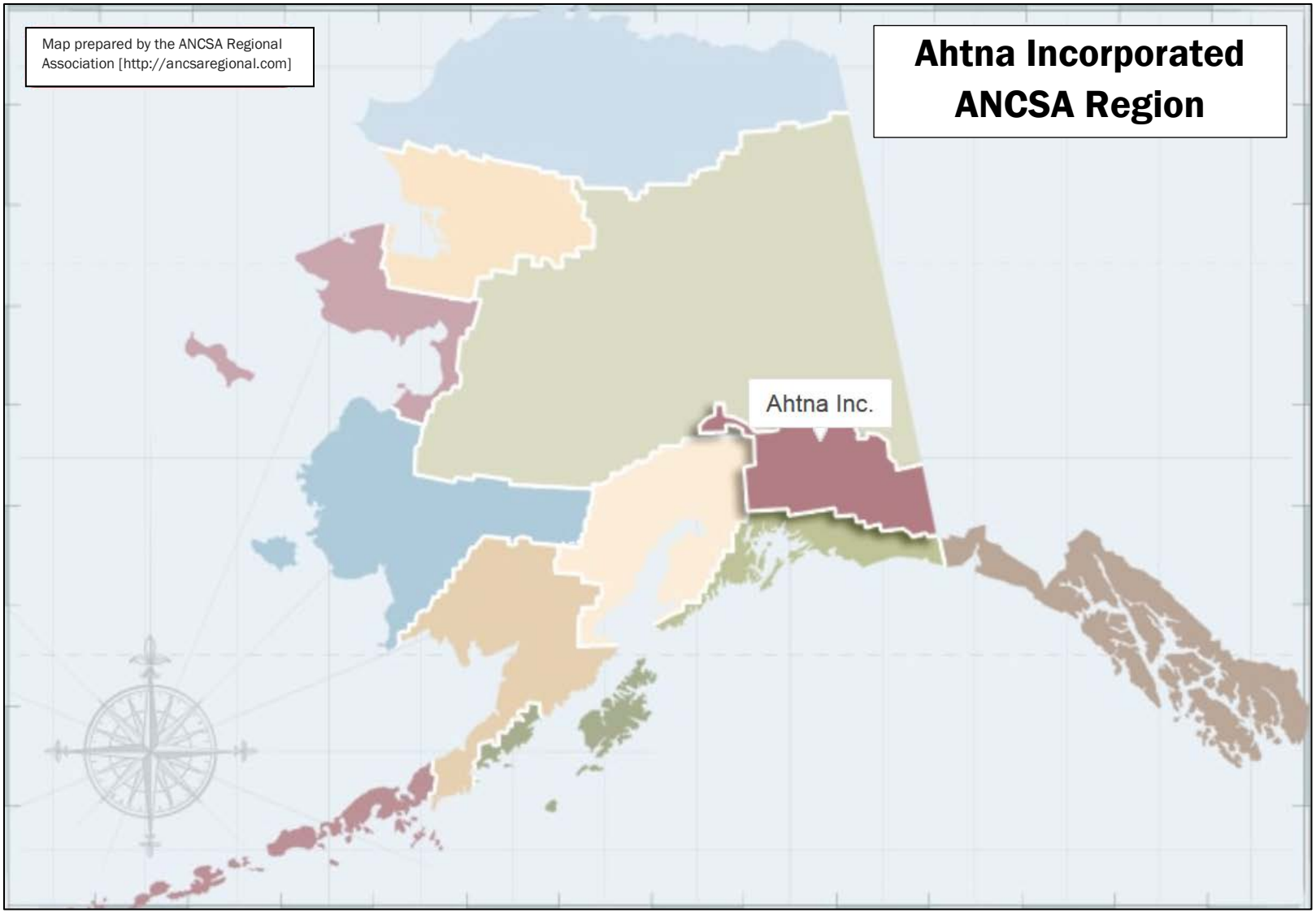
Map prepared by the ANCSA Regional Association [http://ancsaregional.com]
Ahtna Incorporated ANCSA Region
Ahtna Inc.

# Table of Contents

## Regional and Statewide Housing Characteristics

This ANCSA region summary only includes the highlights of housing characteristics at the ANCSA region level. The 2017 Alaska Housing Assessment provides a significant amount of data and analysis at statewide, ANCSA region and census area levels. That assessment provides a statewide analysis of housing characteristics, how they compare to national numbers, and the estimated housing needs. Within the 2017 Alaska Housing Assessment, written summaries are available for each individual ANCSA region and census area, and data profiles are also available characterizing the housing stock from the perspective of community, overcrowding, energy, affordability and need. These different tiers of information and analysis allow researchers, housing authorities, policymakers and others to generate answers to specific questions. For a more detailed discussion of estimating housing need and comparison of methods to previous housing assessments, see Appendix C Selected Methodology in the 2017 Alaska Housing Assessment.

# Ahtna Region Dashboard

**Population**: The Alaska Department of Labor and Workforce Development's current (2015) population estimate for the Ahtna region is 3,152, a decrease of 14 percent from 2000.

**Housing Units**: There are currently 3,122 housing units in the Ahtna region. Of these, 868 are occupied, 121 are for sale or rent, and the remaining 2,132 (68 percent) are seasonal or otherwise vacant units.

**Energy and Energy Costs**: The average home in the Ahtna region is 1,578 square feet and uses 235 million BTUs of energy annually, compared to the statewide average of 227 million BTUs per year. Using AKWarm estimates, the average annual energy cost for homes in Ahtna region is $5,226. This is approximately 1.2 times the statewide average and 2.3 times the national average.

**Overcrowding**: In the Ahtna region 62 (7 percent) of occupied units are estimated to be either overcrowded (2 percent) or severely overcrowded (5 percent). This is more than twice the national average and makes this ANCSA region the fifth least overcrowded in the state.

**Drafty Homes and Ventilation**: Approximately 434 (50 percent) of occupied homes in the Ahtna region are drafty, exceeding seven air changes per hour at 50 Pascals (ACH50). The statewide average is 36 percent. In contrast, there are an estimated 434 occupied housing units (50 percent) in the Ahtna region that are relatively airtight and lack a continuous ventilation system. These houses are at higher risk of issues with moisture and indoor air quality.

**Affordability**: On average, approximately 209 (24 percent) of households in the Ahtna region are cost-burdened, spending more than 30 percent of total household income on housing costs, which include rent, utilities and energy costs. Statewide, 31 percent of households are cost-burdened.

**Senior Housing**: There are an estimated 20 beds in senior housing facilities in the Ahtna region. Currently the Alaska Department of Labor and Workforce Development estimates there are 190 seniors in the ANCSA region and projects an increase to 387 by 2030.

**Housing Issues**: There are an estimated 1,086 homes built before the 1980s in the Ahtna region that have not been retrofit through a state program in the past 10 years. Approximately 104 (12 percent) of homes in the Ahtna region lack complete kitchens and approximately 165 (19 percent) lack complete bathrooms.

# Ahtna Region Housing Need Highlights

The primary housing need in the Ahtna region is retrofit of homes to decrease energy usage and increase safety.

The need to increase energy efficiency is listed as one of four regional priorities in the Copper River Regional Energy Plan.[1] Stakeholders identified the need to reduce energy consumption in homes, businesses, organizations and public facilities. They proposed follow-up actions include establishing a regional energy-efficiency working group; offering training, public education and outreach; coordinating energy audits and assisting with loan applications for energy retrofits. Specific to housing, stakeholders would like to design a prototype for a super-energy--efficient small home that is suitable for the climate and culture, raise awareness of super-energy-efficient buildings, and address barriers to participation in residential energy-efficiency programs, such as upfront funding of recommended weatherization, audits and retrofits.

**Housing Gap:** The Ahtna region has 3,122 housing units, of which 28 percent are occupied. Approximately 7 percent of units are either overcrowded or severely overcrowded, more than twice the national average.[2] Because only 4 percent of housing units in the region are vacant and for sale or rent (remaining vacant units are seasonal or for other purposes), this housing gap must be met by new construction.

**Affordable Housing Need:** Approximately 24 percent of households in the Ahtna region are cost-burdened, spending more than 30 percent of their income on housing.[3] Addressing the need to retrofit homes in the region should reduce energy costs and increase affordability.

**Senior Housing Needs:** Currently, 20 beds are available in senior housing facilities. None are in assisted living facilities.[4] This is a small fraction of the 190 seniors in the region, and the elderly population is expected to increase to 387 by 2030.[5] Increasing available senior housing is necessary to ensure adequate assisted and independent living facilities for the projected population.

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[1] Copper Valley Development Association and Information Insights. (2015). *Copper River Regional Energy Plan. Phase II: Stakeholder Engagement*. Retrieved from http://www.akenergyauthority.org/Policy/RegionalPlanning.

[2] U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.

[3] Ibid.

[4] AHFC Senior Housing Office. (2016). *Inventory List: Assisted Living Homes/Facilities*. Revised 5/02/2016.
AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016.
Retrieved from https://www.ahfc.us/senior-support/

[5] Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). "Alaska Population Projections 2015 to 2045." Alaska Department of Labor and Workforce Development, Research and Analysis Section.

**Retrofit Needs:** Approximately 50 percent of occupied homes in the region are drafty, and another 50 percent of occupied homes face the opposite issue of being relatively airtight but lacking a mechanical ventilation system.[6] Furthermore, approximately 36 percent of all homes in the region were built before 1980 and have not been retrofitted. All of these homes have high potential for an energy retrofit that could increase the safety and comfort of the home while decreasing energy use.

[6] See Appendix C: Methodology for details.

# Ahtna Region Summary

## Community

The Ahtna, Incorporated ANCSA region mainly encompasses the upper Copper River region of Alaska, with an extension into the area around Cantwell. It is bordered by Canada to the east and the Chugach region to the south. The average home size in the Ahtna region is 1,534 square feet.

The ratio of dependents, both those under 16 and those over 65, relative to the working age population in the Ahtna region is lower than the statewide average and lower than the national ratio.[7] Ahtna region is expected to see an increase in the nonworking age population by 2030.

The ratio of senior age dependents to the working age population is higher than the statewide average and lower than the national average. The Ahtna region is projected to see the ratio of senior age dependents to working age dependents increase by 2.6 times by 2030.

There are an estimated 20 dedicated beds in senior housing in the Ahtna region, with none of those dedicated to assisted care living.[8] Currently the Alaska Department of Labor and Workforce Development estimates there are 190 seniors in the Ahtna region and projects that there will be 387 senior citizens by 2030.[9] In the Ahtna region no senior citizens are in assisted care housing, whereas statewide 2.8 percent of senior citizens live in assisted care housing. Nationally, approximately 3.5 percent of senior citizens are in senior living facilities.[10]

[7] Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). "Alaska Population Projections 2015 to 2045." Alaska Department of Labor and Workforce Development, Research and Analysis Section.
U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.
[8] AHFC Senior Housing Office. (2016). *Inventory List: Assisted Living Homes/Facilities*. Revised 5/02/2016.
AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016.
Retrieved from https://www.ahfc.us/senior-support/
[9] Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). "Alaska Population Projections 2015 to 2045." Alaska Department of Labor and Workforce Development, Research and Analysis Section.
[10] Ribbe, M., Ljunggren, G., Steel, K., Topinkova, E., Hawes, C., Ikegami, N., ... Jonnson, P. (1997). "Nursing Homes in 10 Nations: A Comparison Between Countries and Settings." *Age and Ageing, 26(S2), 3-12*

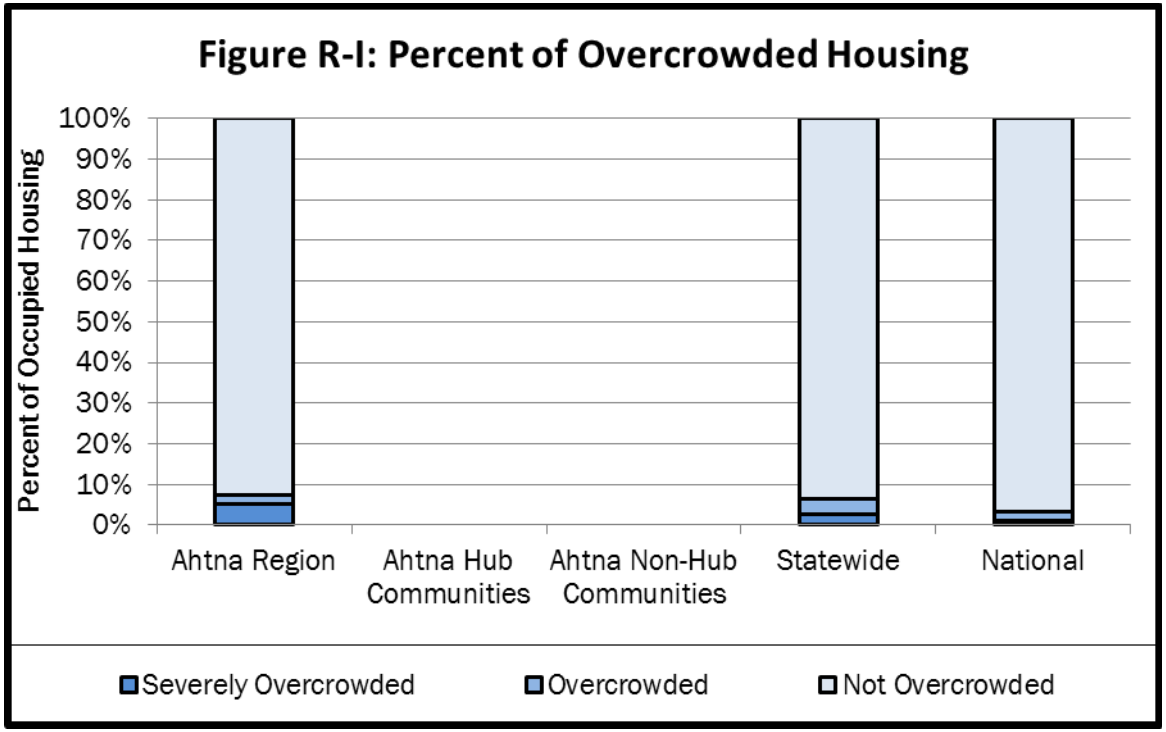
Comparison of the growth rates in the senior age (65+) segment of the population to the young dependent age (0 to 15) population indicate that in the Ahtna region the primary pressure for new housing over the next 15 years will come from households with elderly people.

## Overcrowding[11]

Ahtna is the fifth least overcrowded ANCSA region in Alaska. Approximately 7 percent of households are overcrowded in the region as a whole. The rate of overcrowding in the Ahtna region is approximately the same as the statewide average (6.4 percent) and more than twice the national average (3.3 percent).

The Ahtna ANCSA region has no hub communities to allow for comparisons of hub and non-hub community trends.

Approximately 4 percent of housing units in the Ahtna region are available for sale or rent. Additionally, 68 percent of housing units in Ahtna are considered vacant because they are used for seasonal, recreational or other non-year-round purposes.

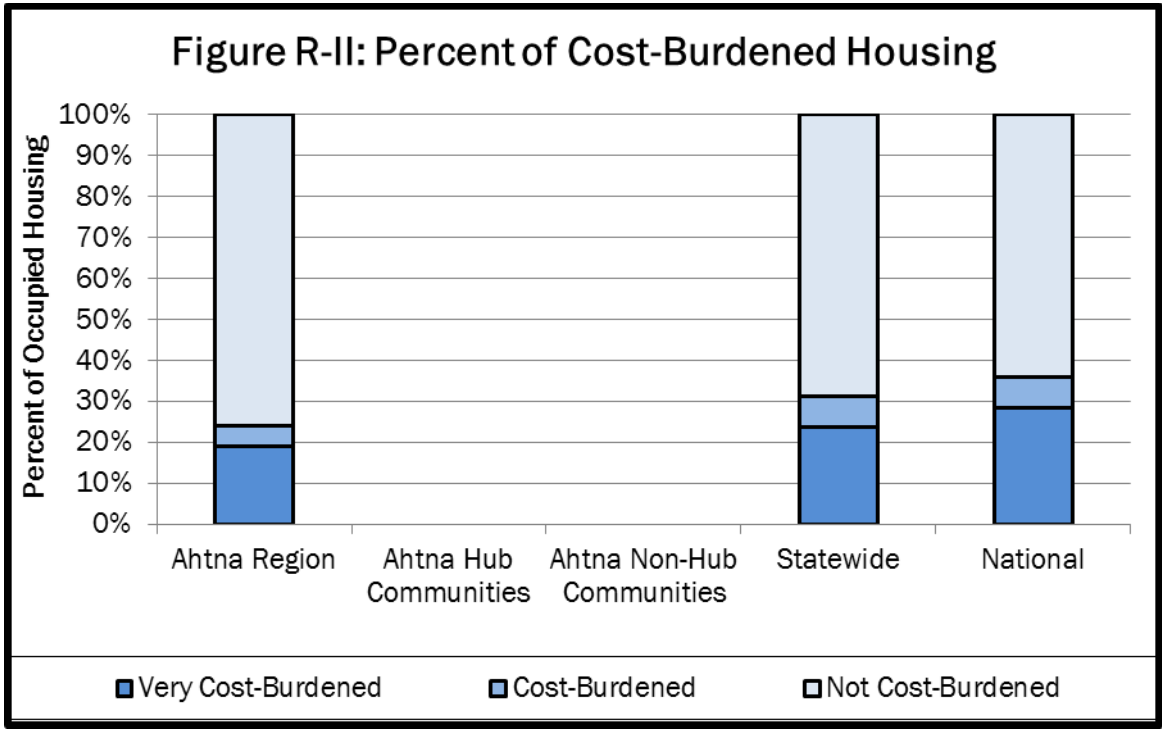



[11] U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.

## Affordability[12]

According to estimates from the U.S. Census American Community Survey (ACS), 24 percent of households in the Ahtna region are cost-burdened, that is, spend more than 30 percent of their income on housing costs. The rate of cost-burdened households in the Ahtna region is 67 percent of the national average (36 percent).

The median household income in the Ahtna region is $44,760. This is 62 percent of the statewide median of $71,829. The national median is $53,482.



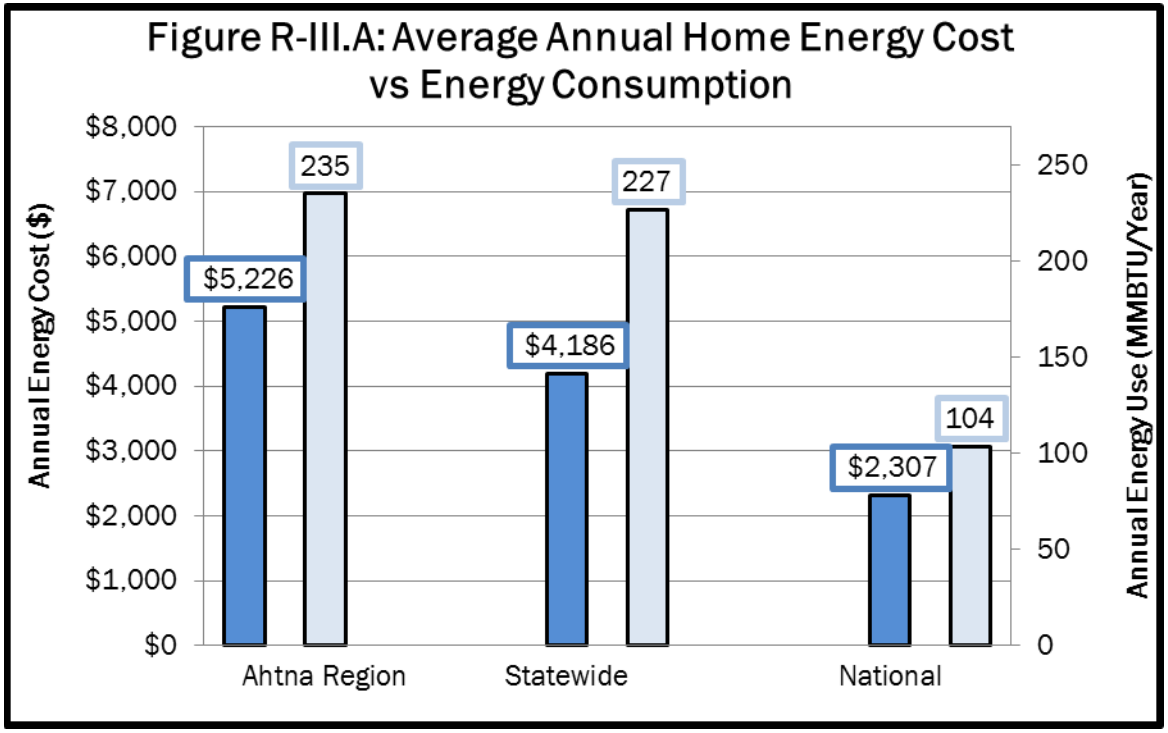

[12] U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.

## Energy[13]

### Single-family Units

Single-family homes in the Ahtna region consume an average of 235 million BTUs per year in energy, the second highest energy consumption in the state. This average annual energy consumption is approximately the same as the statewide average of 227 million BTUs and 2.3 times the national average.

Energy costs for single-family homes in the Ahtna region average $5,226 annually. This is the fourth highest in the state. Ahtna energy costs are 1.2 times the statewide average and 2.3 times the national average.




With an average footprint of 1,578 square feet, single-family homes in the Ahtna region are smaller than the statewide average of 1,955 square feet. Nationally the average house size is 2,425 square feet.

The energy use intensity (EUI), or annual energy used per square foot, for a single-family home in the Ahtna region averages 170,117 BTUs per square foot, the second highest in the state. This is 75 percent of the statewide average of 227,000 BTUs per square foot and four times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a single-family home in the Ahtna region averages $3.31, the sixth lowest in the state. This is 1.4 times the statewide average of $2.31 per square foot and 3.5 times the national average of $0.95 per square foot.

The home heating index (HHI) in the Ahtna region for the average single-family homes is 10.2 BTUs/ft$^2$/HDD. This is the second highest in the state. The HHI for the Ahtna region is 1.2 times the statewide average. The normalized cost of energy, in terms of

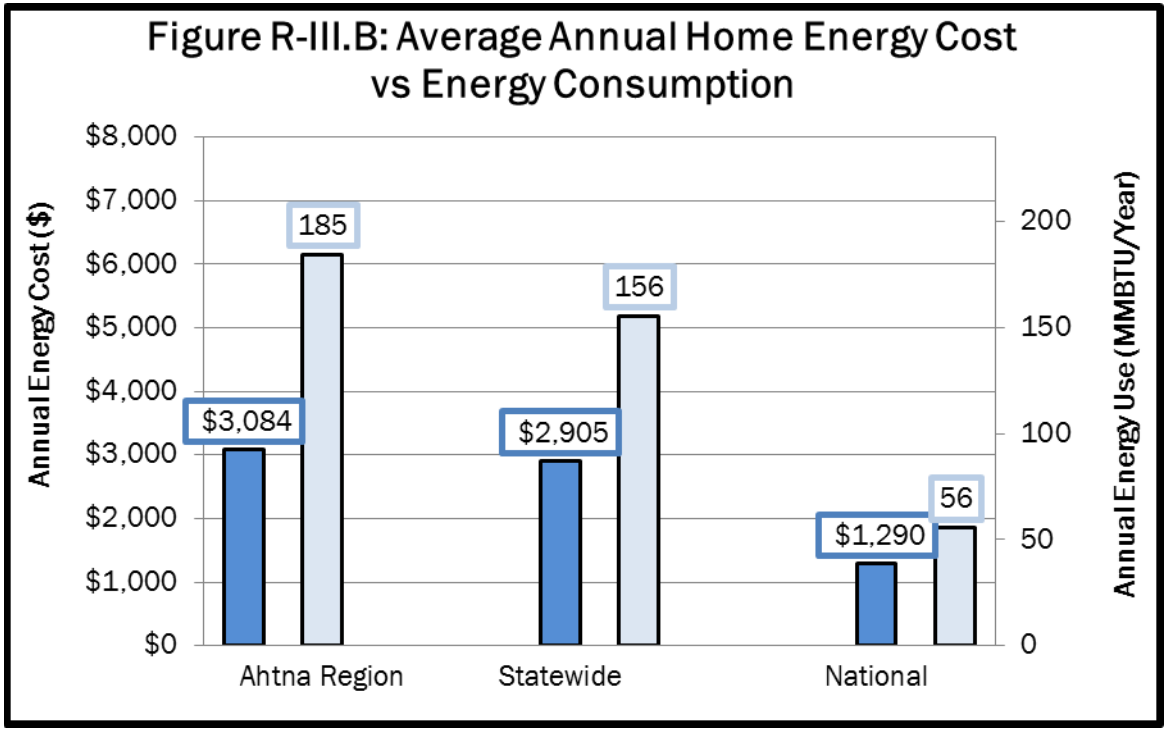
[13] See Appendix C: Methodology for details.

dollars per million BTUs, for a single-family home in the Ahtna region averages $18.59, the second lowest in the state. This is 1.2 times the statewide average of $15.80 per million BTUs and 84 percent of the national average of $22.27 per million BTUs.

### Multifamily units

Multifamily housing units in the Ahtna region consume an average of 185 million BTUs per year in energy, the highest energy consumption in the state. This average annual energy consumption is 1.2 times the statewide average of 156 million BTUs and 2.3 times the national average.

Energy costs for multifamily housing units in the Ahtna region average $3,084 annually. This is the fourth lowest in the state. Ahtna region energy costs are 1.1 times the statewide average and 2.4 times the national average.



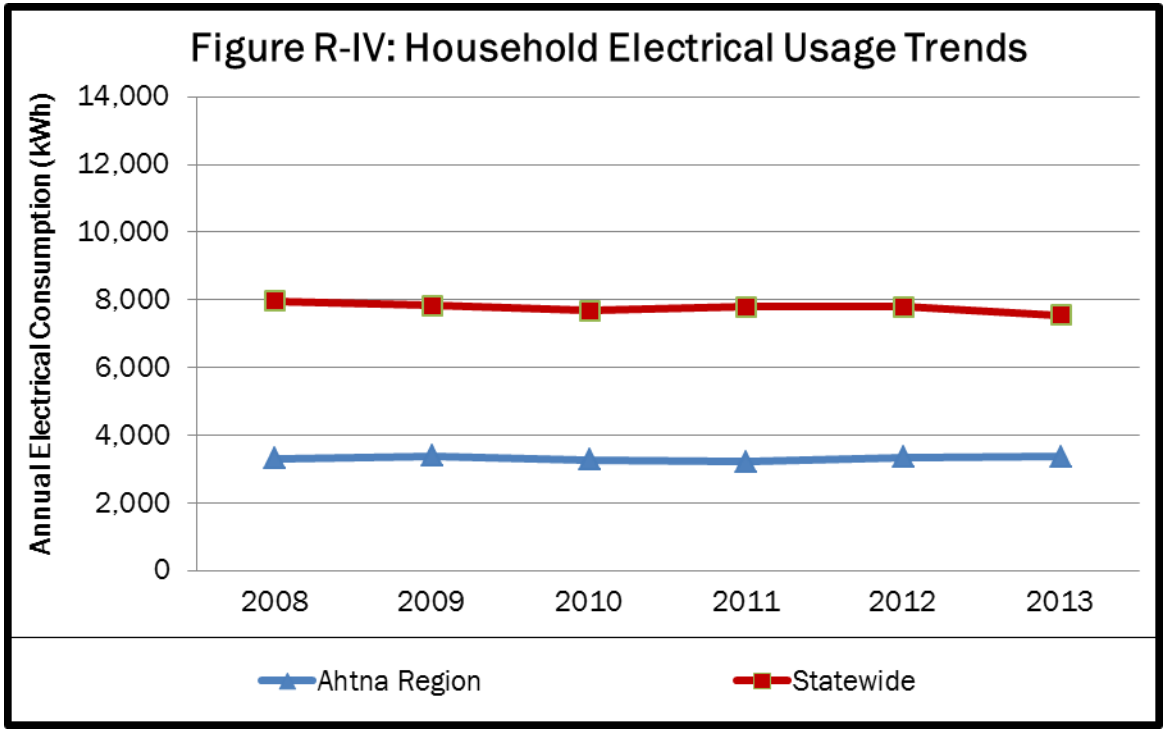

With an average footprint of 1,380 square feet, multifamily housing units in the Ahtna region are larger than the statewide average of 1,284 square feet. Nationally the average unit in multifamily housing is 930 square feet.

The energy use intensity (EUI), or annual energy used per square foot, for a unit in multifamily housing in the Ahtna region averages 130,066 BTUs per square foot, the fourth highest in the state. This is approximately the same as the statewide average of 128,000 BTUs per square foot and 2.2 times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a unit in multifamily housing in the Ahtna region averages $2.24, the third lowest in the state. This is 98 percent of the statewide average of $2.27 per square foot and 1.6 times the national average of $1.39 per square foot.

The home heating index (HHI) in the Ahtna region for the average multifamily housing unit is 7.26 BTUs/ft$^2$/HDD. This is the third highest in the state. The HHI for Ahtna is 88 percent less than the statewide average. The normalized cost of energy, in terms of dollars per million BTUs, for a unit in multifamily housing in the Ahtna region averages $12.94, the third lowest in the state. This is approximately the same as the statewide average of $12.79 per million BTUs and 56 percent of the national average of $23.12 per million BTUs.

### Regional Residential Electrical Use Trends[14]

In 2013, the average household in the Ahtna region consumed 3,364 kWh of electricity annually. This is approximately the same as in 2008. Statewide, the average household consumed 7,540 kWh of electricity in 2013, a decrease of 5 percent since 2008.




### Inefficient and Older Homes[15]

Approximately 111 (13 percent) of the occupied homes in the Ahtna region are estimated to be 1-star homes. A 1-star home uses approximately four times the energy it would if built to AHFC's Building Energy Efficiency Standard (BEES). Statewide, approximately 14,966 (6 percent) of occupied homes are estimated to be 1-star homes.

Homes built before 1980 that have not been retrofit are potentially homes in need. Approximately 38 percent of all homes in the Ahtna region fit these two criteria. This is slightly lower than the statewide average of 39 percent.

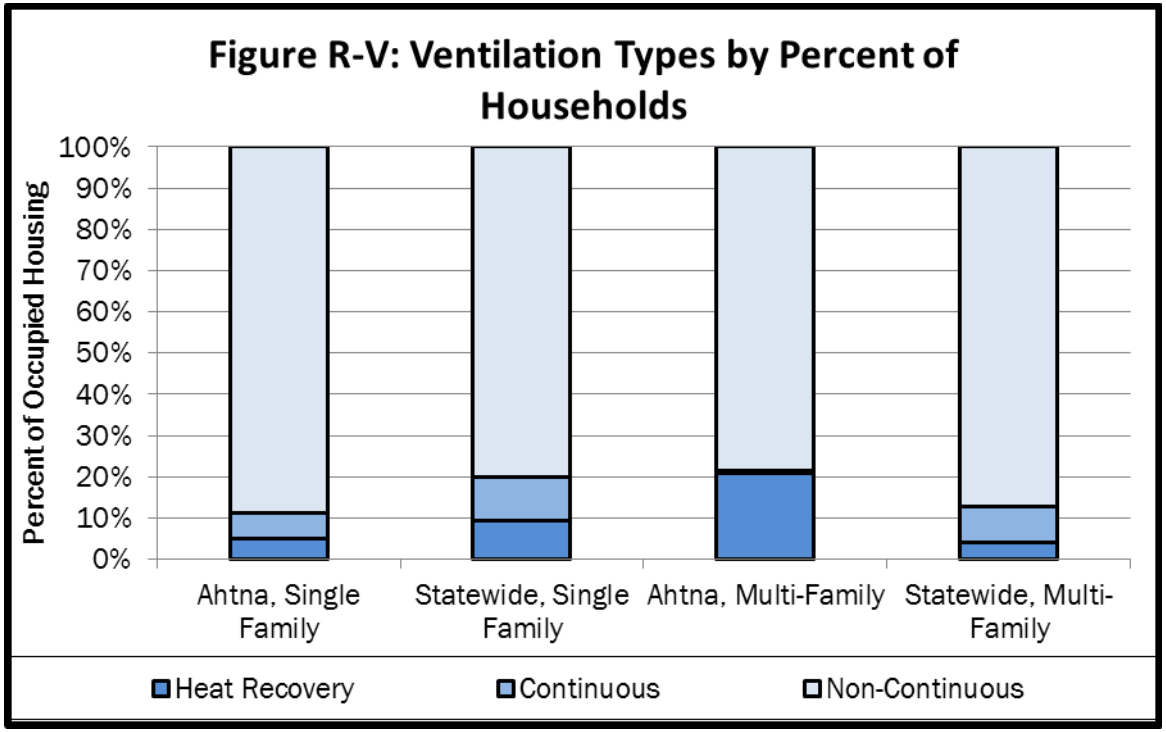
[14] Fay, G., Villalobos Melendez, A., & West, C. (2014). *Alaska Energy Statistics: 1960–2011*. UAA Institute of Social and Economic Research. Retrieved from http://iser.uaa.alaska.edu/Publications/2013_12-AlaskaEnergyStatistics2011Report_Final_2014-04-30.pdf

[15] See Appendix C: Methodology for details.

## Housing Condition [16]

### Ventilation

Approximately 11 percent of the occupied homes in the Ahtna region have heat recovery or continuous mechanical ventilation systems installed. This is the second lowest in the state. Statewide approximately 20 percent of occupied homes have continuous mechanical ventilation systems, with or without heat recovery.




### Indoor Air Quality

A tight home with no or inadequate ventilation has an increased risk of issues with indoor air quality or moisture. The Ahtna region has the third highest percentage of housing units in the state that are both relatively airtight and lack continuous mechanical ventilation. Approximately 213 (25 percent) of the occupied homes in the Ahtna region are estimated to be at moderate risk, with 217 (25 percent) estimated to be at high risk. Statewide, approximately 30 percent of occupied homes are estimated to be at moderate risk and 26 percent are estimated to be at high risk.

### Draftiness

To quantify drafty homes, the following definitions were used. Drafty homes will see test results of between 7 and 12 air changes per hour at 50 Pascals (ACH50) when subjected to a blower door test. Very drafty homes will see test results of greater than 12 ACH50. Approximately 206 (24 percent) of the occupied homes in the Ahtna region are estimated to be drafty, with 226 (26 percent) estimated to be very drafty. Statewide approximately 24 percent of occupied homes are estimated to be drafty and 12 percent are estimated to be very drafty.

[16] See Appendix C: Methodology for details.