state-based information in this report provides the locations of residential construction, which offers a complementary means for determining growth.

We recognize that there are many additional analyses that could be completed from this data, and we invite your ideas about what would have the most application and value in your work. Please email us your input using the contact emails provided at the beginning of this report.

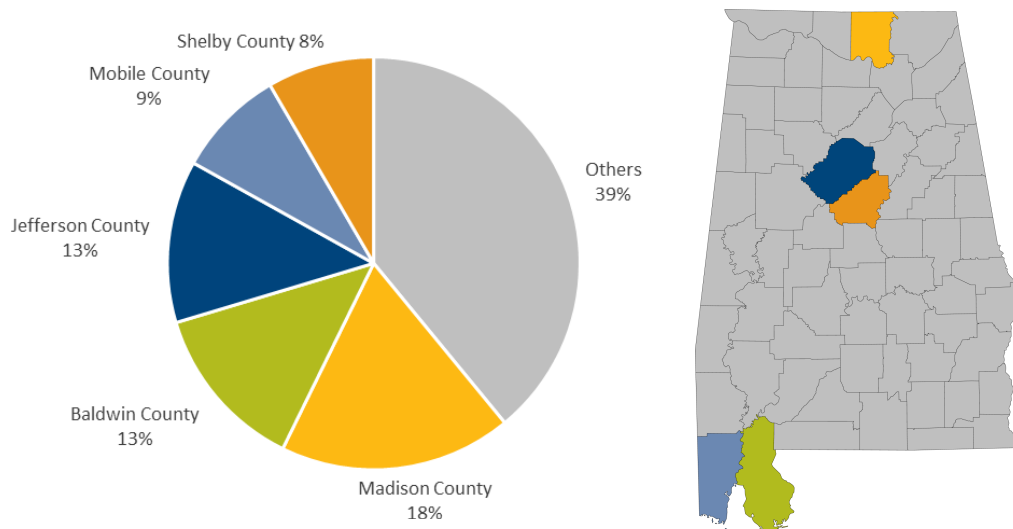
STATE REVIEW: ALABAMA



Current Residential Code	2015 IECC with Amendments
Effective Date	10/01/2016
Population	4,887,871 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	71.0%
Total Number of Residential Permits (2005-2017)	168,868



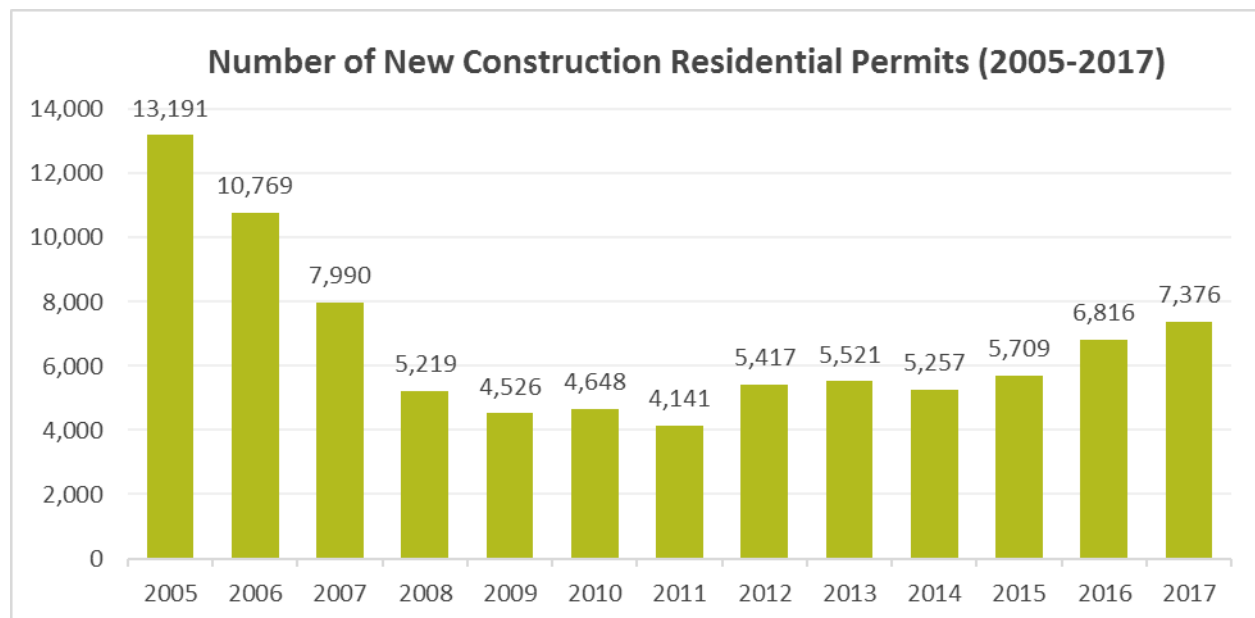
Top Five Counties by New Construction Residential Permits (2005-2017)



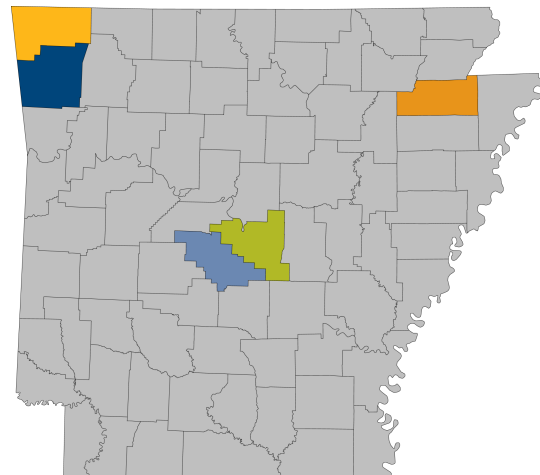
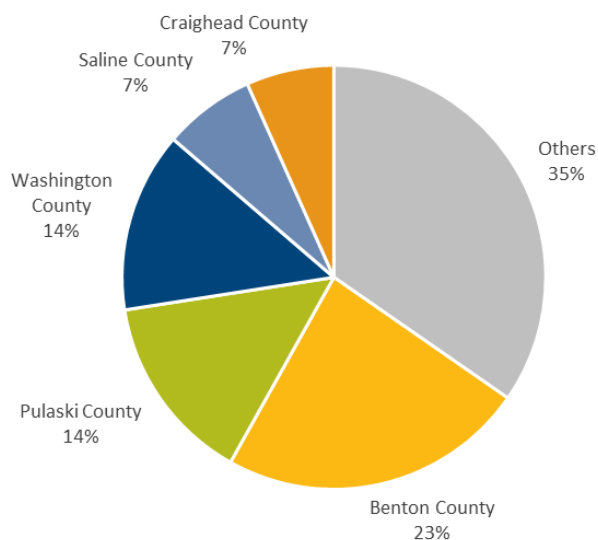
STATE REVIEW: ARKANSAS



Current Residential Code	2009 IECC with Amendments
Effective Date	01/01/2015
Population	3,013,825 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	64.9%
Total Number of Residential Permits (2005-2017)	86,580



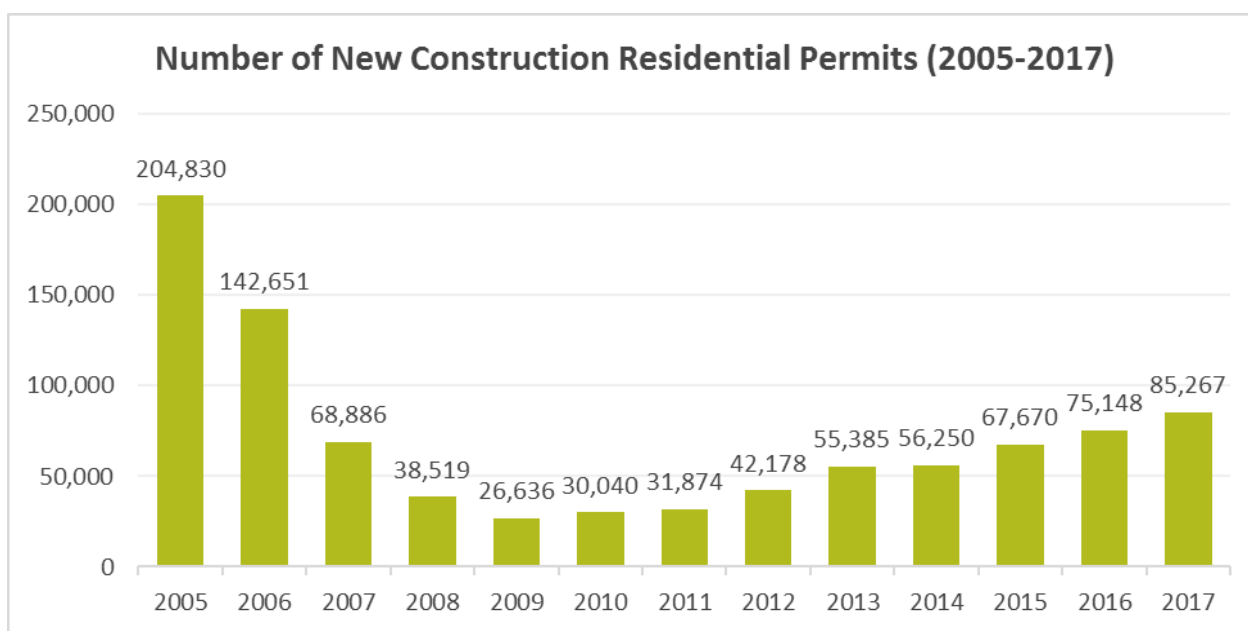
Top Five Counties by New Construction Residential Permits (2005-2017)



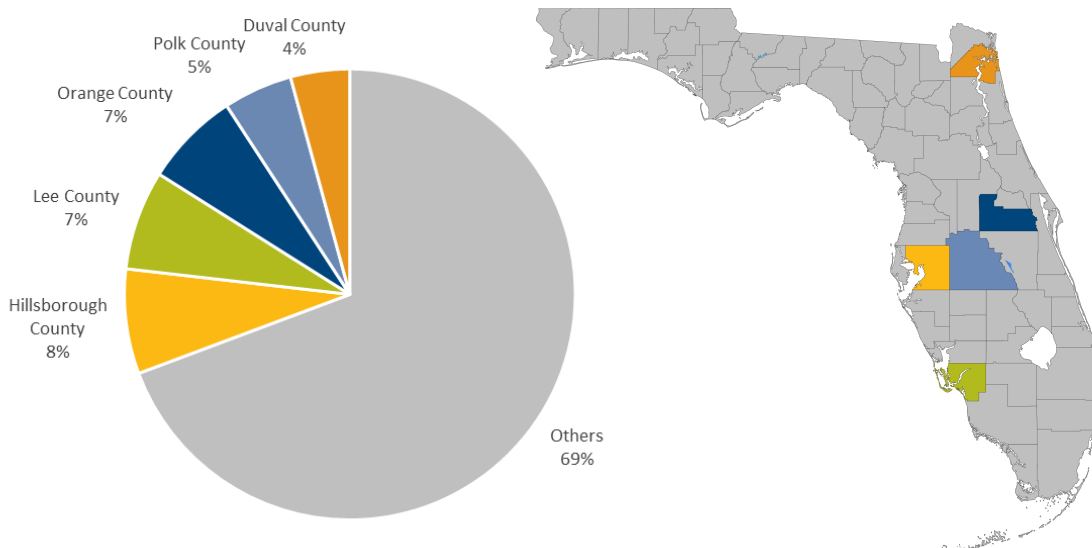


STATE REVIEW: FLORIDA

Current Residential Code	2015 IECC with Amendments
Effective Date	12/31/2017
Population	21,299,325 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	64.5%
Total Number of Residential Permits (2005-2017)	925,334



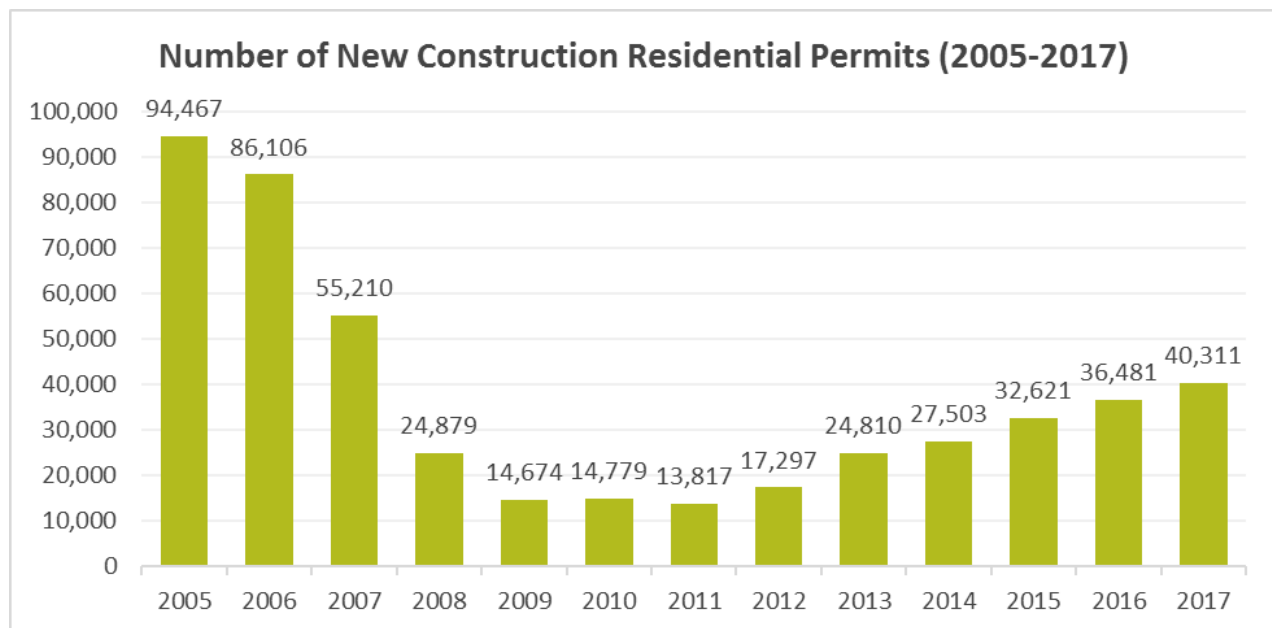
Top Five Counties by New Construction Residential Permits (2005-2017)



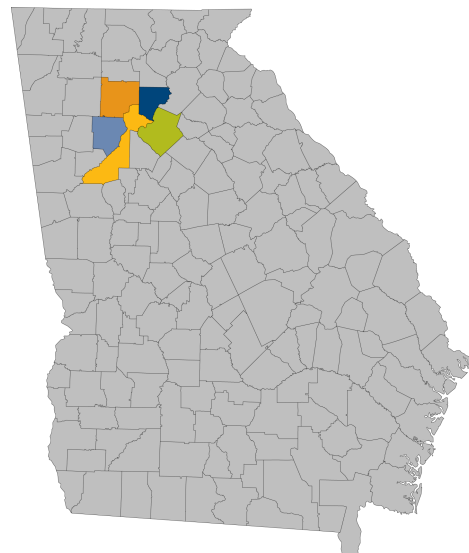
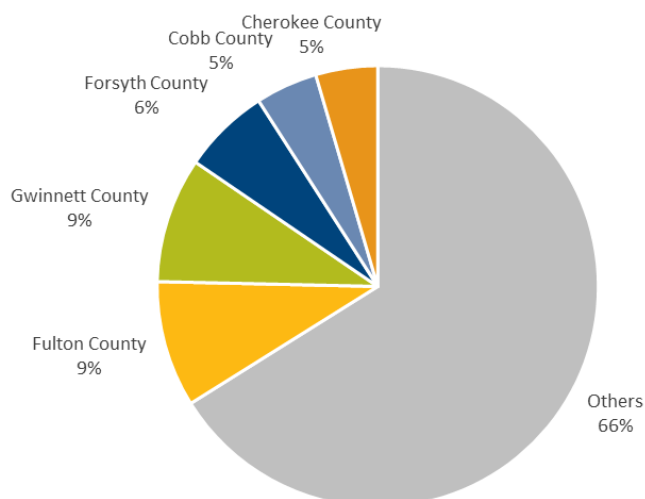
STATE REVIEW: GEORGIA



Current Residential Code	2015 IECC with Amendments
Effective Date	01/01/2018
Population	10,519,475 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	62.3%
Total Number of Residential Permits (2005-2017)	482,955



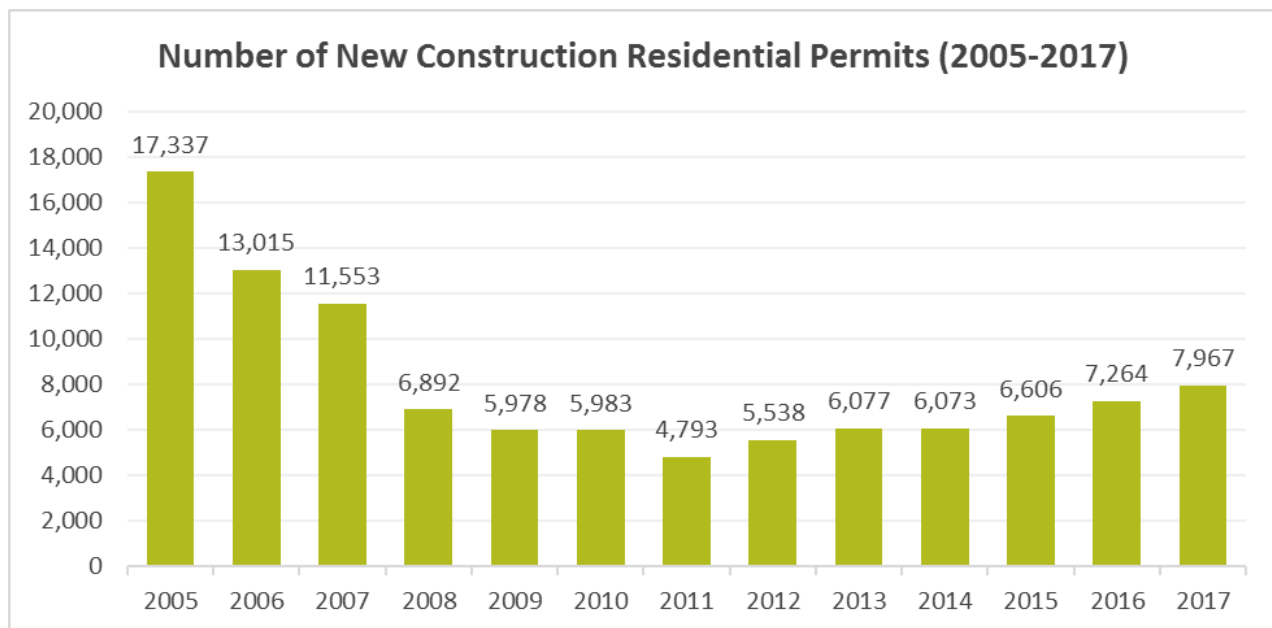
Top Five Counties by New Construction Residential Permits (2005-2017)



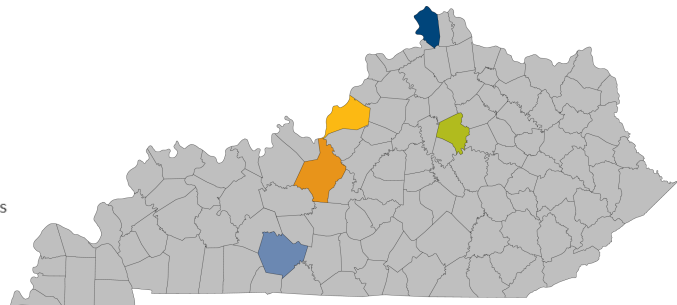
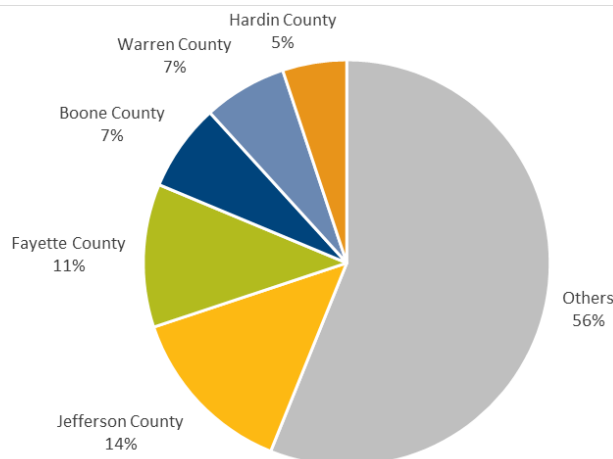
STATE REVIEW: KENTUCKY



Current Residential Code	2012 IRC with Amendments (equivalent to the 2009 IECC)
Effective Date	10/01/2014
Population	4,468,402 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	71.5%
Total Number of Residential Permits (2005-2017)	105,076



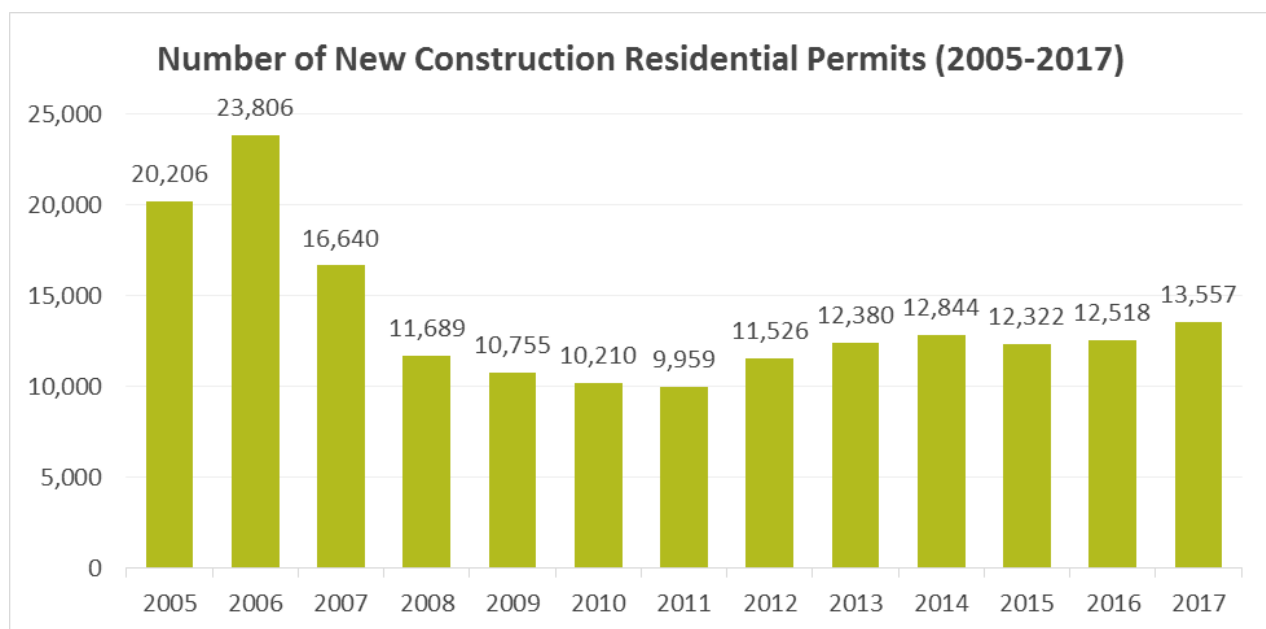
Top Five Counties by New Construction Residential Permits (2005-2017)



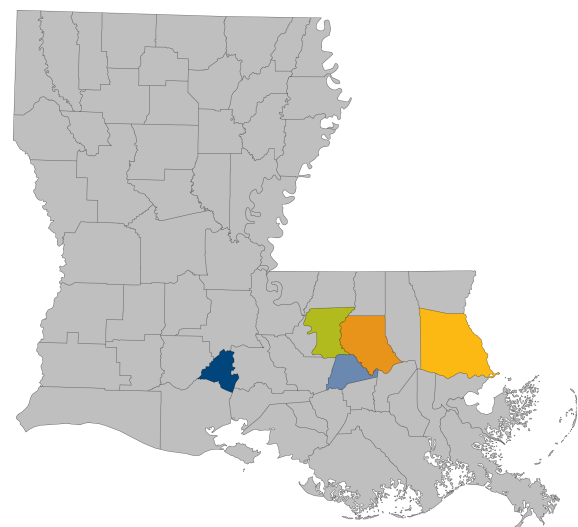
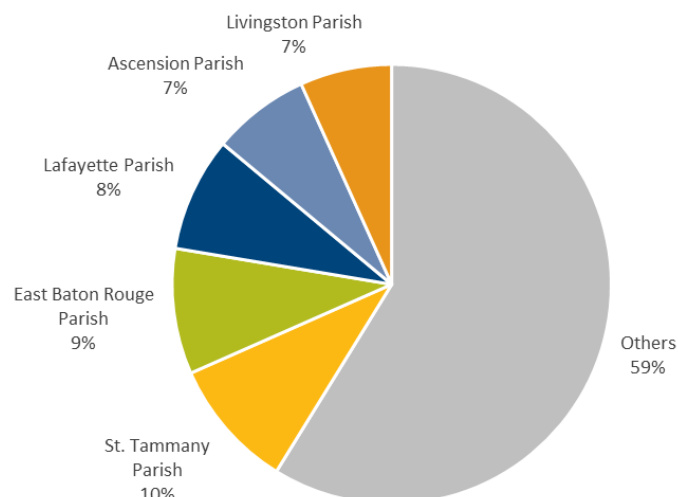
STATE REVIEW: LOUISIANA



Current Residential Code	2009 IRC
Effective Date	01/01/2015
Population	4,659,978 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	65.4%
Total Number of Residential Permits (2005-2017)	178,412



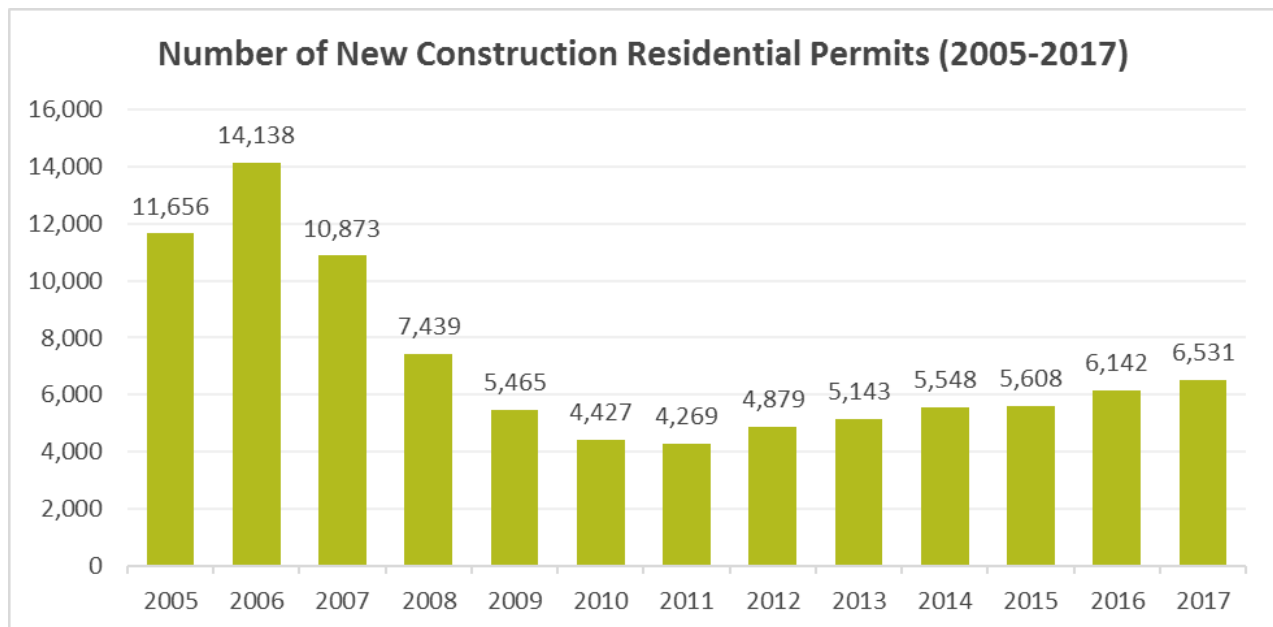
Top Five Counties by New Construction Residential Permits (2005-2017)



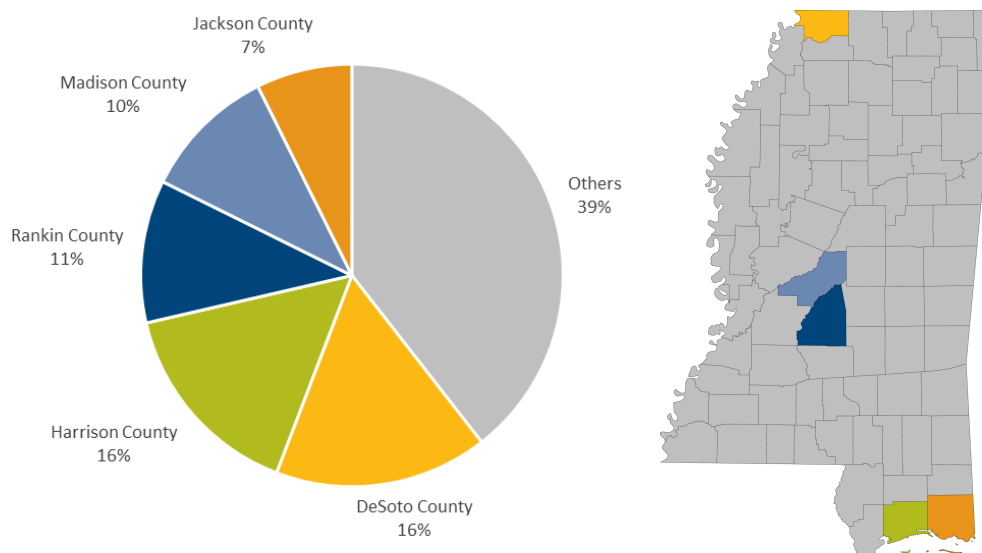
STATE REVIEW: MISSISSIPPI



Current Residential Code	No statewide code
Population	2,986,530 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	72.6%
Total Number of Residential Permits (2005-2017)	92,118



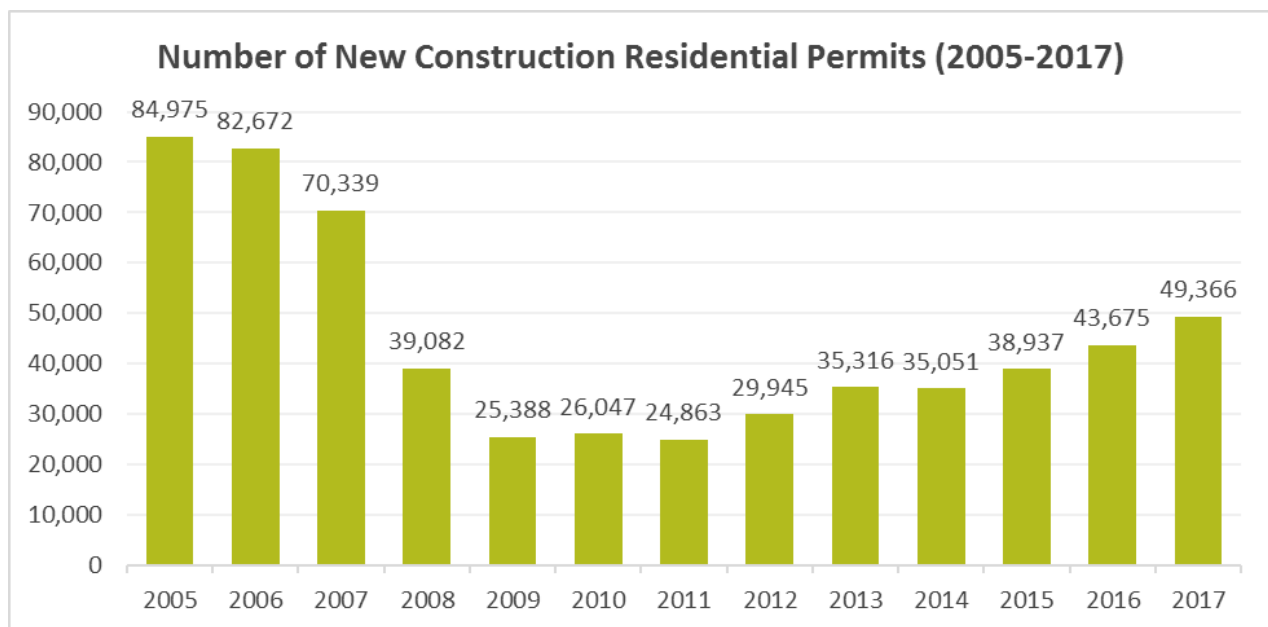
Top Five Counties by New Construction Residential Permits (2005-2017)



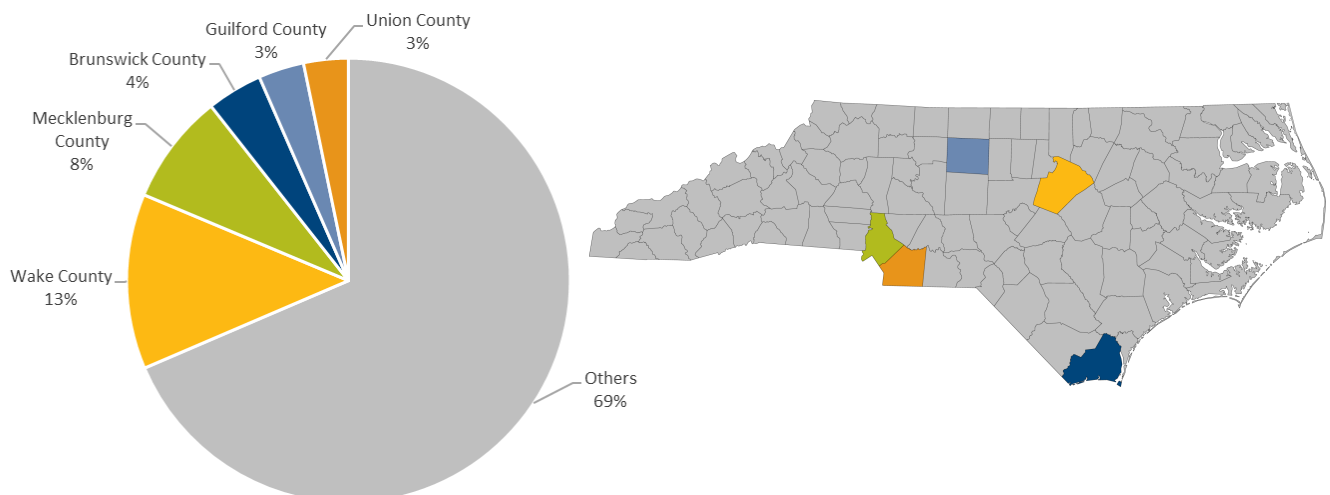


STATE REVIEW: NORTH CAROLINA

Current Residential Code	2015 IECC with Amendments
Effective Date	01/01/2019
Population	10,383,620 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	65.5%
Total Number of Residential Permits (2005-2017)	585,656



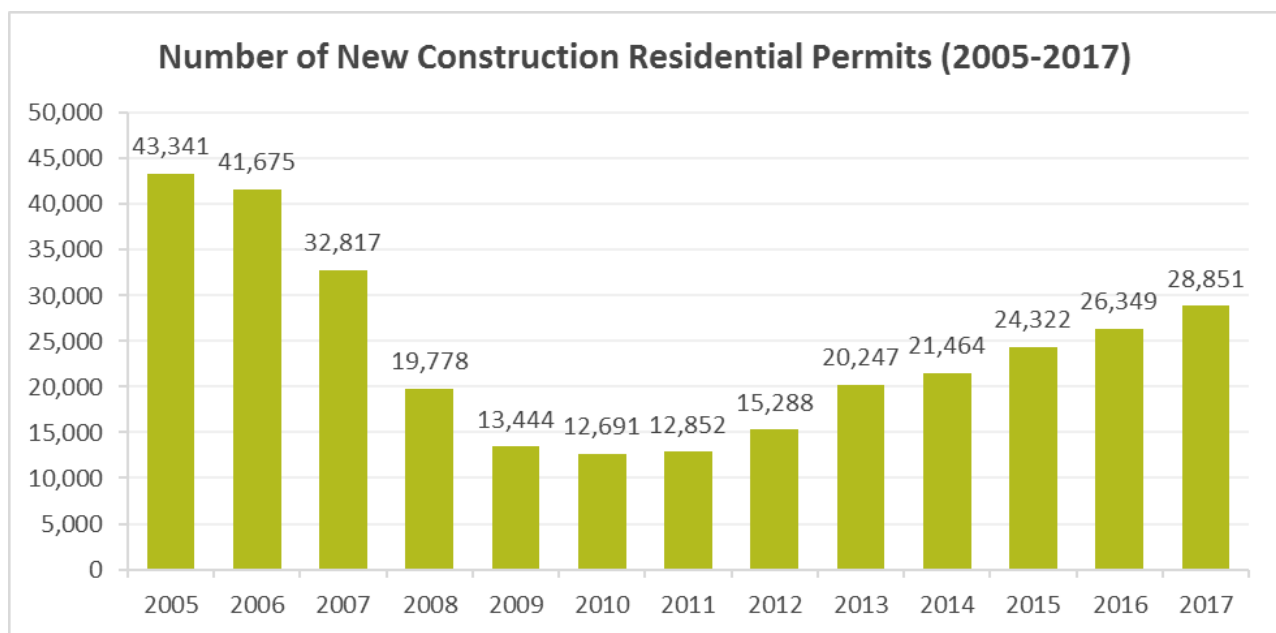
Top Five Counties by New Construction Residential Permits (2005-2017)



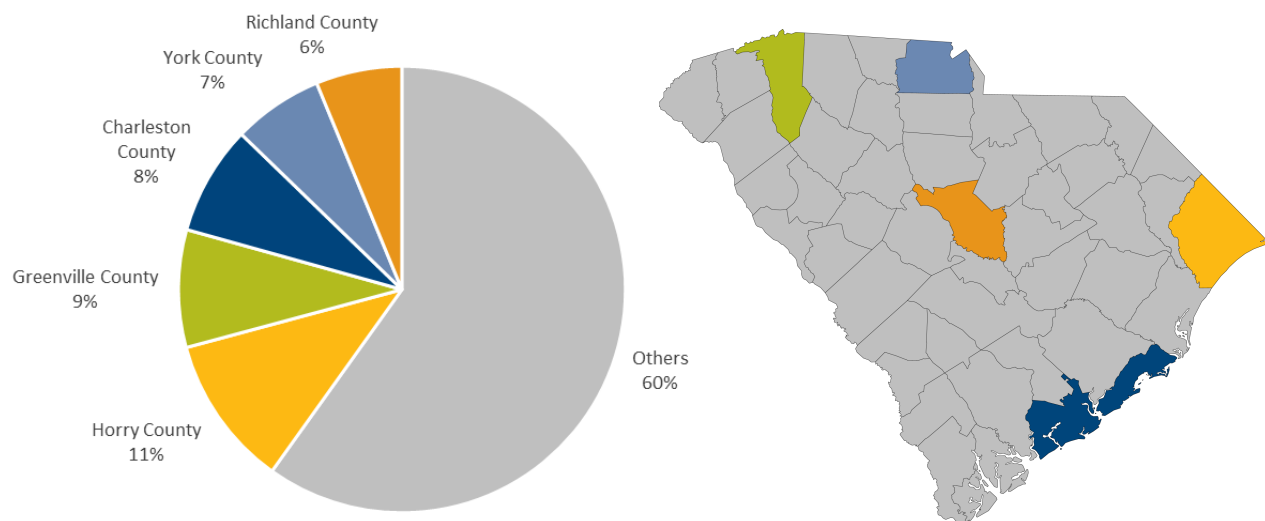
STATE REVIEW: SOUTH CAROLINA



Current Residential Code	2009 IECC
Effective Date	01/01/2013
Population	5,084,127 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	71.7%
Total Number of Residential Permits (2005-2017)	313,119

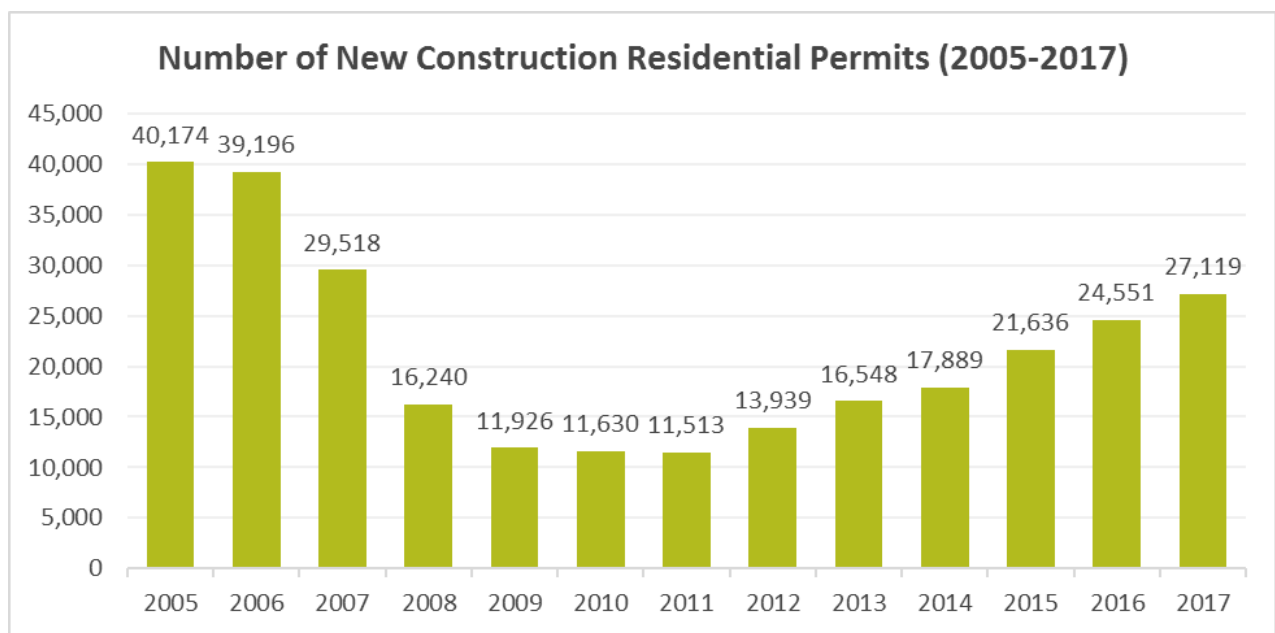


Top Five Counties by New Construction Residential Permits (2005-2017)

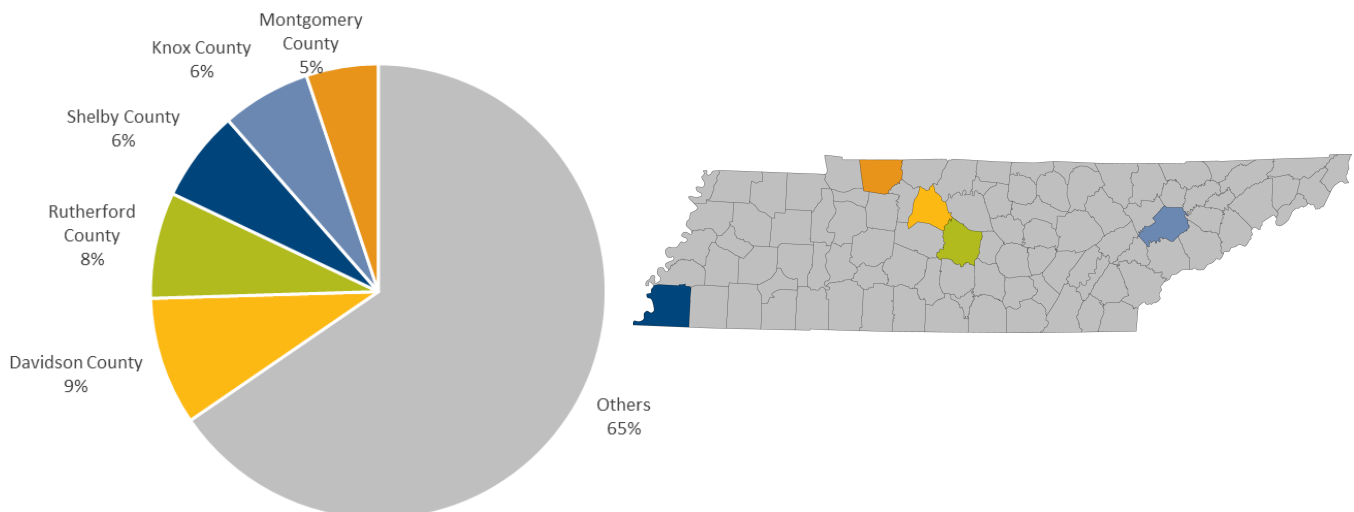


STATE REVIEW: TENNESSEE

Current Residential Code	2009 IECC with amendments
Effective Date	02/02/2017
Population	6,770,010 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	66.7%
Total Number of Residential Permits (2005-2017)	281,879



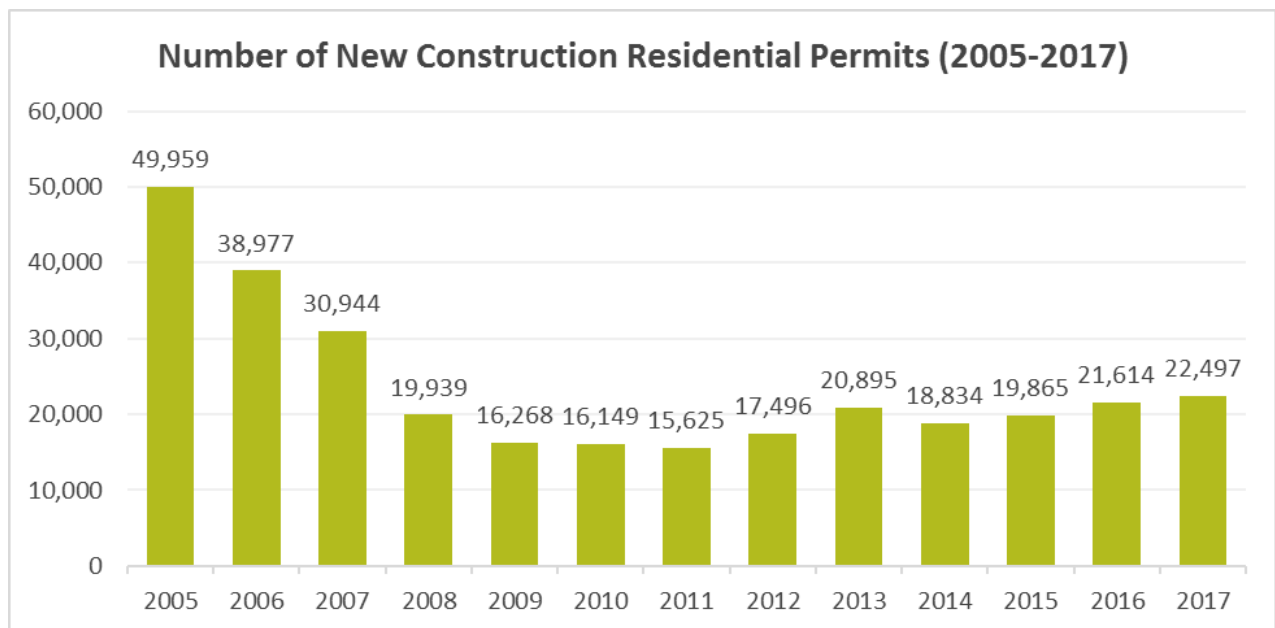
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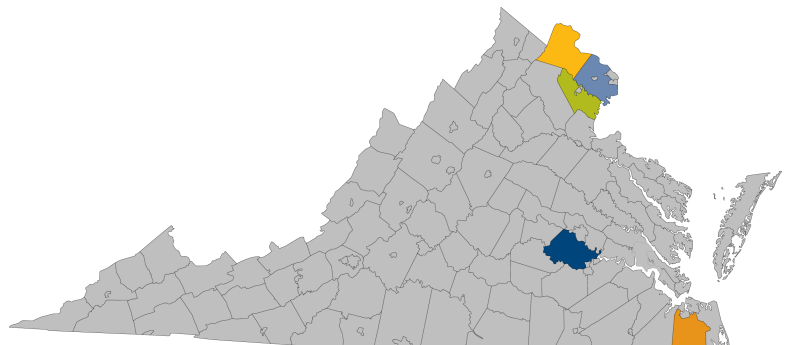
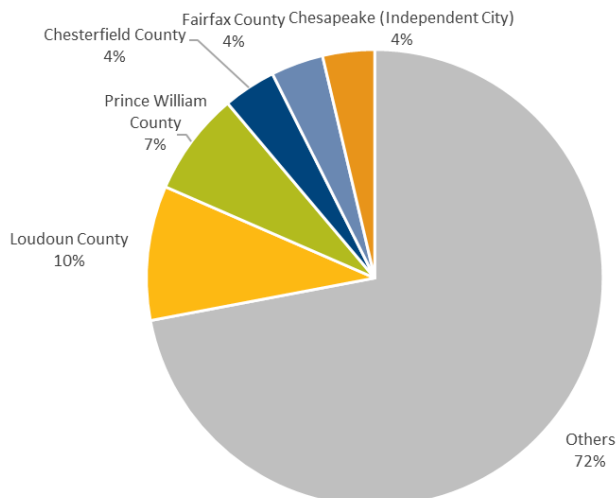
STATE REVIEW: VIRGINIA



Current Residential Code	2015 IECC with Amendments
Effective Date	09/04/2018
Population	8,517,685 (as of July 1, 2018)
Homeownership Rate (2017, Q4)	68.5%
Total Number of Residential Permits (2005-2017)	309,062



Top Five Counties by New Construction Residential Permits (2005-2017)



RESOURCES

Building Codes Assistance Project—Online Code Environment and Advocacy Network (OCEAN)

<http://bcap-energy.org/ocean/>

Construction, Codes, and Commerce:

The Economic Impact of Commercial Energy Codes in the Southeast

http://www.seealliance.org/wp-content/uploads/SEEA_EnergyCode_Report_Online.pdf

Department of Energy, Building Energy Codes Program

<https://www.energycodes.gov/>

Permit Data Imputation Methodology

http://www.census.gov/construction/bps/how_the_data_are_collected/

Residential Construction Data Source

<http://www.census.gov/construction/bps/>

United States Census Bureau, Housing Vacancies and Homeownership Data

<https://www.census.gov/housing/hvs/index.html>