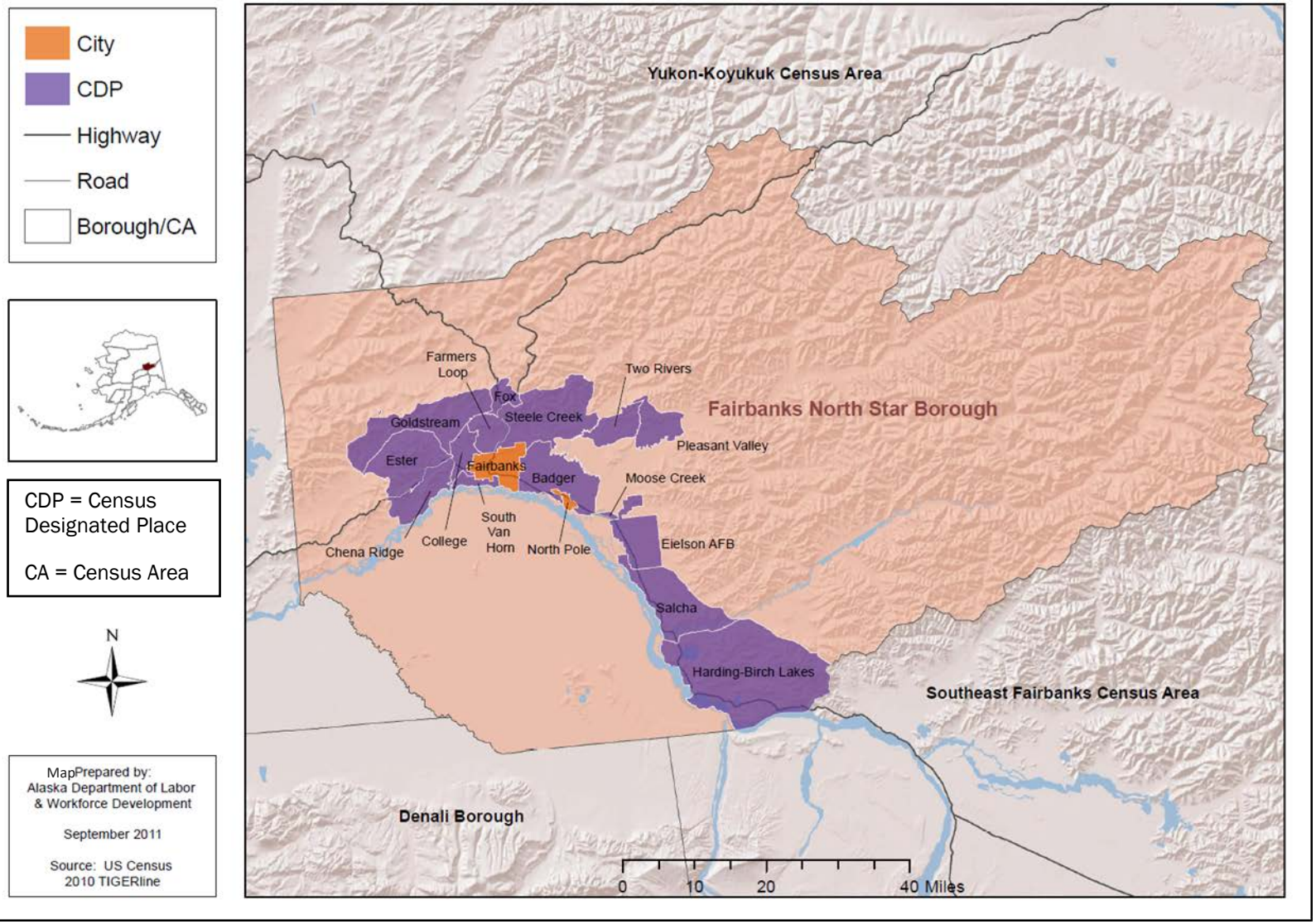
Fairbanks North Star Borough



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Regional and Statewide Housing Characteristics

This census area summary only includes the highlights of housing characteristics at the census area 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 2017 Alaska Housing Assessment.

Fairbanks North Star Borough Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2015) population estimate for the Fairbanks North Star Borough is 98,645, an increase of 19 percent from 2000.

Housing Units: There are currently 39,419 housing units in the Fairbanks North Star Borough. Of these, 35,844 are occupied, 1,978 are for sale or rent and the remaining 3,914 are seasonal or otherwise vacant units.

Energy and Energy Costs: The average home in the Fairbanks North Star Borough is 2,033 square feet and uses 238 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 the Fairbanks North Star Borough is $5,292. This is approximately 1.3 times the statewide average and 2.3 times the national average.

Overcrowding: An estimated 1,649 (5 percent) of occupied units are either overcrowded (3 percent) or severely overcrowded (1 percent). This is slightly higher than the national average and makes this census area the 10th least overcrowded census area in the state.

Drafty Homes and Ventilation: Approximately 7,590 (21 percent) of homes in the Fairbanks North Star Borough are drafty, exceeding seven air changes per hour at 50 Pascals (ACH50). The statewide average is 36 percent. In contrast, there are an estimated 21,323 occupied housing units (59 percent) in the Fairbanks North Star Borough that are relatively airtight and lack a continuous ventilation system. These homes are at higher risk of issues with moisture and indoor air quality.

Affordability: On average, approximately 12,974 (36 percent) of households in the Fairbanks North Star Borough are cost-burdened, spending more than 30 percent of total household income on housing costs, including rent, utilities and energy. Statewide 31 percent of households are cost-burdened.

Senior Housing: There are an estimated 450 beds in senior housing facilities in the Fairbanks North Star Borough. Currently the Alaska Department of Labor and Workforce Development estimates there are 9,101 seniors in the census area and projects an increase to 17,527 by 2030.

Housing Issues: There are an estimated 10,243 homes built before the 1980s in the Fairbanks North Star Borough that have not been retrofitted through a state program in the past 10 years. Approximately 1,875 (5 percent) homes in the Fairbanks North Star Borough lack complete kitchens and approximately 2,228 (6 percent) lack complete bathrooms.

Fairbanks North Star Borough Housing Need Highlights

A primary housing need in the Fairbanks North Star Borough (FNSB) is to make housing more affordable. The housing stock is more efficient than many areas of the state but residents have high energy costs, spending an estimated $5,292 per year on average for a single-family home. High fuel costs, a cold climate and a large number of homes built pre-1980 all contribute to this cost burden.

Increasing the availability of independent and assisted-living senior housing is another housing need. It is estimated that approximately 4.9 percent of seniors live in these facilities, which is significantly lower than the statewide average of 6.8 percent.

Housing Gap: The rate of construction appears adequate to meet projected population growth in the FNSB, although projected gaps exist near the Eielson Air Force Base. According to a housing needs assessment produced by the Borough, as of 2015 the Borough had the highest rental vacancy rate in the state.[1] This assessment as well as 2017 preliminary results from an Agnew:Beck study[2] projected vacancies and normal housing construction would accommodate additional population from the F-35A squadrons expected to move to Eielson Air Force Base in 2020; however, the results from the Agnew:Beck study also suggested that there will be a gap of about 200 rental units in and near North Pole due to military personnel preference to live near base. While it appears there is sufficient housing in the Borough, the region would benefit from an increase in the construction of rental units in and near North Pole.

Affordable Housing Need: FNSB has the highest percentage of cost-burdened housing in the state (36 percent).[3] Affordability is particularly difficult for renters, with renter households needing 1.5 full-time jobs paying the average renter wage in order to afford a two-bedroom rental unit at fair market rent.[4] The lowest income renters have a larger affordability challenge, with renters earning minimum wage having to work 97 hours to afford a two-bedroom rental unit at fair market rent. High energy costs also likely contribute to this cost-burdening and so addressing the need for retrofits should reduce energy costs and increase affordability.

[1] Fairbanks Economic Development Corporation & Winters & Associates. (2015). *Fairbanks North Star Borough Housing Needs Assessment*. Retrieved from https://investfairbanks.com/resources/documents/report/fnsb-housing-needs-assessment-2015

[2] *Fairbanks North Star Borough Eielson Regional Growth Plan: The F-35s Are Coming: How is the Community Preparing?* (November 2017). Retrieved from: http://www.eafbregionalgrowth.com/wp-content/uploads/2017/11/11-3-17_EAFBRegGrowthPlan_UpdatedPrelimFindings.pdf

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

[4] Yentel, D., Aurand, A., Emmanuel, D., Errico, E., Leong, G. M., & Rodrigues, K. (2016). *Out of Reach 2016*. National Low Income Housing Coalition. Retrieved from http://nlihc.org/sites/default/files/oor/OOR_2016.pdf

Senior Housing Needs: There are 450 beds for seniors in licensed assisted or independent living housing facilities in the FNSB;[5] however, there are an estimated 9,101 seniors in the census area, and this number is projected to nearly double by 2030.[6] The percentage of seniors living in elderly housing facilities is lower than the statewide average.

Retrofit Needs: There is a continued need to retrofit homes to reduce energy costs in the FNSB, as residents have the sixth highest average annual energy cost in the state at approximately $5,292 per year.[7] Homes built before 1980 that have not been retrofitted make up 40 percent of all homes in the census area. All have potential for an energy retrofit to increase comfort and safety while decreasing energy use, with the estimated 3 percent of occupied homes that are 1-star likely being the most cost-effective. These retrofits should prioritize maintaining or improving indoor air quality, because 59 percent of housing units in FNSB are estimated to be relatively airtight and don't have continuous mechanical ventilation systems installed, increasing their risk of moisture and indoor air quality issues.

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

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

[7] See Appendix C: Methodology for details.

Fairbanks North Star Borough Summary

Community

The Fairbanks North Star Borough census area is located in interior Alaska. The census area lies in the Doyon Native Corporation ANCSA region. The average home size in the census area is 2,068 square feet.

The ratio of dependents, including those under 16 and over 65, relative to the working age population in the Fairbanks North Star Borough is lower than the statewide average and lower than the national ratio.[8] The Fairbanks North Star Borough 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 approximately the same as the statewide average and lower than the national average. The Fairbanks North Star Borough region is projected to see the ratio of senior age dependents to working age dependents nearly double by 2030.

There are an estimated 450 dedicated beds in senior housing in the Fairbanks North Star Borough, with 190 of those dedicated to assisted care living.[9] Currently the Alaska Department of Labor and Workforce Development estimates there are 9,101 seniors in the census area and projects that there will be 17,527 senior citizens by 2030.[10] In the Fairbanks North Star Borough 2.1 percent of senior citizens are in assisted-care housing. This is lower than the statewide rate of 2.8 percent of senior citizens in assisted-care housing. Nationally, approximately 3.5 percent of senior citizens are in senior living facilities.[11]

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

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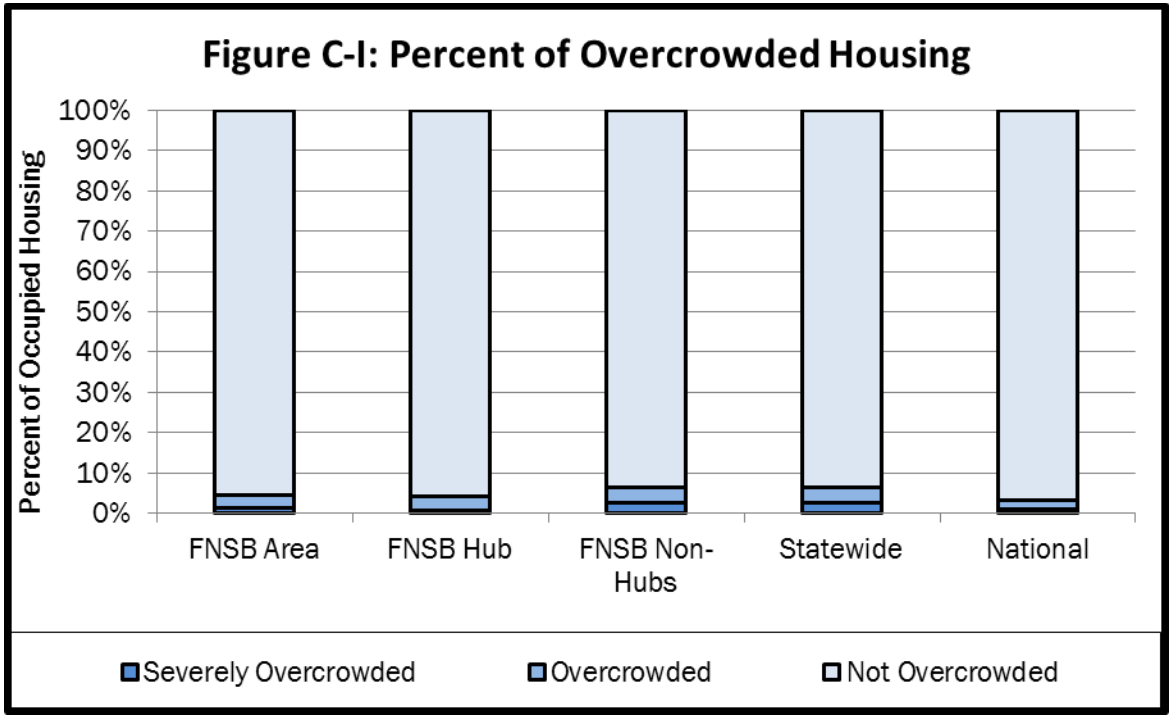
[8] Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). Alaska Population Projections 2015 to 2045. Alaska Department of Labor and Workforce Development, Research and Analysis Section.
U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.
[9] AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016.
Retrieved from https://www.ahfc.us/senior-support/
[10] Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). Alaska Population Projections 2015 to 2045. Alaska Department of Labor and Workforce Development, Research and Analysis Section.
[11] 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.

Overcrowding[12]

The Fairbanks North Star Borough is the 10th least overcrowded of the 30 census areas in Alaska. Approximately 5 percent of the households are overcrowded in the census area as a whole. The rate of overcrowding in the Fairbanks North Star Borough is nearly 72 percent of the statewide average (6.4 percent) and approximately 1.4 times more than the national average (3.3 percent).



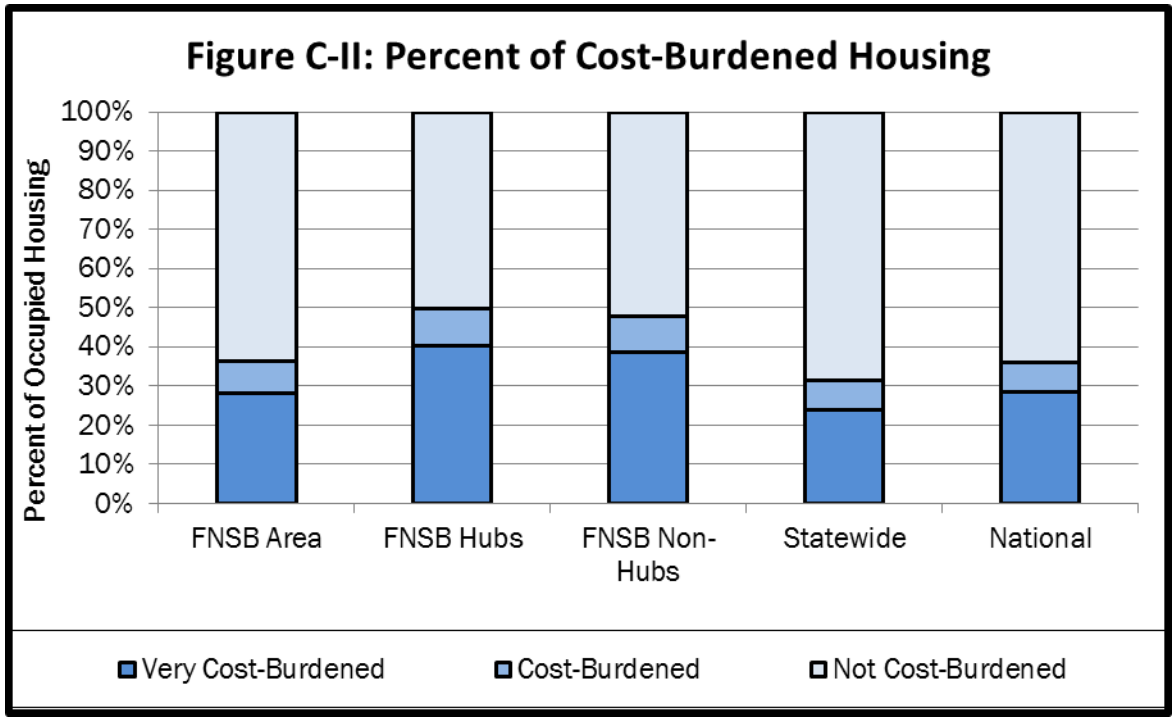
Overcrowding in the non-hub communities is more prevalent than that found in the hub community of Fairbanks. Overcrowding is defined as households with more than 1 person per room. Severe overcrowding is defined as households with more than 1.5 persons per room. Non-hub communities in the Fairbanks North Star Borough average nearly twice the overcrowding rate of the hub community, with approximately 7 percent of households overcrowded compared to the hub community's 4 percent. Further, 2.7 percent of non-hub community households are severely overcrowded. This is 2.7 times the national average.

Approximately 5 percent of housing units in the Fairbanks North Star Borough are available for sale or rent. The percentage of units for sale or rent in the non-hub communities (6 percent) is nearly the same as in the hub communities (6 percent). Additionally, 9 percent of housing units in the Fairbanks North Star Borough are considered vacant because they are used for seasonal, recreational or other non-year-round purposes.

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

Affordability[13]

According to estimates from the U.S. Census American Community Survey (ACS), 36 percent of households in the Fairbanks North Star Borough are cost-burdened, that is, spend more than 30 percent of their income on housing costs. Non-hub communities have a lower percentage (48 percent) of households that are cost-burdened than the hub community of Fairbanks (50 percent). The rate of cost-burdened households in the Fairbanks North Star Borough is nearly the same as the national average (36 percent).



The median household income in the Fairbanks North Star Borough is $70,408. This is close to the same as the statewide median of $71,829. The national median is $53,482.

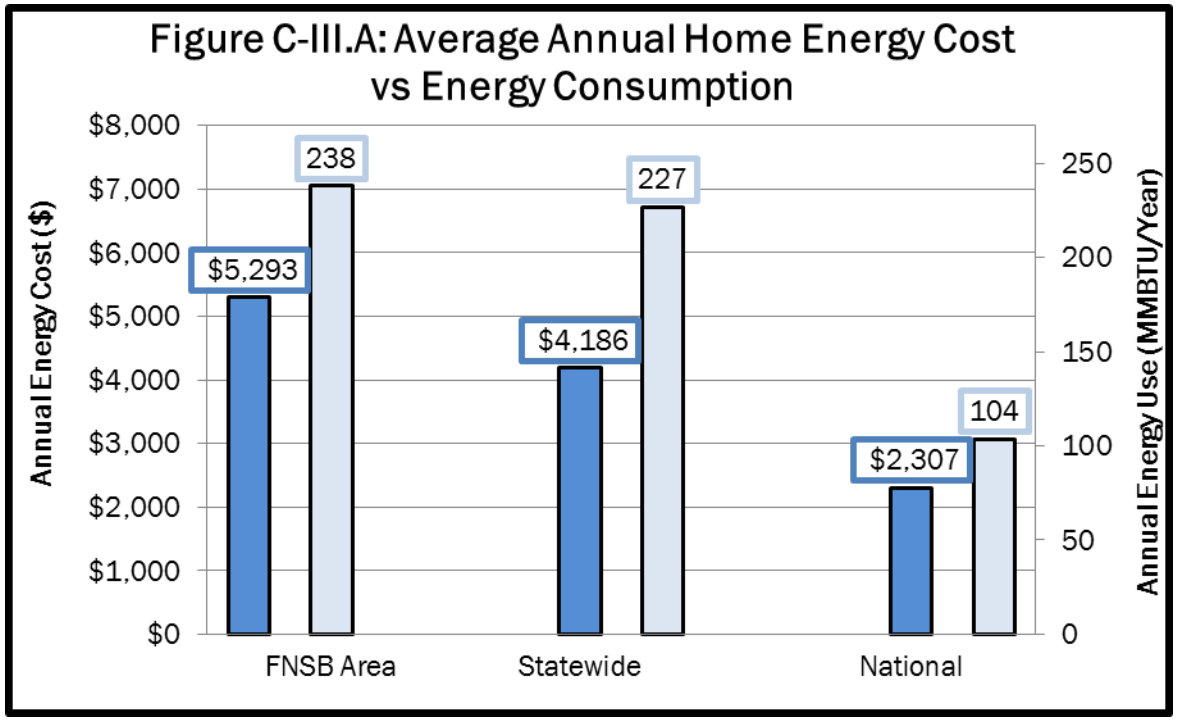
[13] U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.

Energy[14]

Single-family Units

Single-family homes in the Fairbanks North Star Borough consume an average of 238 million BTUs per year, the third 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 Fairbanks North Star Borough average $5,292 annually. This is the sixth highest in the state. Fairbanks North Star Borough energy costs are 1.3 times the statewide average and 2.3 times the national average.



With an average footprint of 2,033 square feet, single-family homes in the Fairbanks North Star Borough are slightly larger 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 Fairbanks North Star Borough averages 130,000 BTUs per square foot, the 15th highest in the state. This is approximately the same as the statewide average of 128,000 BTUs per square foot and three times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a single-family home in the Fairbanks North Star Borough averages $2.60, the 11th lowest in the state. This is 1.1 times the statewide average of $2.31 per square foot and 2.7 times the national average of $0.95 per square foot.

The home heating index (HHI) in the Fairbanks North Star Borough for the average single-family home is 7.29 BTUs/ft^2/HDD. This is the fourth lowest in the state. The HHI for the Fairbanks North Star Borough is lower than the statewide average of 8.83

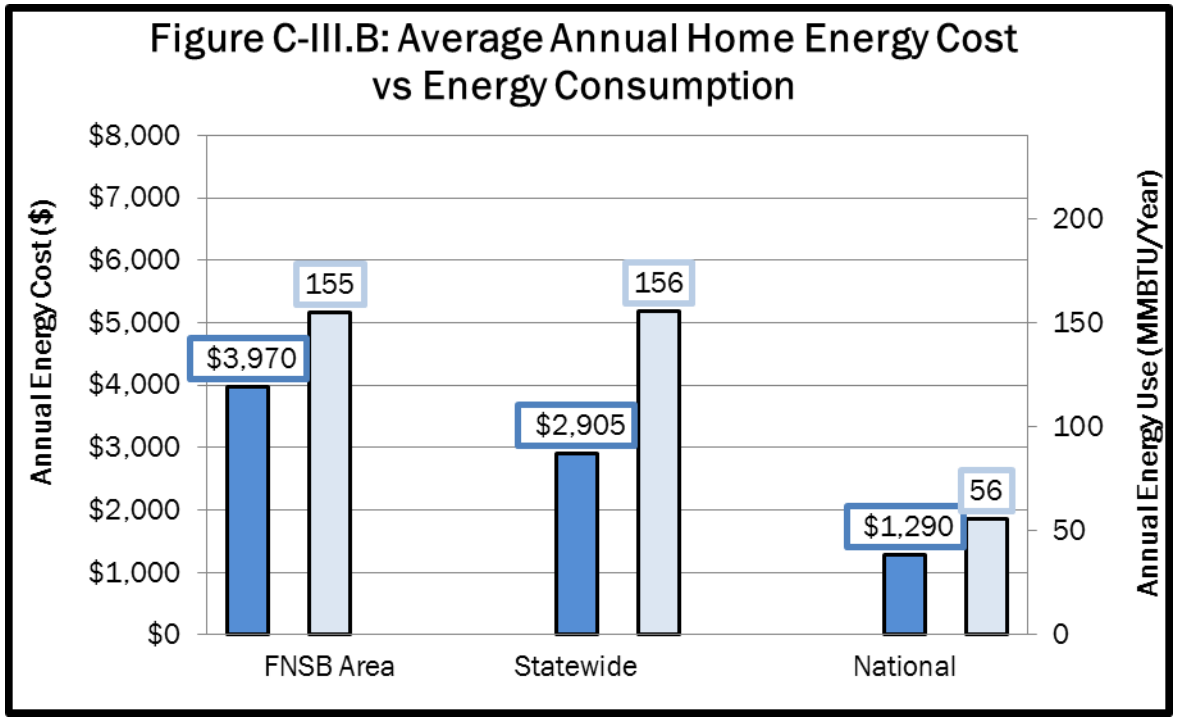
[14] See Appendix C: Methodology for details.

BTU/ft^2/HDD. The normalized cost of energy, in terms of dollars per million BTUs, for a single-family home in the Fairbanks North Star Borough averages $18.67, the sixth 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 Fairbanks North Star Borough consume an average of 155 million BTUs per year, the fourth highest in the state. This energy consumption is about the same as the statewide average of 156 million BTUs and 2.3 times the national average.

Energy costs for multifamily housing units in the Fairbanks North Star Borough average $3,970 annually, the sixth highest in the state. Fairbanks North Star Borough energy costs are 1.4 times the statewide average and 3.1 times the national average.



With an average footprint of 1,313 square feet, multifamily housing units in the Fairbanks North Star Borough are larger than the statewide average of 1,284 square feet. Nationally the average unit in multifamily housing is 930 square feet.

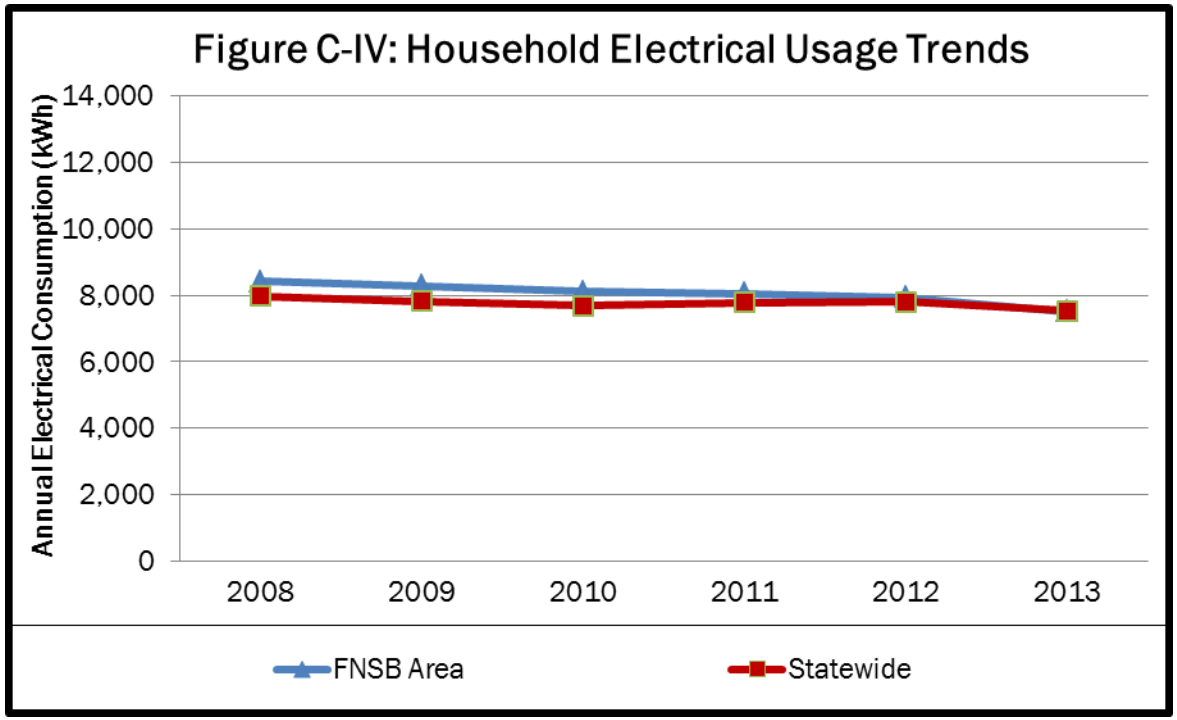
The energy use intensity (EUI), or annual energy used per square foot, for a multifamily housing unit in the Fairbanks North Star Borough averages 128,000 BTUs per square foot, the seventh highest in the state. This is the same as the statewide average of 128,000 BTUs per square foot and 2.1 times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a multifamily housing unit in the Fairbanks North Star Borough averages $3.03, the ninth highest in the state. This is 1.3 times the statewide average of $2.27 per square foot and 2.2 times the national average of $1.39 per square foot.

The home heating index (HHI) in the Fairbanks North Star Borough for the average multifamily housing unit is 6.62 BTUs/ft^2/HDD. This is the 12th lowest in the state. The HHI for the Fairbanks North Star Borough is lower than the statewide average of 8.28 BTU/ft^2/HDD. The normalized cost of energy, in terms of dollars per million BTUs, for a unit in multifamily housing in the Fairbanks

North Star Borough averages $19.17, the 10th lowest in the state. This is 1.5 times the statewide average of $12.79 per million BTUs and 83 percent of the national average of $23.12 per million BTUs.

Historical Household Electricity Usage[15]

In 2013 the average household in the Fairbanks North Star Borough consumed 7,514 kWh of electricity annually. This is approximately 10 percent less than 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[16]

Approximately 976 (3 percent) of the occupied homes in the Fairbanks North Star Borough are estimated to be 1-star homes. A 1-star home uses approximately four times more energy than if built to AHFC's Building Energy Efficiency Standard (BEES). Statewide, approximately 14,600 (6 percent) of occupied homes are estimated to be 1-star homes.

Older homes built before 1980 that have not been retrofitted are potentially homes in need. Approximately 40 percent of all homes in the Fairbanks North Star Borough fit these two criteria. This is approximately the same as the statewide average of 39 percent.

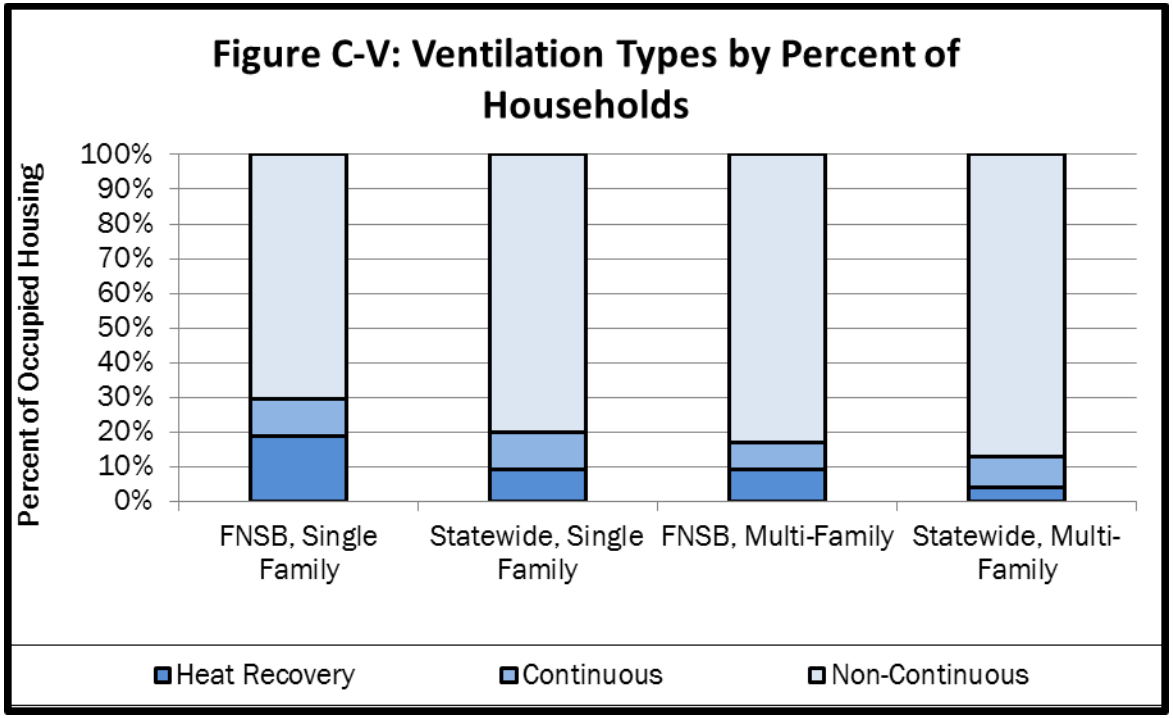
[15] Fay, G., Villalobos Melendez, A. & West, C. (2014). *Alaska Energy Statistics: 1960–2011*. UAA Institute of Social and Economic Research. Retrieved from http://iser.uaa.alaska.edu/Publications/2013_12-AlaskaEnergyStatistics2011Report_Final_2014-04-30.pdf

[16] See Appendix C: Methodology for details.

Housing Condition [17]

Ventilation

Approximately 29 percent of the occupied homes in the Fairbanks North Star Borough region have heat recovery or continuous mechanical ventilation systems installed. This is the seventh highest in the state. Statewide approximately 20 percent of occupied homes have continuous mechanical ventilation systems.



Indoor Air Quality

A tight home with no or inadequate ventilation has an increased risk of issues with indoor air quality or moisture. The Fairbanks North Star Borough has the highest percentage of housing units in the state that are relatively airtight and lack continuous mechanical ventilation. Approximately 7,161 (20 percent) of the occupied homes in the Fairbanks North Star Borough are estimated to be at moderate risk, with 13,853 (39 percent) estimated to be at high risk. Statewide, approximately 30 percent of occupied homes are estimated to be at moderate risk and 26 percent at high risk.

Draftiness

Drafty homes were defined as those showing 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 5,234 (15 percent) of the occupied homes in the Fairbanks North Star Borough are estimated to be drafty, with 2,398 (7 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.

[17] See Appendix C: Methodology for details.