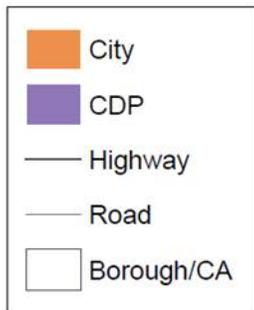


Yukon-Koyukuk Census Area



CDP = Census Designated Place
CA = Census Area



Map Prepared by:
Alaska Department of Labor
& Workforce Development
September 2011
Source: US Census
2010 TIGERline

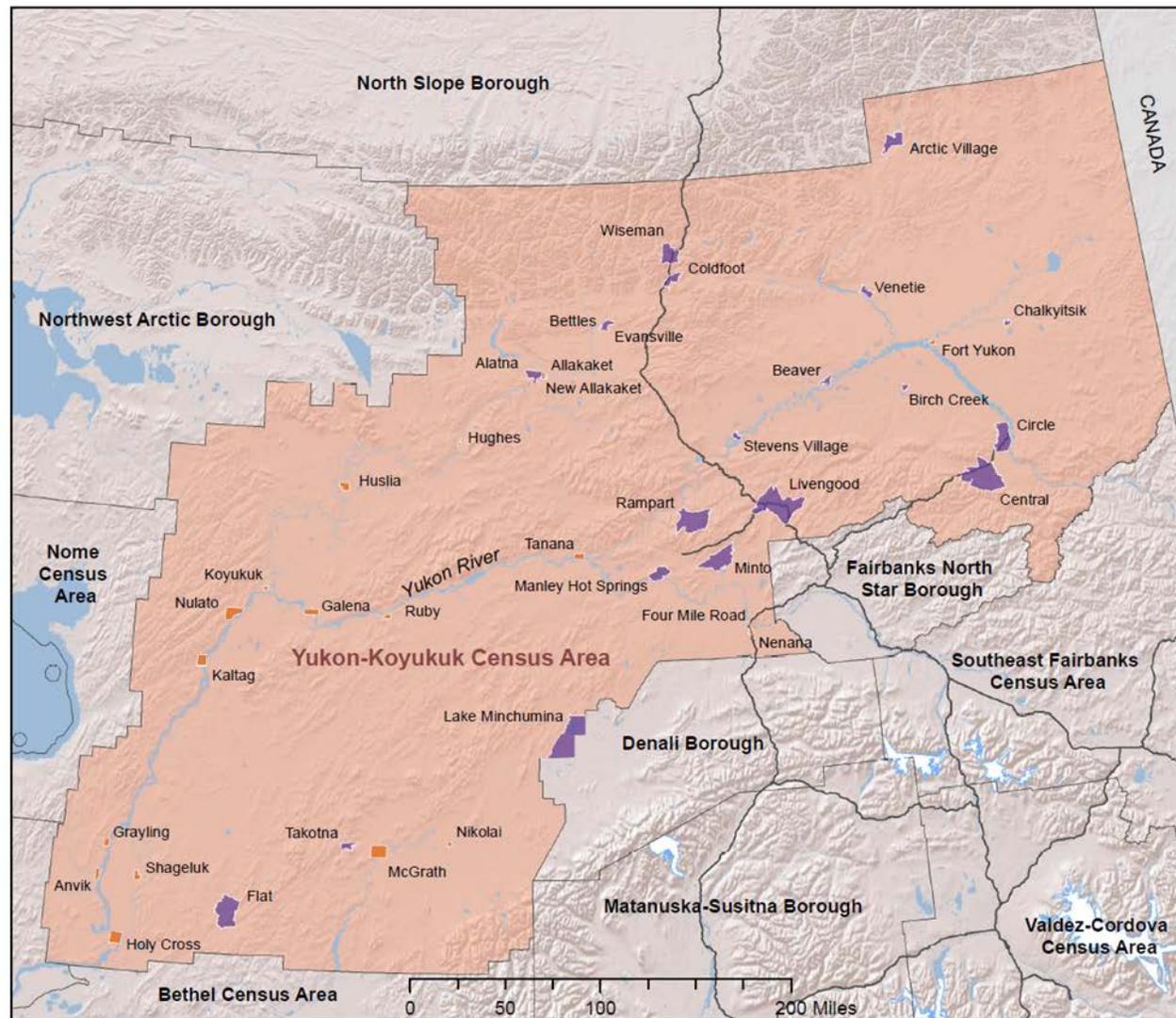


Table of Contents

Regional and Statewide Housing Characteristics.....	2
Yukon-Koyukuk Census Area Dashboard.....	3
Yukon-Koyukuk Census Area Housing Need Highlights.....	4
Yukon-Koyukuk Census Area Summary.....	7
Community.....	7
Overcrowding.....	9
Affordability.....	10
Energy.....	11
Single-family Units.....	11
Multifamily Units.....	13
Historical Household Electricity Usage.....	14
Inefficient and Older Homes.....	14
Housing Condition.....	15
Ventilation.....	15
Indoor Air Quality.....	15
Draftiness.....	15

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.

Yukon-Koyukuk Census Area Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2015) population estimate for the Yukon-Koyukuk census area is 5,493 – a decrease of 16 percent from 2000.

Housing Units: There are currently 3,762 housing units in the Yukon-Koyukuk census area. Of these, 2,057 are occupied, 149 are for sale or rent, and the remaining 1,831 are seasonal or otherwise vacant units.

Energy and Energy Costs: The average home in the Yukon-Koyukuk census area is 947 square feet and uses 167 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 Yukon-Koyukuk census area is \$4,167. This is nearly the same as the statewide average and 1.8 times the national average.

Overcrowding: An estimated 306 (15 percent) of occupied units are either overcrowded (9 percent) or severely overcrowded (6 percent). This is nearly 5 times the national average, and makes this census area the seventh most overcrowded census area in the state.

Drafty Homes and Ventilation: Approximately 1,149 (57 percent) of homes in the Yukon-Koyukuk census area are drafty, exceeding seven air changes per hour at 50 Pascals (ACH50). The statewide average is 36 percent. In contrast, there are an estimated 866 occupied housing units (43 percent) in the Yukon-Koyukuk census area 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 456 (22 percent) of households in the Yukon-Koyukuk census area 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 37 beds in senior housing facilities in the Yukon-Koyukuk census area. Currently the Alaska Department of Labor and Workforce Development estimates there are 686 seniors in the census area and projects an increase to 993 by 2030.

Housing Issues: There are an estimated 1,231 homes built before the 1980s in the Yukon-Koyukuk census area that have not been retrofitted through a state program in the past 10 years. Approximately 650 (32 percent) homes in the Yukon-Koyukuk census area lack complete kitchens and approximately 805 (39 percent) lack complete bathrooms.

Yukon-Koyukuk Census Area Housing Need Highlights

The Yukon-Koyukuk census area has a variety of housing needs, three of which are most pressing: a high rate of inefficient housing, a high rate of overcrowding and a high rate of homes that lack kitchens and/or bathrooms.

Tribal entities in the region recently conducted a survey of 1,785 community members and reported the results in *Rural Housing Strategy for Villages Located in Alaska's Interior*.¹ This study identified a variety of housing condition needs, with between 22 percent and 41 percent of respondents reporting major repairs were needed in eight different housing categories. Other data sources point to a variety of other housing retrofit needs: many homes are energy inefficient (18 percent), a large number of homes lack complete kitchens (32 percent) and bathrooms (39 percent), and more than half of homes are estimated to be drafty.^{2, 3}

The American Community Survey estimated that 15 percent of homes are overcrowded, which is five times the national average.⁴ The *Rural Housing Strategy* survey found an even higher reported rate of overcrowding, with 23 percent of respondents reporting they were facing overcrowding issues.⁵ According to the *Assessment of American Indian, Alaska Native, and Native Hawaiian Housing Needs* report, overcrowding is often the way that homelessness manifests itself in Native communities.⁶

Housing Gap: The Yukon-Koyukuk census area has an overcrowding rate five times the national average, with 15 percent of occupied households estimated to be overcrowded.⁷ The population is projected to decline by 8 percent by 2025. If construction rates continue at the current pace, the additional housing units will potentially lessen overcrowding but will not be enough to alleviate it.⁸

¹ Tanana Chiefs Conference, Interior Regional Housing Authority, Nulato Tribal Council, Chalkyitsik Village Council, Rampart Village Council, Fort Yukon Tribal Council, ... & Tanana Tribal Council. (2016). *Regional Housing Strategy for Rural Villages Located in Alaska's Interior*.

² See Appendix C: Methodology for details.

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

⁴ Ibid.

⁵ Tanana Chiefs Conference, Interior Regional Housing Authority, Nulato Tribal Council, Chalkyitsik Village Council, Rampart Village Council, Fort Yukon Tribal Council, ... & Tanana Tribal Council. (2016). *Regional Housing Strategy for Rural Villages Located in Alaska's Interior*.

⁶ 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

⁷ U.S. Census Bureau. (2016). *American Community Survey, 2010-2014 American Community Survey Five-year Estimates*.

⁸ See Appendix C: Methodology for details.

The *Rural Housing Strategy* study provided detailed estimates of the number of housing units needed by members of 30 different communities.⁹ The study identified that 277 tribal families, 204 individual tribal members, and 21 tribal veterans need homes.

Affordable Housing Needs: An estimated 22 percent of households are cost-burdened in the Yukon-Koyukuk census area.¹⁰ While the region has the lowest reported fair market rent for a two-bedroom housing unit, it also has the second lowest renter median income.¹¹ The low reported rents are likely due to a variety of factors, including relatively small housing units, lack of facilities and housing condition issues. The average house size of 947 square feet is slightly more than half the statewide average.¹²

Senior Housing Needs: The Yukon-Koyukuk region has slightly fewer assisted-living units per senior citizen than the statewide average.¹³ The senior population is projected to grow by 44 percent by 2030.¹⁴ Increasing available senior housing could ensure adequate assisted and independent living facilities for the projected population.

Retrofit Needs: The Yukon-Koyukuk census area has significant retrofit needs. While it has one of the highest rates of participation in the Weatherization Assistance Program, with 37 percent of occupied homes being weatherized since 2008, there are still significant energy retrofit opportunities.¹⁵ Thirty-nine percent of the housing units in the Yukon-Koyukuk census area were built before 1980 and have not had an energy retrofit. It is also estimated that 18 percent of homes fit the definition of inefficient, using four or more times the energy of a modern home built to AHFC's Building Energy Efficiency Standards. This census area has one of the highest rates of inefficient homes in the state.

In addition to energy retrofit needs, the Yukon-Koyukuk census area has significant documented housing condition issues. Many homes lack complete kitchens (32 percent) and/or bathrooms (39 percent).¹⁶ Even more homes are drafty, with an estimated 58 percent of homes being leaky or very leaky.¹⁷

⁹ Tanana Chiefs Conference, Interior Regional Housing Authority, Nulato Tribal Council, Chalkyitsik Village Council, Rampart Village Council, Fort Yukon Tribal Council, ... & Tanana Tribal Council. (2016). *Regional Housing Strategy for Rural Villages Located in Alaska's Interior*.

¹⁰ U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.

¹¹ 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

¹² See Appendix C: Methodology for details.

¹³ AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016. Retrieved from <https://www.ahfc.us/senior-support/>

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.

¹⁵ See Appendix C: Methodology for details.

¹⁶ U.S. Census Bureau. (2016). *American Community Survey, 2010–2014 American Community Survey Five-year Estimates*.

¹⁷ See Appendix C: Methodology for details.

Yukon-Koyukuk Census Area Summary

Community

The Yukon-Koyukuk census area is located in Interior Alaska, stretching from the Canadian border to near the Western coast of Alaska. It is bisected by the Yukon River, which is joined by the Koyukuk River just before turning south. Most of the communities in the census area are located on the banks of one of these rivers or their tributaries. The census area is in the Doyon Native Corporation ANCSA region. The average home size in the census area is 943 square feet.

The ratio of dependents, including those under 16 and over 65, relative to the working age population in the Yukon-Koyukuk census area is higher than the statewide average and lower than the national ratio.¹⁸ The Yukon-Koyukuk census area 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 Yukon-Koyukuk census area region is projected to see the ratio of senior age dependents to working age dependents increase by 1.9 times by 2030.

There are an estimated 37 dedicated beds in senior housing in the Yukon-Koyukuk census area, with 18 of those dedicated to assisted-care living.¹⁹ Currently the Alaska Department of Labor and Workforce Development estimates there are 686 seniors in the census area, and projects that there will be 993 senior citizens by 2030.²⁰ In the Yukon-Koyukuk census area 2.6 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.²¹

¹⁸ 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*.

¹⁹ AHFC Senior Housing Office. (2016). *Inventory List: Independent Living Homes/Facilities*. Revised 5/02/2016. Retrieved from <https://www.ahfc.us/senior-support/>

²⁰ Hunsinger, Eddie, Sandberg, E., & Brooks, L. (2016). Alaska Population Projections 2015 to 2045. Alaska Department of Labor and Workforce Development, Research and Analysis Section.

²¹ 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.

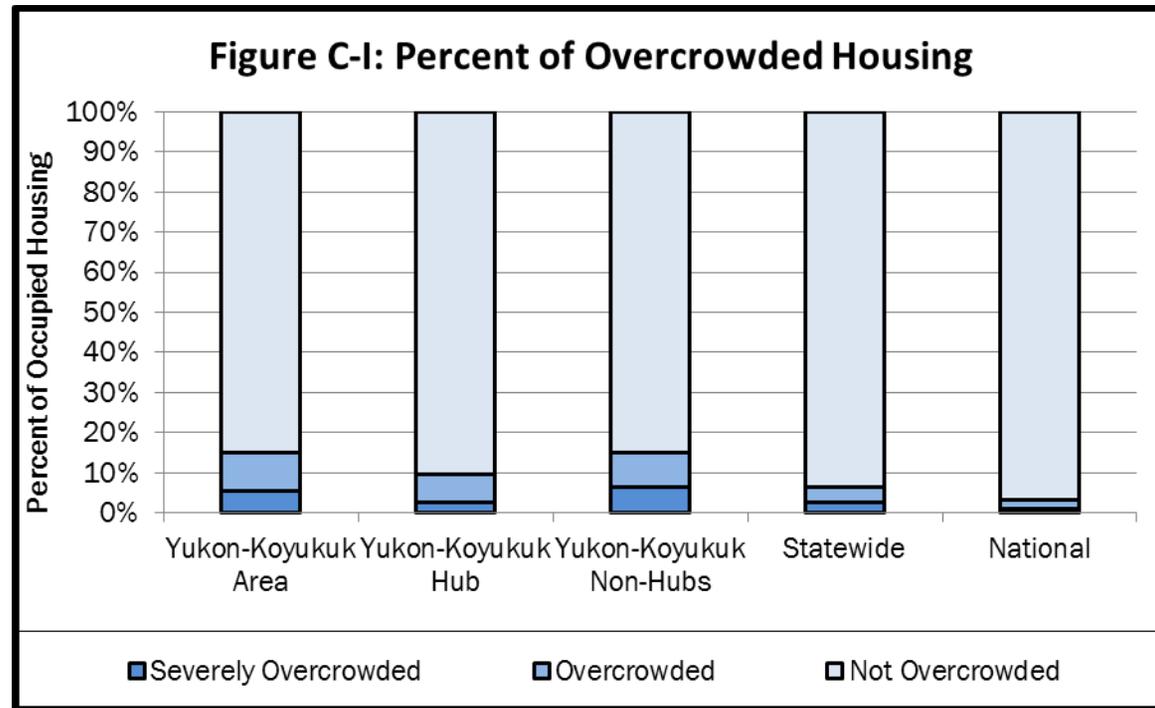
Comparison of the growth rates in the senior age (65+) segment of the population to the dependent age (0 to 15) population indicate that in the Yukon-Koyukuk census area region the primary pressure for new housing over the next 15 years will come from households with elderly people.

Overcrowding²²

The Yukon-Koyukuk census area is the seventh most overcrowded of the 30 census areas in Alaska. Approximately 15 percent of the households are overcrowded in the census area as a whole. The rate of overcrowding in the Yukon-Koyukuk census area is more than 2.3 times the statewide average (6.4 percent) and approximately 4.5 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 Yukon-Koyukuk census area average nearly twice times the overcrowding rate of the hub community, with approximately 15 percent of households overcrowded compared to the hub community's 10 percent. Further, 6.5 percent of non-hub community households are severely overcrowded. This is 6.5 times the national average.

Approximately 4 percent of housing units in the Yukon-Koyukuk census area are available for sale or rent. The percentage of units for sale or rent in the non-hub communities (4 percent) is less than in the hub communities (8 percent). Additionally, 45 percent of housing units in the Yukon-Koyukuk census area are considered vacant because they are used for seasonal, recreational or other non-year-round purposes.

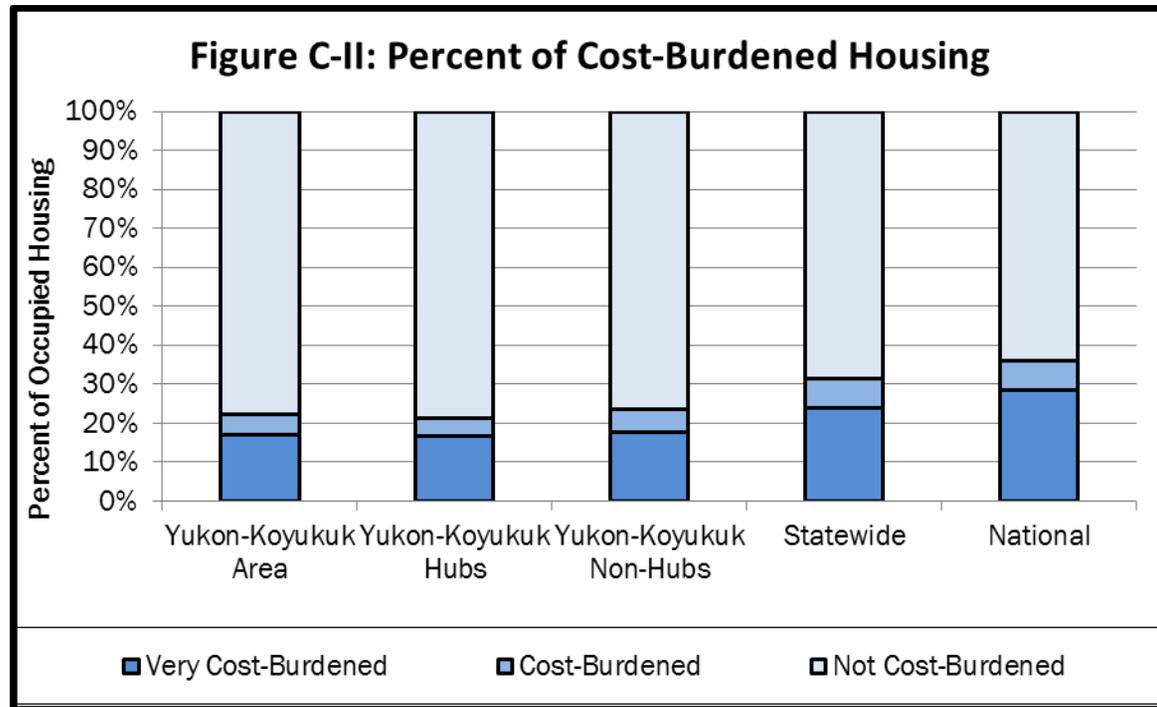


²² U.S. Census Bureau. (2016). *American Community Survey, 2010-2014 American Community Survey Five-year Estimates*.

Affordability²³

According to estimates from the U.S. Census American Community Survey (ACS), 22 percent of households in the Yukon-Koyukuk census area are cost-burdened, that is, spend more than 30 percent of their income on housing costs. Non-hub communities have a higher percentage (23 percent) of households that are cost-burdened than the hub communities of Galena and McGrath (21 percent). The rate of cost-burdened households in the Yukon-Koyukuk census area is 62 percent of the national average (36 percent).

The median household income in the Yukon-Koyukuk census area is \$37,796. This is lower than the statewide median of \$71,829. The national median is \$53,482.



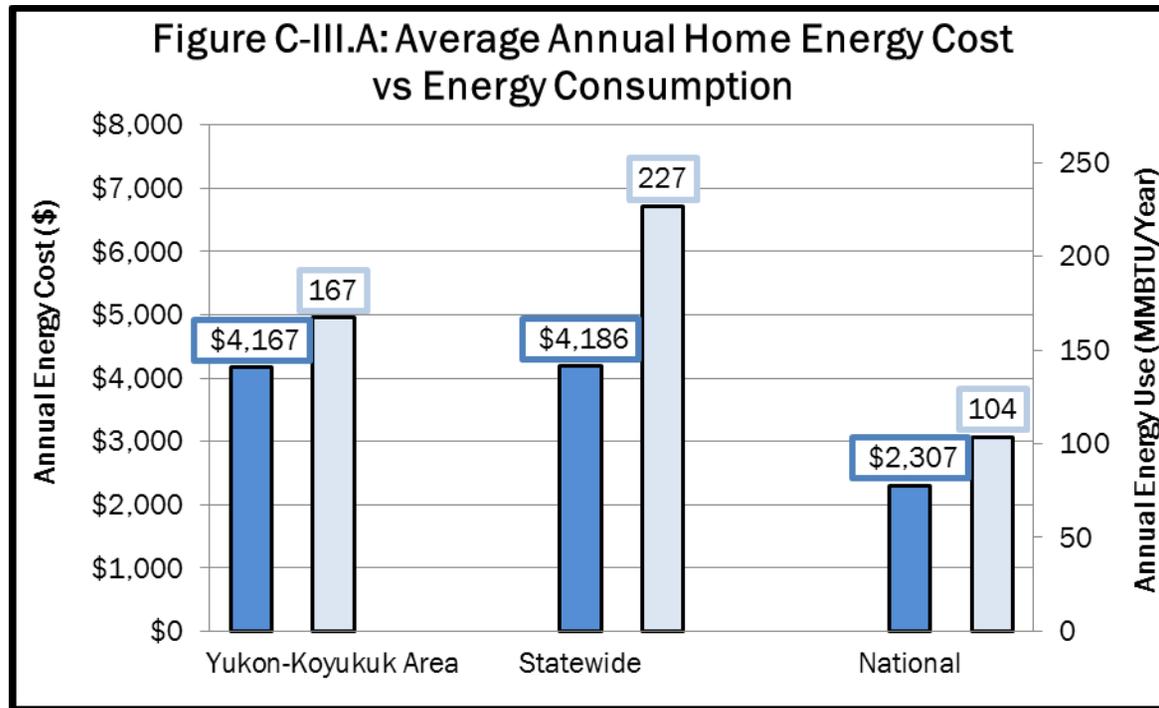
²³ U.S. Census Bureau. (2016). *American Community Survey, 2010-2014 American Community Survey Five-year Estimates*.

Energy²⁴

Single-family Units

Single-family homes in the Yukon-Koyukuk census area consume an average of 167 million BTUs per year, the 14th lowest energy consumption in the state. This average annual energy consumption is 74 percent of the statewide average of 227 million BTUs and 1.6 times the national average.

Energy costs for single-family homes in the Yukon-Koyukuk census area average \$4,167 annually. This is the 11th lowest in the state. Yukon-Koyukuk census area energy costs are approximately the same as the statewide average and 1.8 times the national average.



With an average footprint of 947 square feet, single-family homes in the Yukon-Koyukuk census area 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 Yukon-Koyukuk census area averages 185,000 BTUs per square foot, the highest in the state. This is 1.4 times the statewide average of 128,000 BTUs per square foot and 4.3 times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a single-family home in the Yukon-Koyukuk census area averages \$4.40, the seventh highest in the state. This is 1.9 times the statewide average of \$2.31 per square foot and 4.6 times the national average of \$0.95 per square foot.

The home heating index (HHI) in the Yukon-Koyukuk census area for the average single-family home is 10.3 BTUs/ft²/HDD. This is the sixth highest in the state. The HHI for the Yukon-Koyukuk census area is higher than the statewide average of 8.83

²⁴ See Appendix C: Methodology for details.

BTU/ft²/HDD. The normalized cost of energy, in terms of dollars per million BTUs, for a single-family home in the Yukon-Koyukuk census area averages \$21.02, the 15th highest in the state. This is 1.3 times the statewide average of \$15.80 per million BTUs and 94 percent of the national average of \$22.27 per million BTUs.

Multifamily Units

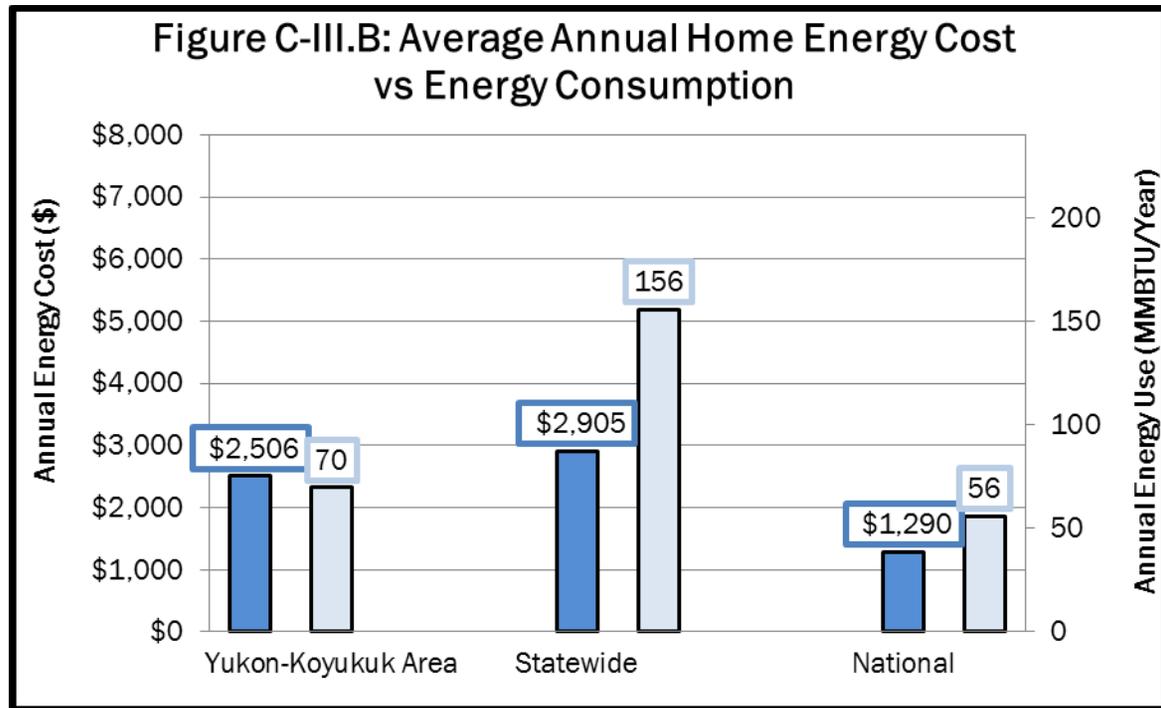
Multifamily housing units in the Yukon-Koyukuk census area consume an average of 70 million BTUs per year, the third lowest in the state. This energy consumption is 45 percent of the statewide average of 156 million BTUs and 1.6 times the national average.

Energy costs for multifamily housing units in the Yukon-Koyukuk census area average \$2,506 annually, the sixth lowest in the state. Yukon-Koyukuk census area energy costs are 86 percent of the statewide average and 1.9 times the national average.

With an average footprint of 860 square feet, multifamily housing units in the Yukon-Koyukuk census area are smaller than the statewide average of 1,284 square feet. Nationally the average unit in multifamily housing is 930 square feet.

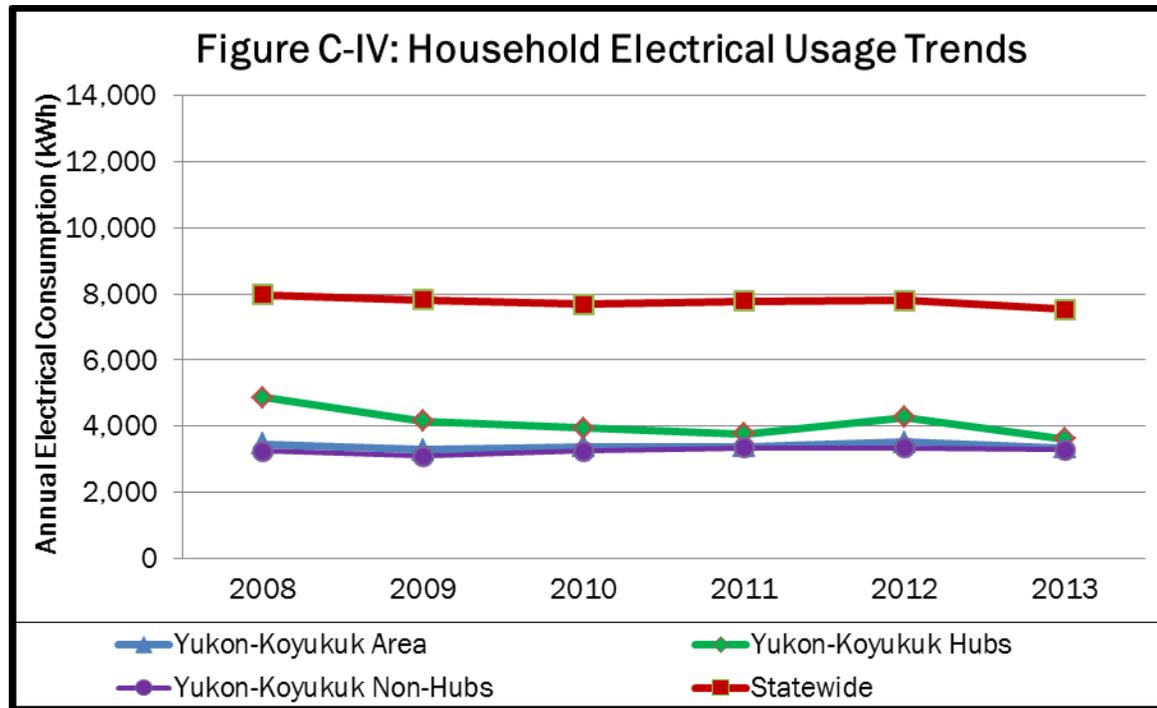
The energy use intensity (EUI), or annual energy used per square foot, for a multifamily housing unit in the Yukon-Koyukuk census area averages 81,000 BTUs per square foot, the fourth lowest in the state. This is 63 percent of the statewide average of 128,000 BTUs per square foot and 1.4 times the national average. The energy cost index (ECI), or annual energy cost per square foot, for a multifamily housing unit in the Yukon-Koyukuk census area averages \$2.91, the 12th highest in the state. This is 1.3 times the statewide average of \$2.27 per square foot and 2.1 times the national average of \$1.39 per square foot.

The home heating index (HHI) in the Yukon-Koyukuk census area for the average multifamily housing unit is 3.34 BTUs/ft²/HDD. This is the fourth lowest in the state. The HHI for the Yukon-Koyukuk census area is lower than the statewide average of 8.28 BTU/ft²/HDD. The normalized cost of energy, in terms of dollars per million BTUs, for a unit in multifamily housing in the Yukon-Koyukuk census area averages \$31.06, the seventh highest in the state. This is 2.4 times the statewide average of \$12.79 per million BTUs and 1.3 times the national average of \$23.12 per million BTUs.



Historical Household Electricity Usage²⁵

In 2013 the average household in the Yukon-Koyukuk census area consumed 3,346 kWh of electricity annually. This is approximately 3 percent less than in 2008. Hub communities in the census area averaged 3,622 kWh per year. This is a decrease of 26 percent over the same period. In contrast, non-hub communities averaged 3,288 kWh in 2013, remains approximately the same since 2008. Statewide, the average household consumed 7,540 kWh of electricity in 2013, a decrease of 5 percent since 2008.



Inefficient and Older Homes²⁶

Approximately 366 (18 percent) of the occupied homes in the Yukon-Koyukuk census area 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 -homes.

Older homes built before 1980 that have not been retrofitted are potentially homes in need. Approximately 39 percent of all homes in the Yukon-Koyukuk census area fit these two criteria. This is approximately the same as the statewide average of 39 percent.

²⁵ 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

²⁶ See Appendix C: Methodology for details.

Housing Condition ²⁷

Ventilation

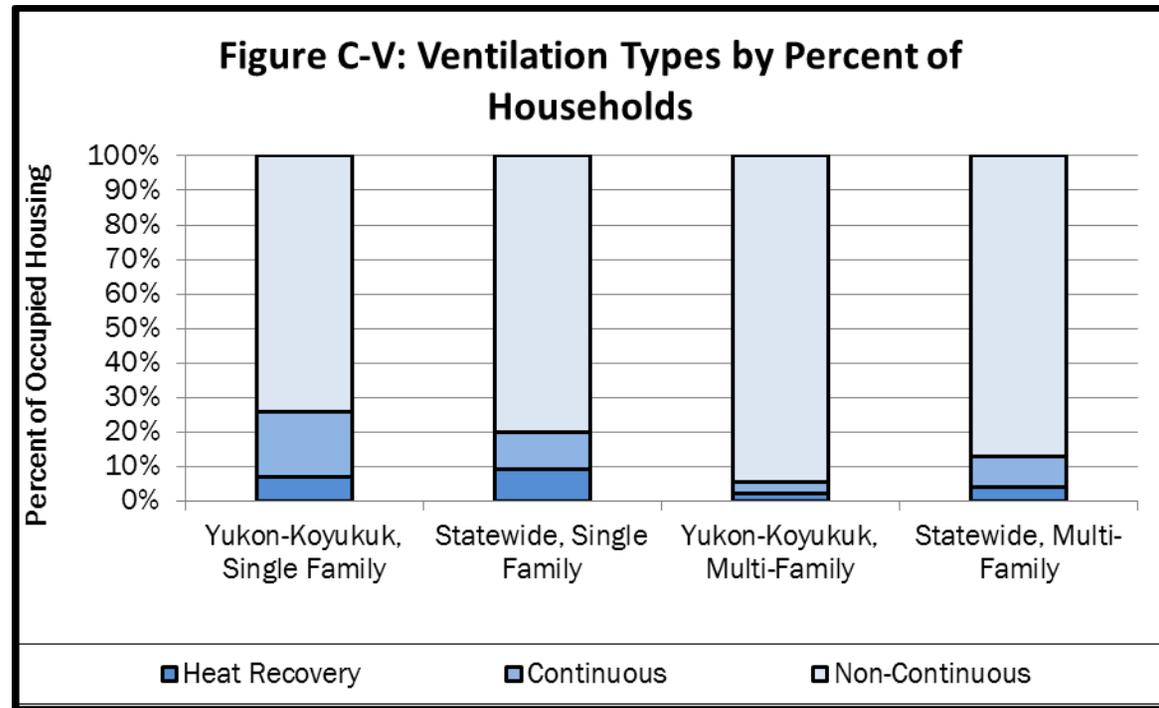
Approximately 26 percent of the occupied homes in the Yukon-Koyukuk census area region have heat recovery or continuous mechanical ventilation systems installed. This is the eighth highest in the state. Statewide approximately 20 percent of occupied homes have continuous mechanical ventilation systems, 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 Yukon-Koyukuk census area has the 11th highest percentage of housing units in the state that are relatively airtight and lack continuous mechanical ventilation. Approximately 500 (24 percent) of the occupied homes in the Yukon-Koyukuk census area are estimated to be at moderate risk, with 379 (18 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 774 (38 percent) of the occupied homes in the Yukon-Koyukuk census area are estimated to be drafty, with 405 (20 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.



²⁷ See Appendix C: Methodology for details.