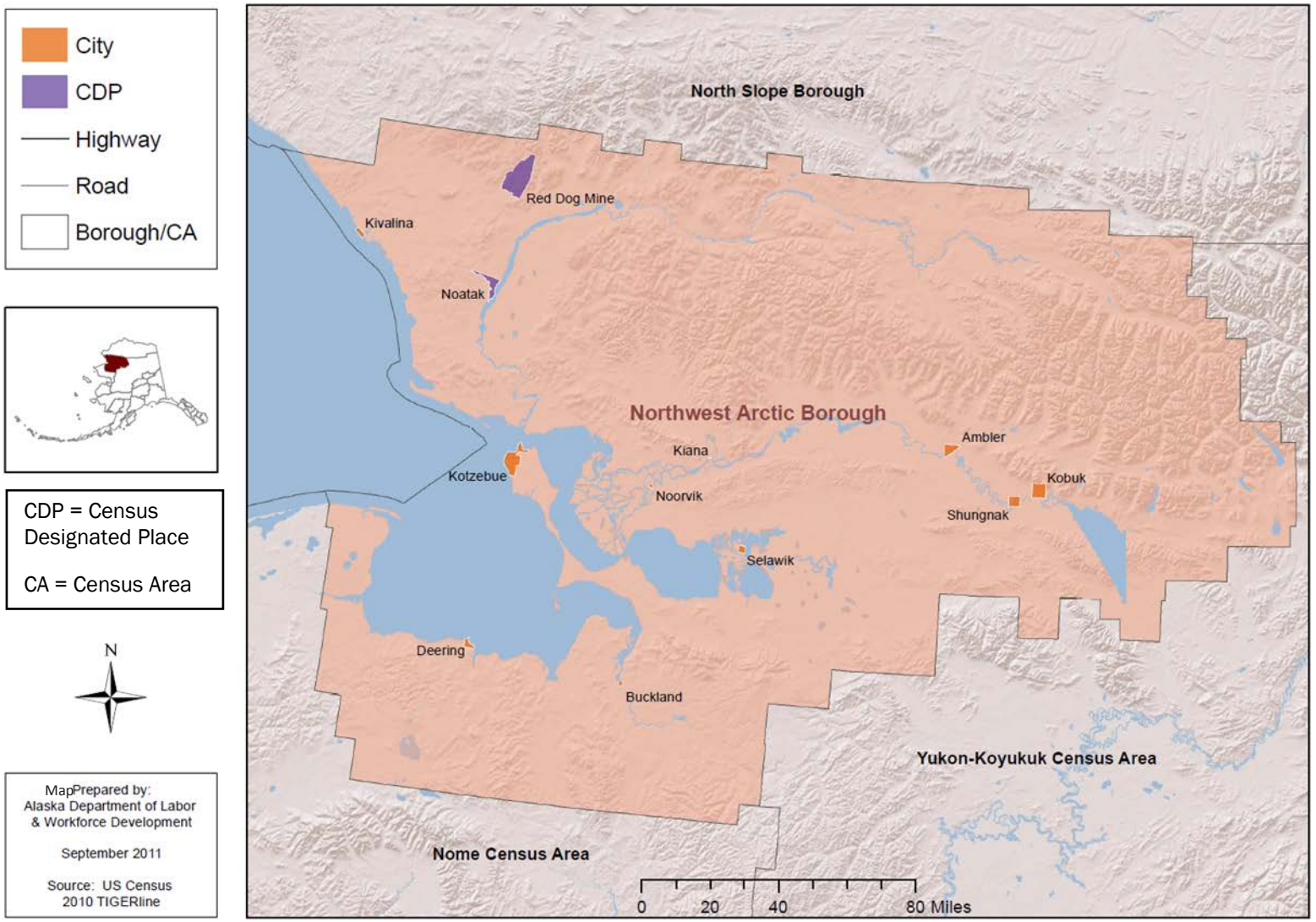
Northwest Arctic Borough



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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.

Northwest Arctic Borough Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2015) population estimate for the Northwest Arctic Borough is 7,867, an increase of 9 percent from 2000.

Housing Units: There are currently 2,713 housing units in the Northwest Arctic Borough. Of these, 1,886 are occupied, 71 are for sale or rent, and the remaining 743 are seasonal or otherwise vacant units.

Energy and Energy Costs: The average home in the Northwest Arctic Borough is 926 square feet and uses 140 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 Northwest Arctic Borough is $6,223. This is approximately 1.5 times the statewide average and 2.7 times the national average.

Overcrowding: An estimated 734 (39 percent) of occupied units are either overcrowded (18 percent) or severely overcrowded (21 percent). This is nearly 12 times the national average, and makes this census area the second most overcrowded census area in the state.

Drafty Homes and Ventilation: Approximately 961 (48 percent) of occupied homes in the Northwest Arctic Borough are drafty, exceeding 7 air changes per hour at 50 Pascals (ACH50). The statewide average is 36 percent. In contrast, there are an estimated 821 occupied housing units (41 percent) in the Northwest Arctic 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 455 (24 percent) of households in the Northwest Arctic 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 19 beds in senior housing facilities in the Northwest Arctic Borough. Currently the Alaska Department of Labor and Workforce Development estimates there are 557 seniors in the census area and projects an increase to 963 by 2030.

Housing Issues: There are an estimated 953 homes built before the 1980s in the Northwest Arctic Borough that have not been retrofitted through a state program in the past 10 years. Approximately 216 (11 percent) homes in the Northwest Arctic Borough lack complete kitchens and approximately 361 (19 percent) lack complete bathrooms.

Northwest Arctic Borough Housing Need Highlights

According to interviewed tribal leaders, the top two housing issues in the Northwest Arctic Borough are energy and overcrowding.[1, 2] The Northwest Arctic Borough has the highest estimated average annual housing energy costs in the state and an overcrowding rate of 39 percent that is nearly 12 times the national average.[3, 4] Another housing need is the many homes that still lack basic facilities such as complete kitchens and bathrooms.

Housing Gap: The largest component of the housing gap in Northwest Arctic Borough is the very high rates of overcrowding, with an estimated 39 percent of homes being overcrowded or severely overcrowded.[5] This is nearly 12 times the national average. The *Sustainable Housing Report* states that more than two-thirds of homes assessed had overcrowding issues and all were multigenerational families living in one home.[6] Authors of this study as well as the *Assessment of American Indian, Alaska Native, and Native Hawaiian Housing Needs* point out that overcrowding is often the expression of what is actually homelessness with families taking in relatives who otherwise could not find affordable housing options.[7]

If construction rates continue at their current pace, construction will not keep up with the projected population demand further exacerbating existing overcrowding and affordability issues unless the rate of new residential building construction increases.

Affordable Housing Need: An estimated 24 percent of housing units are cost-burdened.[8] The Northwest Arctic Borough has the second-highest estimated average annual home energy costs in the state that can be a significant cost burden on the region's residents. Relative to the rest of the state, the region has a relatively low median income and slightly high fair market rent prices, which results in the income needed to be able to afford a two-bedroom rental unit representing 79 percent of area median income, the fourth highest in the state.[9]

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[1] WHPacific, Inc. & NANA, Inc. (2015). *Sustainable Housing Report*.
[2] Pindus, N., Kingsley, G. T., Biess, J., Levy, D., Simington, J., & Hayes, C. (2017). *Final Report: Housing Needs of American Indians and Alaska Natives.* The Urban Institute. Retrieved from https://www.huduser.gov/portal/native_american_assessment/home.html
[3] See Appendix C: Methodology for details.
[4] U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.
[5] Ibid.
[6] WHPacific, Inc. & NANA, Inc. (2015). *Sustainable Housing Report*.
[7] Pindus, N., Kingsley, G. T., Biess, J., Levy, D., Simington, J., & Hayes, C. (2017). *Final Report: Housing Needs of American Indians and Alaska Natives.* The Urban Institute. Retrieved from https://www.huduser.gov/portal/native_american_assessment/home.html
[8] U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.
[9] 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 no assisted-living units and few independent living facilities for seniors in the Northwest Arctic Borough.[10] With the population of seniors projected to grow by an estimated 73 percent by 2030,[11] increasing the amount of available senior housing in the census area should ensure adequate assisted and independent living facilities for the projected senior population.

Retrofit Needs: The region has one of the higher participation rates in the Weatherization Assistance Program with an estimated 32 percent of occupied housing units being weatherized but there remains a need for energy retrofit work. Nearly half (47 percent) of all homes in the region were built before 1980 and have not undergone an energy retrofit, and 11 percent of homes were identified as inefficient, meaning they use at least four times more energy than a new home built to modern energy standards.[12] These homes would likely be the most cost-effective to retrofit. In addition to energy retrofit needs, many homes in the region still lack basic facilities such as complete kitchens (11 percent) and complete bathrooms (19 percent).[13]

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

Northwest Arctic Borough Summary

Community

The Northwest Arctic Borough census area is located on the western coast of Alaska, between the North Slope census area and the Nome Census area. It borders to the Yukon-Koyukuk census area to the east and the Bering Sea to the west. The census area makes up the NANA Native Corporation ANSCA region. The average home size in the census area is 920 square feet.

The ratio of dependents, including those under 16 and over 65, relative to the working age population in the Northwest Arctic Borough is higher than the statewide average and lower than the national ratio.[14] The Northwest Arctic 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 lower than the statewide average and lower than the national average. The Northwest Arctic Borough region is projected to see the ratio of senior age dependents to working age dependents increase by 1.7 times by 2030.

There are an estimated 19 dedicated beds in senior housing in the Northwest Arctic Borough, with none of those dedicated to assisted care living.[15] Currently the Alaska Department of Labor and Workforce Development estimates there are 557 seniors in the census area and projects that there will be 963 senior citizens by 2030.[16] In the Northwest Arctic Borough 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.[17]

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 Northwest Arctic Borough region the primary pressure for new housing over the next 15 years will come from households with elderly people.

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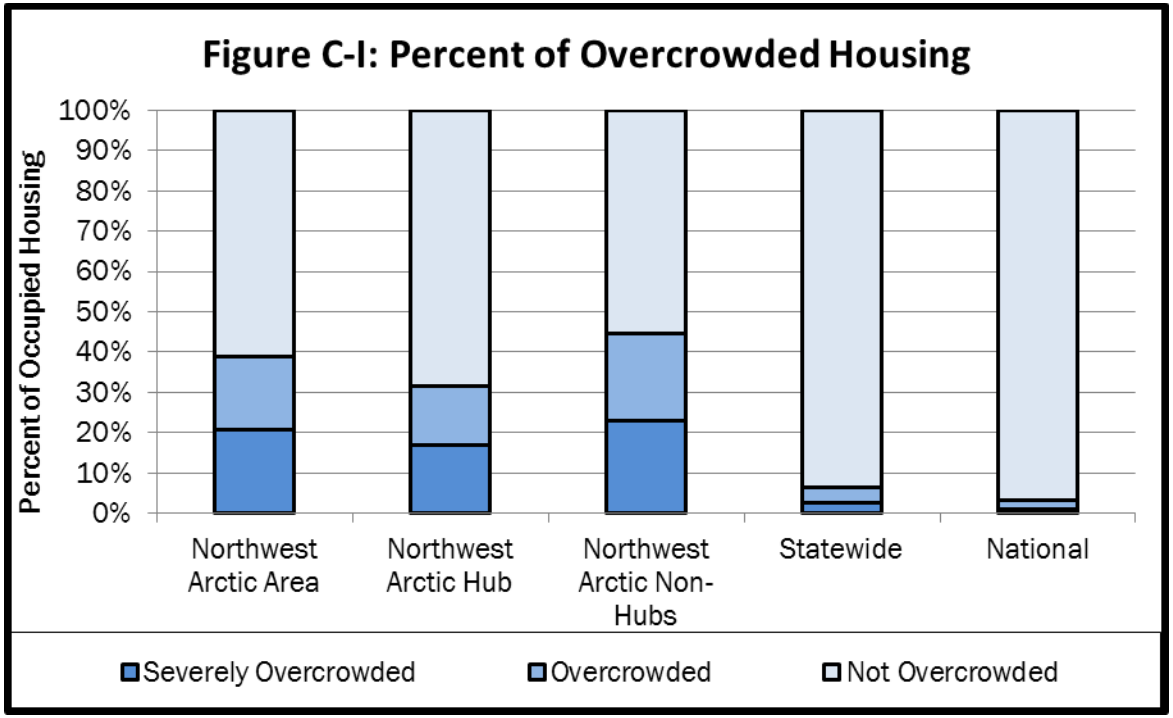
[14] Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016)."Alaska Population Projections 2015 to 2045." Alaska Department of Labor and Workforce Development, Research and Analysis Section.
U.S. Census Bureau. (2016). *American Community Survey, 2010-2014 American Community Survey Five-year Estimates*.
[15] AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016. Retrieved from https://www.ahfc.us/senior-support/
[16] Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). "Alaska Population Projections 2015 to 2045." Alaska Department of Labor and Workforce Development, Research and Analysis Section.
[17] 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[18]

The Northwest Arctic Borough is the second most overcrowded census area in Alaska. Approximately 39 percent of households are overcrowded in the census area as a whole. The rate of overcrowding in the Northwest Arctic Borough is more than 6.1 times the statewide average (6.4 percent) and approximately 11.8 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. 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 Northwest Arctic Borough average approximately equivalent to the overcrowding rate of the hub community, with approximately 45 percent of households overcrowded compared to the hub community's 32 percent. Further, 22.9 percent of non-hub community households are severely overcrowded. This is 22.9 times more than the national average.

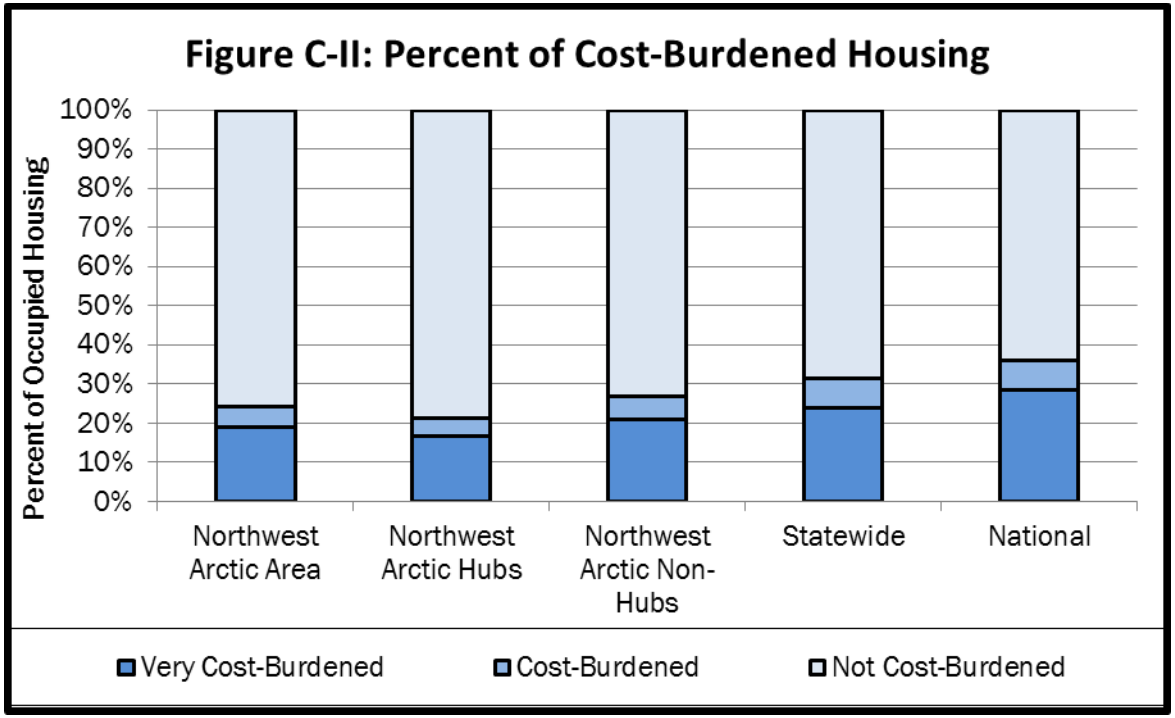
Approximately 3 percent of housing units in the Northwest Arctic Borough are available for sale or rent. The percentage of units for sale or rent in the non-hub communities (2 percent) is less than in the hub communities (4 percent). Additionally, 28 percent of housing units in the Northwest Arctic Borough are considered vacant because they are used for seasonal, recreational or other non-year-round purposes.

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

Affordability [19]

According to estimates from the U.S. Census American Community Survey (ACS), 24 percent of households in the Northwest Arctic Borough are cost-burdened, that is, spend more than 30 percent of their income on housing costs. Non-hub communities have a higher percentage (27 percent) of households that are cost-burdened than the hub community of Kotzebue (21 percent). The rate of cost-burdened households in the Northwest Arctic Borough is 67 percent of the national average (36 percent).

The median household income in the Northwest Arctic Borough is $63,971. This is lower than the statewide median of $71,829. The national median is $53,482.



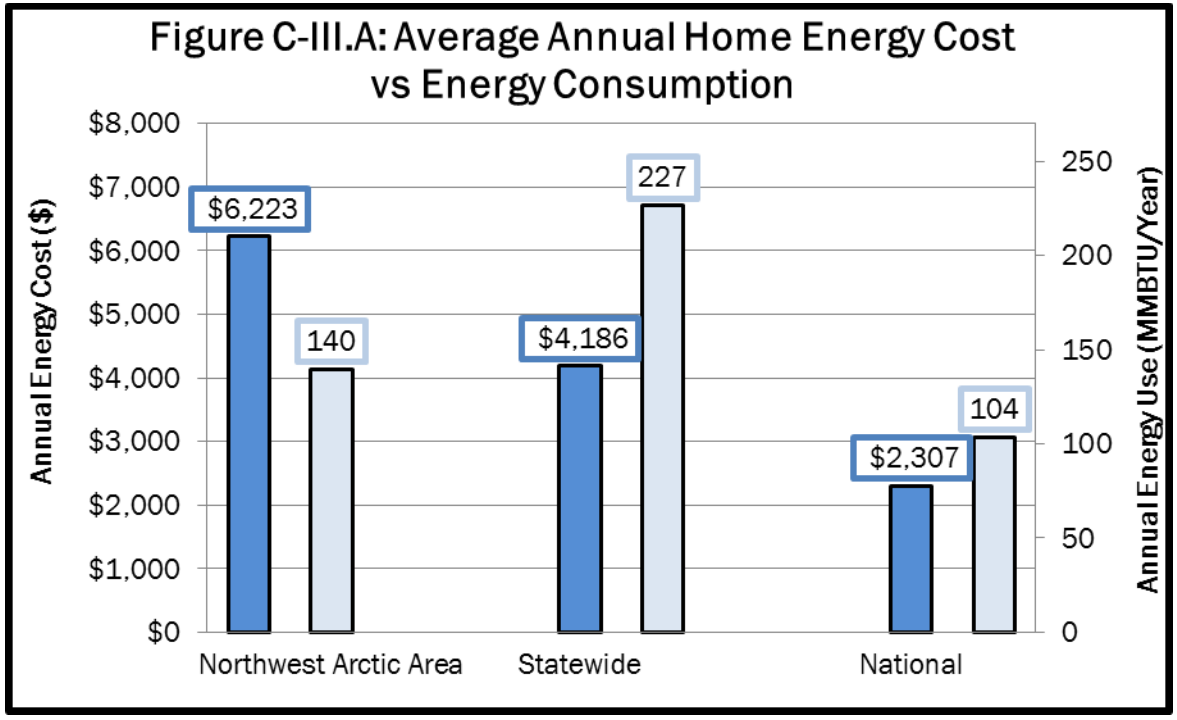
[19] U.S. Census Bureau. (2016). *American Community Survey, 2010-2014 American Community Survey Five-year Estimates*.

Energy[20]

Single-family Units

Single-family homes in the Northwest Arctic Borough consume an average of 140 million BTUs per year, the seventh lowest energy consumption in the state. This average annual energy consumption is 62 percent of the statewide average of 227 million BTUs and 1.3 times the national average.

Energy costs for single-family homes in the Northwest Arctic Borough average $6,223 annually. This is the second highest in the state. Northwest Arctic Borough energy costs are 1.5 times the statewide average and 2.7 times the national average.



With an average footprint of 926 square feet, single-family homes in the Northwest Arctic Borough 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 Northwest Arctic Borough averages 159,000 BTUs per square foot, the fifth highest in the state. This is 1.2 times the statewide average of 128,000 BTUs per square foot and 3.7 times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a single-family home in the Northwest Arctic Borough averages $6.72, the highest in the state. This is 2.9 times the statewide average of $2.31 per square foot and 7.1 times the national average of $0.95 per square foot.

The home heating index (HHI) in the Northwest Arctic Borough for the average single-family home is 7.21 BTUs/ft^2/HDD. This is the third lowest in the state. The HHI for the Northwest Arctic Borough is lower than the statewide average of 8.83 BTU/ft^2/HDD.

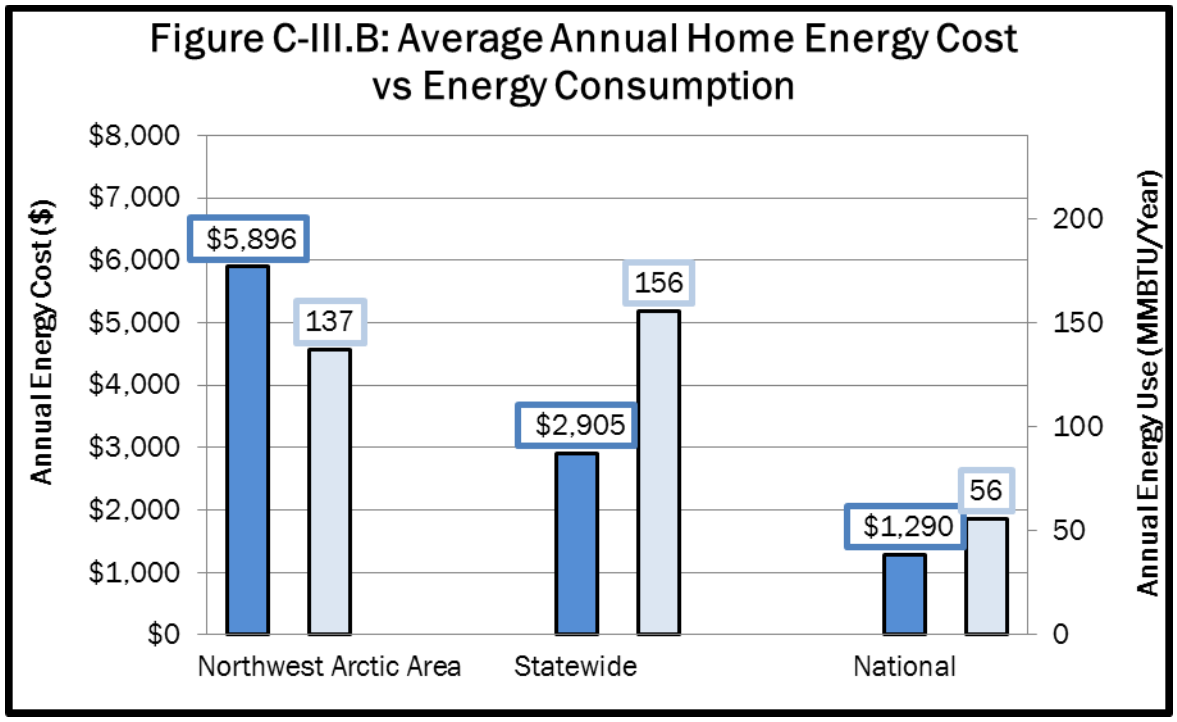
[20] See Appendix C: Methodology for details.

The normalized cost of energy, in terms of dollars per million BTUs, for a single-family home in the Northwest Arctic Borough averages $39.58, the highest in the state. This is 2.5 times the statewide average of $15.80 per million BTUs and 1.8 times the national average of $22.27 per million BTUs.

Multifamily Units

Multifamily housing units in the Northwest Arctic Borough consume an average of 137 million BTUs per year, the eighth highest energy consumption in the state. This average annual energy consumption is 88 percent of the statewide average of 156 million BTUs and 1.3 times the national average.

Energy costs for multifamily housing units in the Northwest Arctic Borough average $5,896 annually. This is the highest in the state. Northwest Arctic Borough energy costs are twice the statewide average and 4.6 times the national average.



With an average footprint of 1,120 square feet, multifamily housing units in the Northwest Arctic Borough are smaller than the statewide average of 1,284 square feet. Nationally the average unit in multifamily housing is 930 square feet.

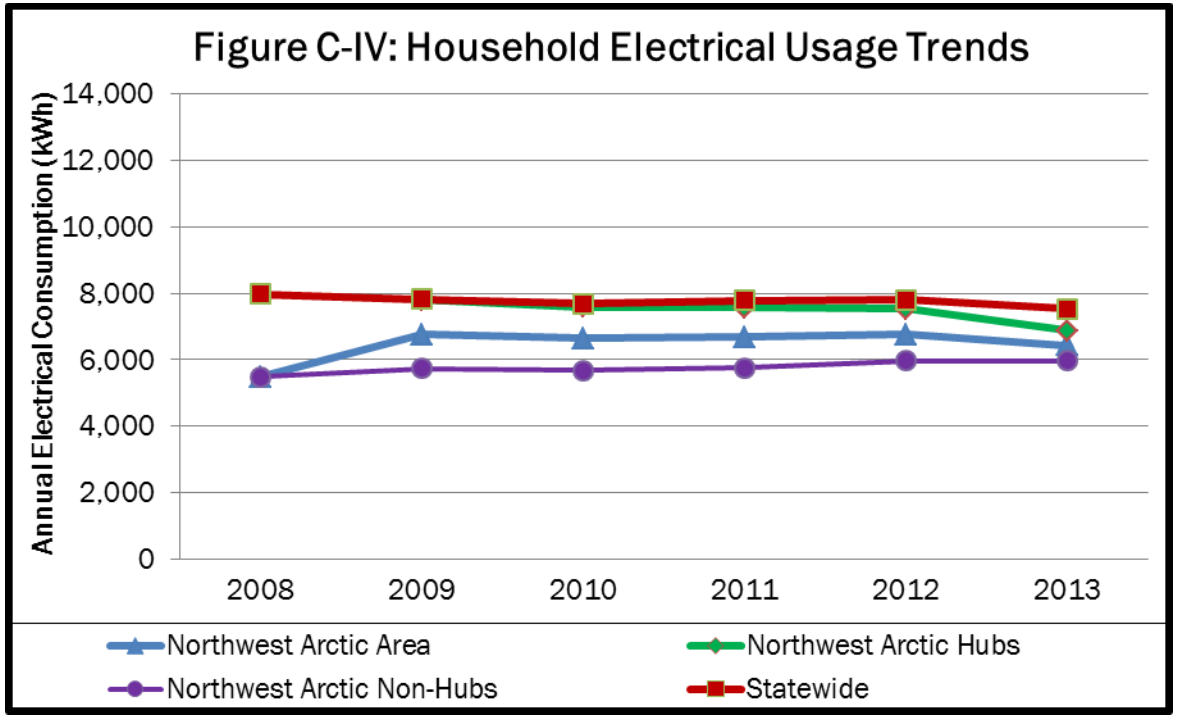
The energy use intensity (EUI), or annual energy used per square foot, for a multifamily housing unit in the Northwest Arctic Borough averages 118,000 BTUs per square foot, the ninth highest in the state. This is 92 percent of the statewide average of 128,000 BTUs per square foot and twice the national average. The energy cost index (ECI), or annual energy cost per square foot, for a multifamily housing unit in the Northwest Arctic Borough averages $5.26, the highest in the state. This is 2.3 times the statewide average of $2.27 per square foot and 3.8 times the national average of $1.39 per square foot.

The home heating index (HHI) in the Northwest Arctic Borough for the average multifamily housing unit is 5.32 BTUs/ft^2/HDD. This is the eighth lowest in the state. The HHI for the Northwest Arctic 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 Northwest

Arctic Borough averages $38.26, the fourth highest in the state. This is three times the statewide average of $12.79 per million BTUs and 1.7 times the national average of $23.12 per million BTUs.

Historical Household Electricity Usage[21]

In 2013 the average household in the Northwest Arctic Borough consumed 6,430 kWh of electricity annually. This is approximately 17 percent more 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

Approximately 207 (11 percent) of the occupied homes in the Northwest Arctic 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.

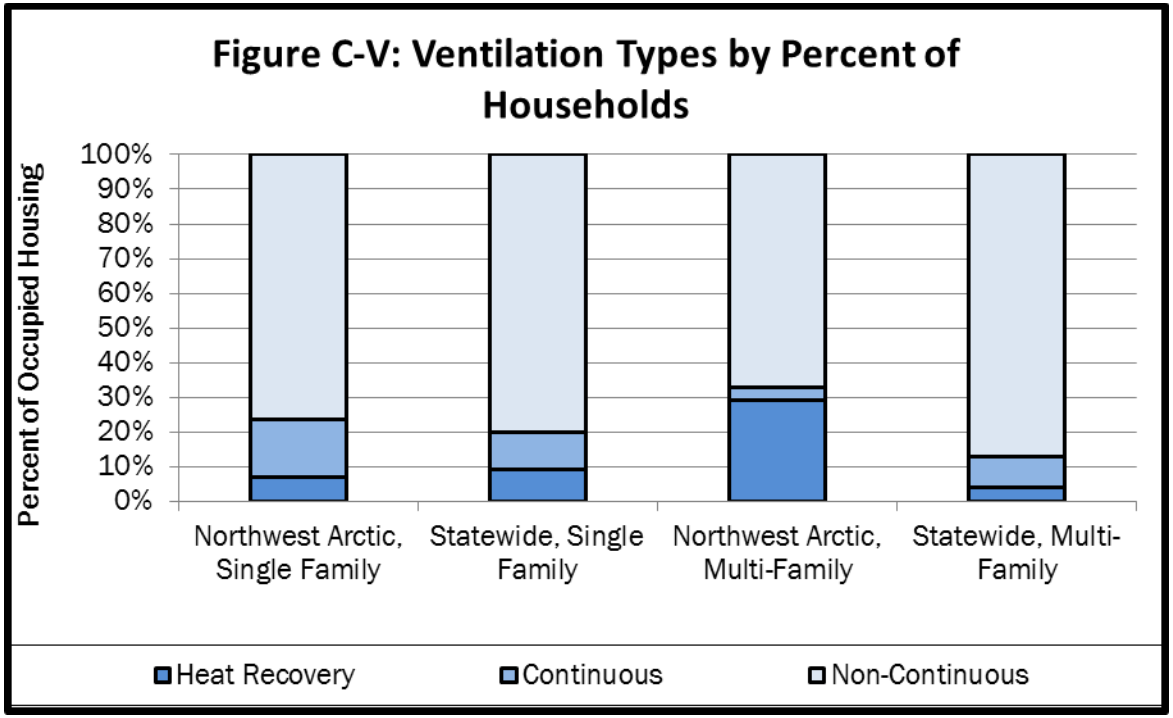
Older homes built before 1980 that have not been retrofitted are potentially homes in need. Approximately 47 percent of all homes in the Northwest Arctic Borough fit these two criteria, higher than the statewide average of 39 percent.

[21] 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

Housing Condition[22]

Ventilation

Approximately 24 percent of the occupied homes in the Northwest Arctic Borough region have heat recovery or continuous mechanical ventilation systems installed. This is the ninth highest 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 Northwest Arctic Borough has the 12th highest percentage of housing units in the state that are both relatively airtight and lack continuous mechanical ventilation. Approximately 470 (25 percent) of the occupied homes in the Northwest Arctic Borough are estimated to be at moderate risk, with 297 (16 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

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 682 (36 percent) of the occupied homes in the Northwest Arctic Borough are estimated to be drafty, with 219 (12 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.

[22] See Appendix C: Methodology for details.