Denali Borough

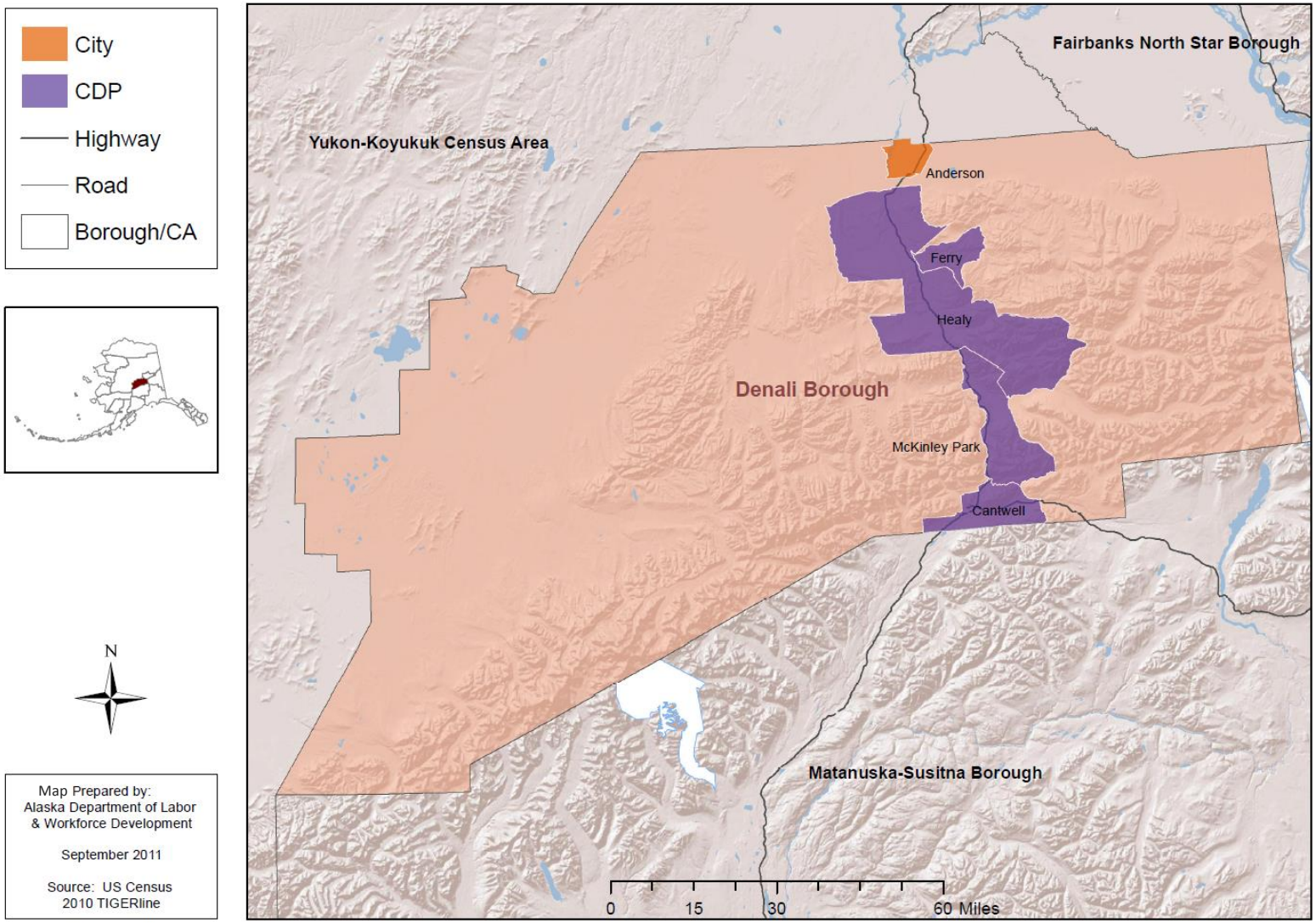


Table of Contents

Denali Borough Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2012) population estimate for the Denali Borough is 1,871– a decrease of 1% from 2000.

Housing Units: There are currently 1,507 housing units in the Denali Borough. Of these, 699 are occupied, 61 are for sale or rent, and the remaining 747 are seasonal or otherwise vacant units (Profile Figure C6).

Energy: The average home in the Denali Borough is 1,838 square feet and uses 141,000 BTUs of energy per square foot annually, 3% more than the statewide average of 137,000 BTUs per square foot per year.

Energy Costs: Using AKWarm estimates, average annual energy cost for homes in the Denali Borough is $8,640, which is approximately 3.1 times more than the cost in Anchorage, and 4.1 times more than the national average (Profile Figure C13).

Energy Programs: Approximately 14% of occupied housing in the Denali Borough has completed either the Home Energy Rebate, Weatherization, or BEES programs since 2008, compared to 21% statewide (Profile Figure C12).

Housing Quality: Within current housing stock, newer homes have better energy performance. On average, homes built in the 1940s are currently rated 2-stars, compared to a current average rating of 3-stars for houses built after 2000.

Air-tightness: Within current housing stock, newer homes are tighter. On average, homes built in the last decade perform better than the 2012 BEES standard of 4 air-changes per hour at 50 pascals (ACH50). In contrast, homes built in the 1970s are 3 times leakier than those built since 2000 (Profile Figure C7).

Ventilation: An estimated 429 occupied housing units (or 61%) in the Denali Borough are relatively air-tight and lack a continuous ventilation system. These houses are at higher risk of moisture- and indoor air quality-related issues (Profile Figures C9-C10).

Overcrowding: 7.4% of occupied units are estimated to be either overcrowded (0.6%) or severely overcrowded (6.8%). This is roughly twice the national average, and makes the Denali Borough the 13th most overcrowded census area in the state.

Affordability: On average, approximately 18% of households in the Denali Borough spend more than 30% of total income on housing costs, which include rent, utilities, and energy costs. Based on average AKWarm estimates, annual energy costs constitute approximately 10% of census median area income for occupied housing.

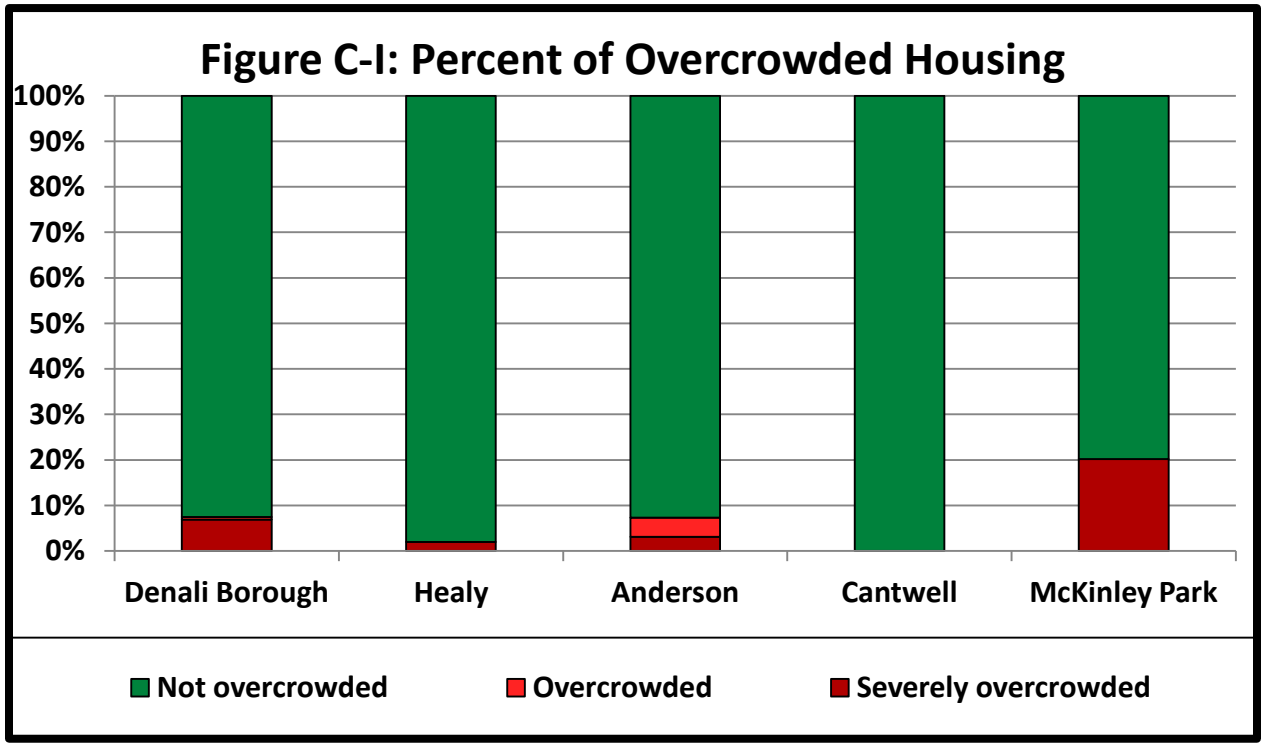
Denali Borough Summary

Community

The Denali Borough census area is located in Interior Alaska. Its communities are near the Parks Highway, which runs from Anchorage to Fairbanks and bisects the census area. Denali Borough is located in the Doyon Native Corporation ANCSA region. The average home size in the census area is 1,838 square feet. The largest homes are found in Anderson, where the average home size is 2,031 square feet, and the smallest in the community of Cantwell, where homes are on average 1,259 square feet.

Overcrowding

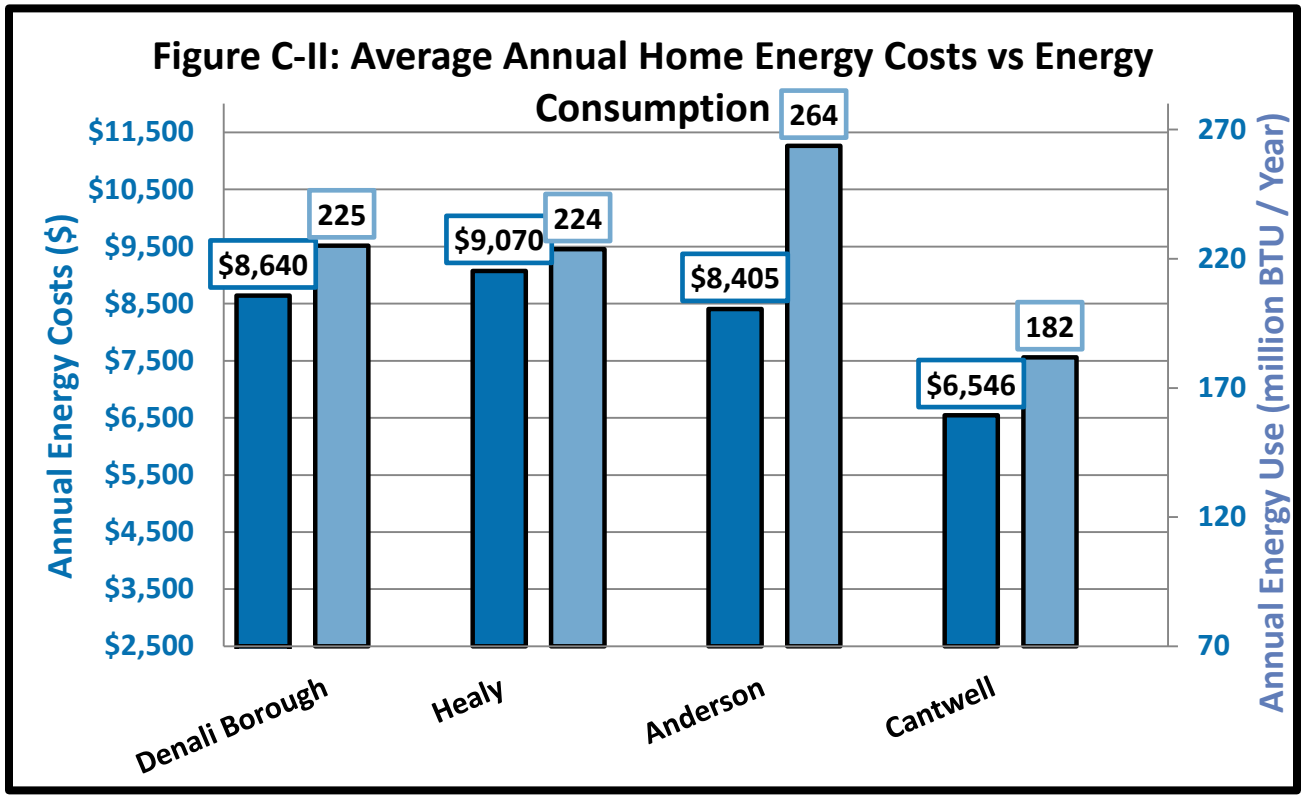
Overcrowding is less than 10% in most communities in the Denali Borough with the exception of McKinley Park, which has severe overcrowding in about 20% of housing units (Figure C-I). Cantwell is the community with the least amount of overcrowding, with an estimated zero houses with more than one person per room.



Approximately 4% of housing in Denali Borough is available for sale or rent. McKinley Park has the lowest percentage of available housing, with only 1% of houses available for sale or rent. The community of Cantwell has the highest percentage of available housing at 12%. Also, approximately half of the housing in Denali Borough is considered vacant because it is used for seasonal, recreational, or "other" purposes.

Energy

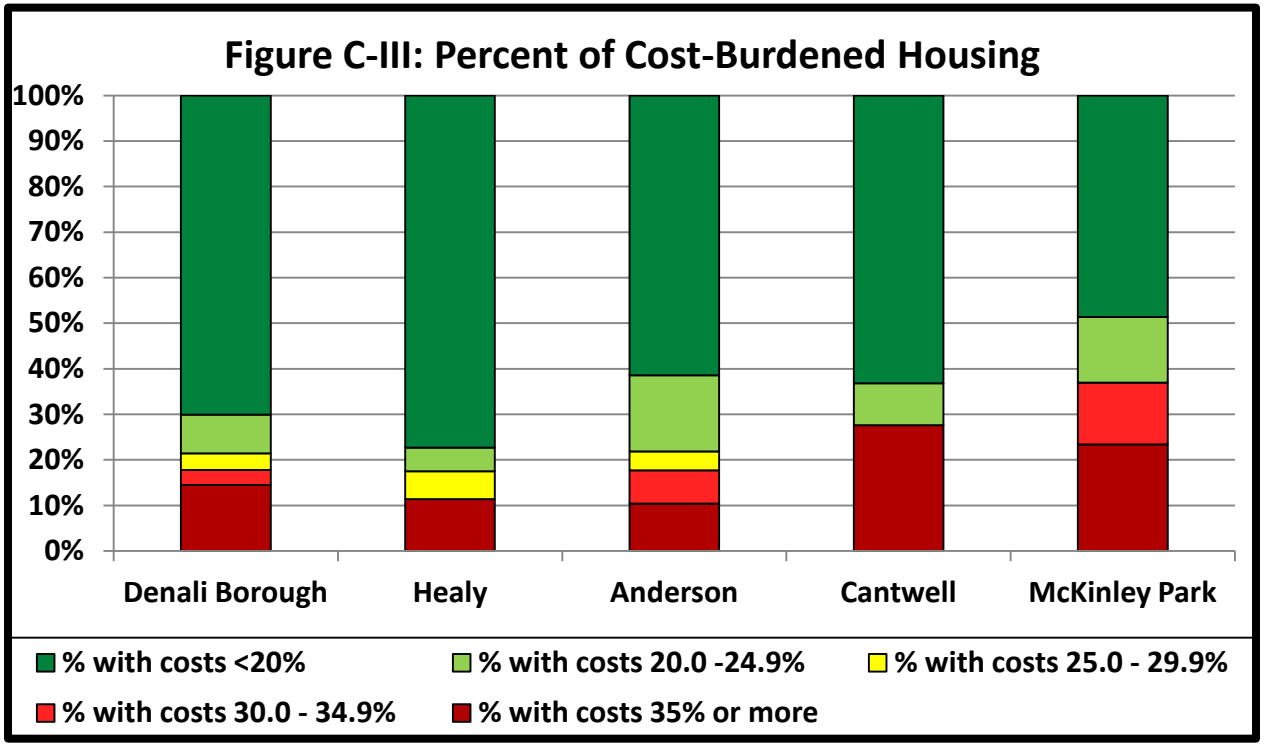
Average annual energy costs in the Denali Borough are estimated to be the highest in the state. Homes in the census area use an average of 225 million BTUs of energy annually, for a cost of $8,640 per year. The highest energy costs are found in the community of Healy, where residents pay an average annual cost of $9,070 despite having the lowest average home heating index of the census area (8 BTUs/square foot/Heating Degree Day). The community of Cantwell pays the lowest annual energy cost, $6,546, or approximately 76% of the average census area costs. As it uses roughly 82% of the census area energy use average, this may be due to the fact that their homes are 600 square feet smaller than the Denali Borough average. The highest home heating index is 10.3 BTUs/ft^2/HDD in the community of Anderson, though residents there pay approximately $600 less in annual energy costs than residents of Healy.



Approximately 16% of housing units in the Denali Borough have completed either the Weatherization, Home Energy Rebate, or a BEES program. The greatest participation has occurred in the community of Healy, where 20% of housing units have completed one of the programs. On the other hand, an estimated zero units in McKinley Park have participated in a program. Also, between 20% and 40% of housing units built in the 1990s or 2000s have an HRV or continuous mechanical ventilation system.

Affordability

According to ACS estimates[1], between 11% and 37% of households in the communities of Denali Borough are cost-burdened, or spend more than 30% of their annual income on housing costs. The most affordable community is Healy, where only 11% of households are cost-burdened. Residents of Healy also have the highest median household income of $96,250. The lowest median income, $52,542, is found in Cantwell but the most cost-burdened community is McKinley Park, where 37% of households are cost-burdened. Cantwell and McKinley Park have significantly more housing affordability issues than the other communities in the census area, with roughly 1 in 4 and 1 in 3 households spending more than 30% of their income on housing costs.



[1] CCHRC's analysis of ACS energy costs indicate that there are systematic underestimations for rural Alaska, which suggests that ACS-based cost burdened housing estimates are low. See Appendix A, "Analysis of American Community Survey Energy Cost Estimates" for more details.

Community, Regional, and Statewide Housing Characteristics

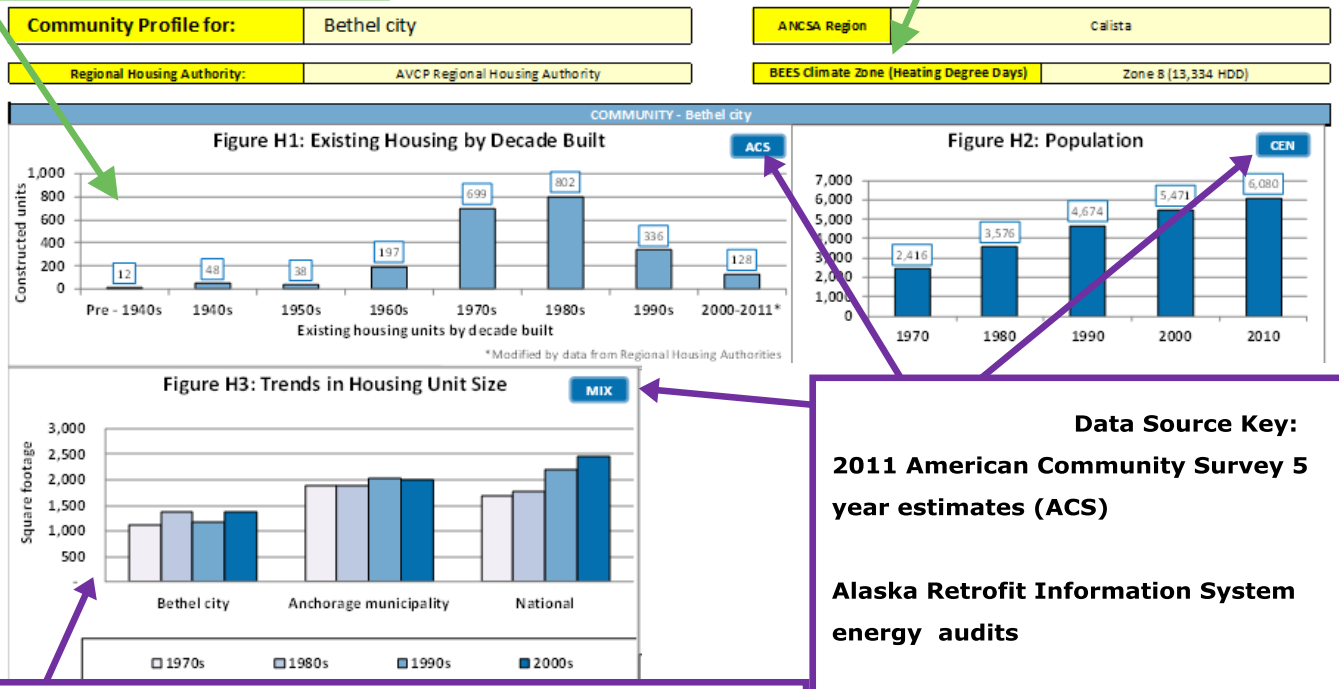
This census area summary only includes the highlights of housing characteristics at the census area level. Detailed data profile with charts and tables for both the census area and for each of the communities within it follow. The 2014 Alaska Housing Assessment provides a significant amount of data and analysis at statewide, ANCSA region, census area, and community levels. This assessment provides a statewide analysis of housing characteristics, how they compare to national numbers, and the estimated housing needs. Within the 2014 Alaska Housing Assessment, written summaries are available for each individual ANCSA region and census area, and data profiles are available for each community and census area characterizing the housing stock from the perspective of community, overcrowding, energy and affordability. These different tiers of information and analysis allow researchers, housing authorities, policymakers and others to generate answers to specific questions. For a detailed discussion of estimating housing need and comparison of methods to previous Housing Assessments, see Appendix B, "Statewide Need Assessment" of the 2014 Alaska Housing Assessment.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

1

This graph show the breakdown of *current* housing stock by the decade in which the housing units were built. It does *not* show trends over time.

The Alaska Building Energy Efficiency Standard (BEES) was established by AHFC for the State of Alaska to promote the construction of energy efficient buildings. The standards for specific building components are divided into four climate zones, from Zone 6 in Southeast AK to Zone 9 on the North Slope.



Data Source Key:

2011 American Community Survey 5 year estimates (ACS) — ACS

Alaska Retrofit Information System energy audits — ARIS

2010 Decennial Census — CEN

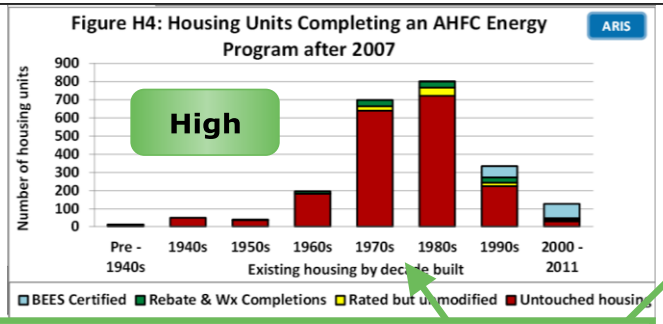
Mixed data source; see individual graphs for details. — MIX

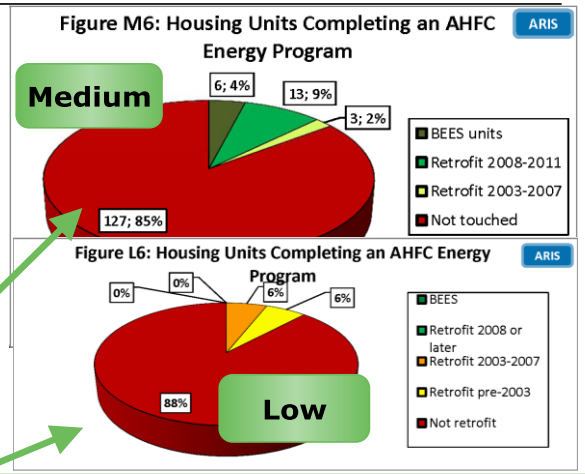
Data Sources: National trends come from the 2009 Residential Energy Consumption Statistics published by the U.S. Energy Information Administration. Anchorage and census area data come from the Alaska Retrofit Information System.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

1

Energy program activity within communities with high, medium and low amounts of ARIS data available. (See p.7 of "How to Interpret" for detail on data levels).





Communities - AHFC Energy Program Activity

High Data - Reported by decade built for the housing units.

Medium Data - Reported by percent of total housing units touched.

Low Data - Have few or no post-2008 Weatherization/Rebate completions or BEES certifications in the ARIS database.

- **PCE = Power Cost Equalization**
- **Average Annual Energy Cost with PCE: The cost to the household after it has been lowered by the PCE subsidy.**
- **Without PCE: The actual energy cost, including the amount paid by the State for PCE.**

American Community Survey (ACS) Data:

Complete Plumbing: Includes hot & cold running water, a flush toilet, and a bathtub or shower within the home.

Complete Kitchen: Includes a sink with a faucet, a stove/ range, and a refrigerator.

ACS

Houses Lacking Complete Plumbing or Kitchen Facilities	# House-holds	% House-holds
Lack complete plumbing	3	10%
Lack complete kitchen	0	0%

ARIS

Estimated Total Community Space Heating Fuel Use by Type		
Fuel Oil	20,816	(gallons)
Nat Gas	-	(ccf)
Electricity	15,459	(kWh)
Wood	3	(cords)
Propane	-	(gallons)
Coal	-	(tons)

ARIS

Avg Annual Energy Cost with PCE	$5,265
Avg Annual Energy Cost without PCE	$6,643

ARIS

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost ($ / gallon)	$5.16
Electricity with PCE ($/kWh)	$0.03
Electricity cost without PCE ($/kWh)	$0.27

Weatherization Program Retrofits (funding increased in 200	
Date Range	Units
2008-2011	17
2003-2007	-
1990-2002	10

CEN

Housing Stock Estimates	Nu
All Housing	
All Occupied Housing	
A sing	
Vacant Housing for Sale or Rent	

Units weatherized before 2008 are eligible to participate in the program again. (Data source: Alaska Housing Finance Corporation).

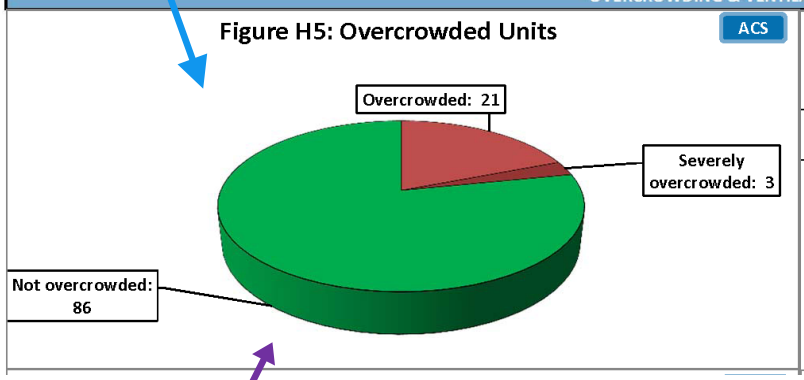
How to Interpret the Profile: Data Sources, Definitions & Clarifications

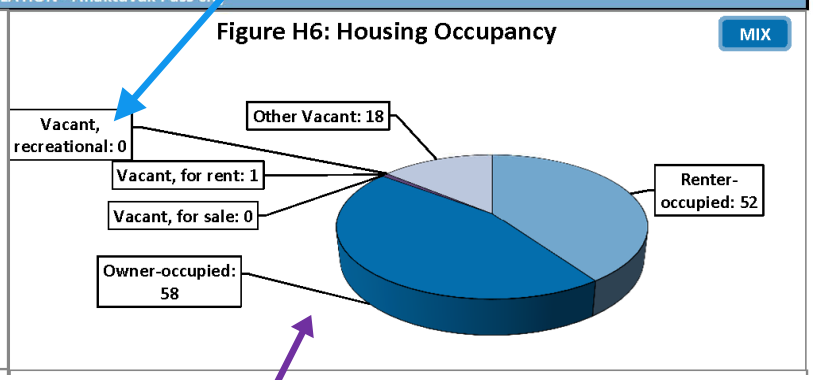
2

Overcrowded: Housing units with more than 1 person per room
Severely Overcrowded: Housing units with more than 1.5 people per room.
"Rooms" include bedrooms, living rooms, dining rooms, kitchens, and other finished, separated spaces, but not including bathrooms, porches, balconies, foyers, halls, or unfinished basements.

Recreational: For seasonal, recreational, or occasional use.

OVERCROWDING & VENTILATION - Anaktuvuk Pass cit





Data Source: 2011 American Community Survey 5-year estimates

Data Sources: The number of owner-occupied, renter-occupied, and total vacant units are taken from the 2011 ACS 5-year estimates. Data for vacancy type, only available from the decennial Census, were derived by taking the decennial census ratios by vacancy type and applying them to the total number of vacant units.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

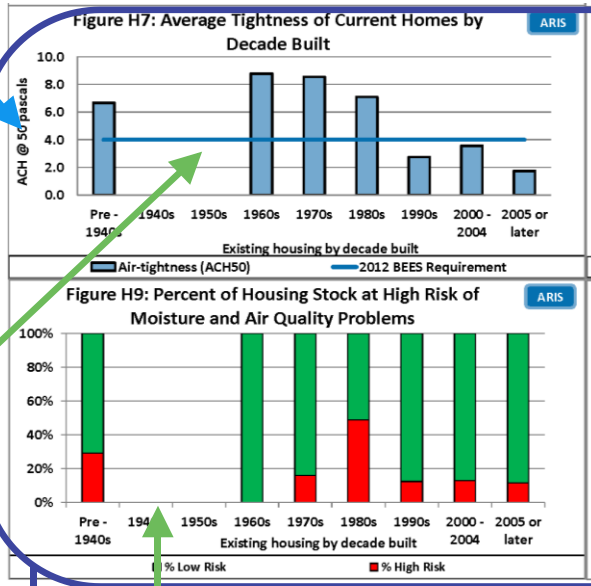
2

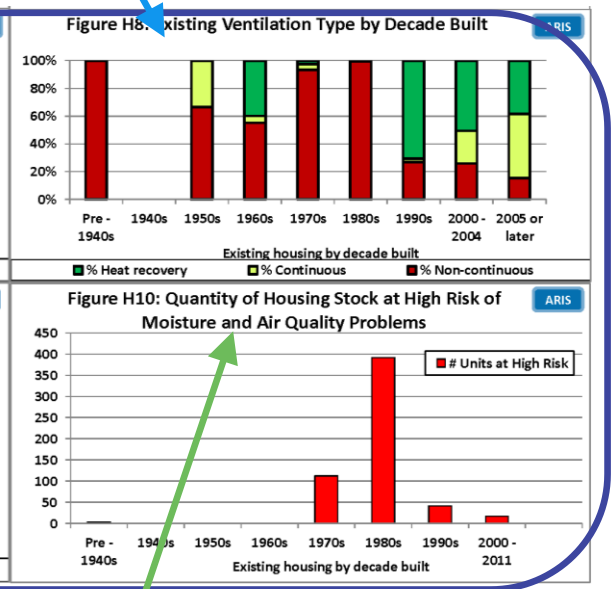
Heat Recovery: Continuous mechanical ventilation with heat recovery operated with automatic controls.

Continuous: Mechanical ventilation without heat recovery operated with automatic controls.

Non-Continuous ventilation: Includes homes with range and/or bath fans not operated using automatic controls.

ACH50: The results of a blower door test to measure building air leakage. Smaller numbers indicate tighter buildings. Tighter buildings lose less heated air to the outside and thus use less energy for space heating.





The 2012 Building Energy Efficiency Standard (BEES) for air-tightness is for reference only, as it was implemented after the majority of homes in Alaska were built.

Data Source: Alaska Retrofit Information System

Decades with no bar lack sufficient data for reporting. They should not be considered zero quantities.

High Risk of Moisture and Air Quality Problems: Note that moisture or poor indoor air quality have not been physically measured; these houses are considered "at-risk" because they are relatively air tight (less than 0.5 estimated natural air changes per hour) and do not have a continuous ventilation system.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

3

Rating stars and points are based on AHFC's AkWarm energy rating system.

Average annual energy cost: Includes all end uses. Costs are estimated using January 2013 energy prices, and include reductions from the PCE program.

Space Heating, DHW, Appliances: Estimated annual energy for the end uses of: Space Heating, Domestic Hot Water, and all other energy including lights, appliances, and electronics.

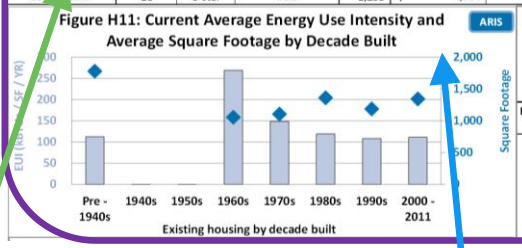
ECI: Energy Cost Index, the amount of money spent on energy per year divided by square footage.

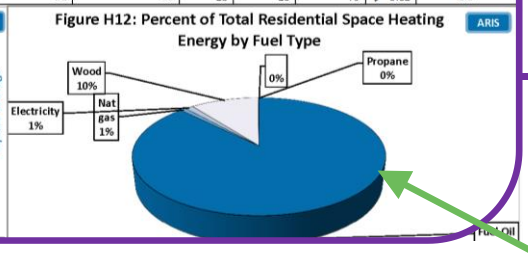
Home Heating Index: The energy used per square foot per year divided by the area's heating degree days.

The number of AkWarm records from each decade built that were used to calculate the averages reported.

Current Fairbanks Housing Energy Characteristics By Decade Built

Current Residential Units by Year Built	Number of Records	Avg Energy Rating	Avg Energy Rating Points	Avg Sq. Feet	Avg. Annual Energy Cost (with PCE)	Avg. Annual Energy Use (million BTUs)	Avg Ann Energy by End Use (million Btus)			Avg. EUI (kBTUS/SF)	Avg. ECI ($ / SF)	Avg. Home Heating Index
							Space Heating	DHW	Appliances			
OVERALL	419	3-star	70.7	1,237	$ 8,065	160	102	27	26	132	$ 6.97	6.5
Pre- 1940	7	3-star	68.3	1,779	$ 11,107	199	145	21	33	113	$ 6.66	6.4
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	15	2-star	52.3	1,056	$ 11,087	287	225	35	27	269	$ 10.60	16.0
1970- 79	71	2-star plus	64.5	1,106	$ 7,961	151	105	21	25	149	$ 8.09	7.8
1980- 89	113	3-star plus	74.7	1,361	$ 8,239	157	100	30	26	119	$ 6.40	5.8
1990- 99	111	4-star	79.9	1,187	$ 6,395	122	57	21	20	108	$ 5.58	4.7
2000- 2004	71	3-star plus	77.5	1,388	$ 8,435	143	80	35	27	118	$ 7.24	5.2
2005- later	28	5-star	91.9	1,233	$ 4,504	92	39	28	25	79	$ 3.82	2.5





Data Source: AkWarm ratings from AHFC's Alaska Retrofit Information System (ARIS).

Average energy characteristics of the *current* housing stock by decade built (high data communities) or by pre-/post-retrofit and new construction categories (medium data communities).

Energy Use Intensity (EUI) is the total amount of energy used per year per square foot of floor space.

This is the community's breakdown by fuel type of the energy (BTUs) used for home space heating. It is not the percent of housing using a given fuel in primary space heating devices. Because wood burning devices are inefficient, they may use a significant portion of total energy even if no homes in a community use wood as a primary fuel.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

3

Average building envelope characteristics of the *current* housing stock by decade built (high data communities) or by pre-/post-retrofit and new construction categories (medium data communities).

ACH50: The results of a blower door test to measure building leakiness. Smaller numbers indicate tighter buildings.

R-value: the capacity to resist heat flow. The higher the value, the better the insulator.

U-value: the conductance to heat flow. The lower the value, the better the insulator.

Data Sources: AkWarm ratings from AHFC's Alaska Retrofit Information System (ARIS).

Current Bethel city Housing Envelope Characteristics By Decade Built

Current Residential Units by Year Built	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	419	6.4	23	17	7	30	NR	2	0.36	0.27	0.54
Pre- 1940	7	6.7	26	21	NR	30	NR	NR	0.30	NR	0.40
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	15	8.8	16	14	NR	21	NR	NR	0.44	NR	1.65
1970- 79	71	8.5	20	15	NR	29	NR	NR	0.39	NR	0.57
1980- 89	113	7.1	29	17	NR	32	NR	NR	0.30	NR	0.44
1990- 99	111	2.7	56	31	NR	50	NR	NR	0.19	0.12	0.29
2000- 2004	71	3.6	13	21	NR	36	NR	NR	0.27	0.23	0.40
2005 or later	28	1.7	41	22	NR	41	NR	NR	0.20	NR	0.31
BEES 2009 - Climate Zone 8		7.0	38	30	15	38	15	15	0.22	0.22	0.22
BEES 2012 - Climate Zone 8		4.0	48	30	15	38	15	15	0.22	0.22	0.22

The number of AkWarm records from each decade built that were used to calculate the averages reported.

"NR" is used when there are insufficient records to protect the confidentiality of the occupants.

Color Coding--

Green: the average value meets or exceeds the 2012 BEES requirement.

Yellow: value is 75-99% of the 2012 BEES requirement.

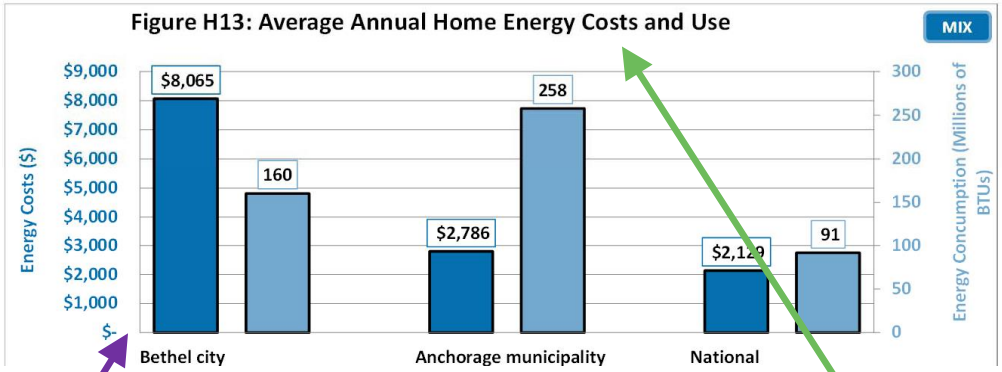
Red: value is less than 75% of the 2012 BEES requirement.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

4

Communities are categorized in this report by the amount of ARIS data available, and reporting is more extensive for locations with more data. Data quantities are defined as--
***High*: ARIS records exist for housing units built in 7 of the 9 date ranges use in this report, and there are either more than 50 records or records totaling 20 percent or more of the total number of housing units.**
***Medium*: There are three or more ARIS records. Data are presented for an "overall" group if there are "As Is" ARIS records totaling at least 10% of the community's occupied housing units.**
***Low*: There are fewer than three ARIS records for the location.**

Community Template - Data Quantity: High



Housing Information	Avg Household Size (# of people)
All-occupied	3.4
Owner-occupied	3.7
renter-occupied	3.1

Data Source:
2007-2011 American Community Survey

Data Sources: Census Area and Anchorage data come from AFHC's Alaska Retrofit Information System.
National figures come from the U.S. Energy Information Administration's 2009 Residential Energy Consumption Statistics (RECS) for "cold"/"very cold" climate regions.

Average annual home energy costs and usage estimates are for all end uses, including space heating, domestic hot water, lighting and appliances. Costs are estimated using January 2013 energy prices and include reductions from the PCE program.

How to Interpret the Profile: Data Sources, Definitions & Clarifications

4

Data Source: 2007-2011 American Community Survey.

"Value" is determined by responses to the ACS question: "How much do you think this house and lot, apartment, or mobile home (and lot, if owned) would sell for if it were for sale?"

Household income includes all earnings from salaries, stocks, gifts, public assistance, etc.

Data Source: Median income comes from 2007-2011 ACS estimates; energy costs come from AHFC's Alaska Retrofit Information System (ARIS).

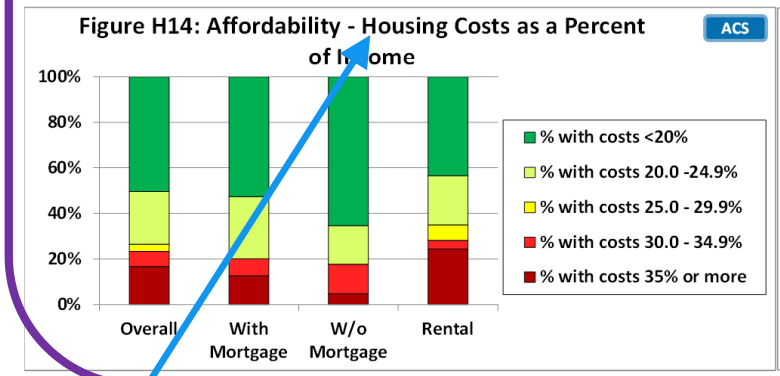
Owner-occupied House with Mortgage, Median Value
$226,800

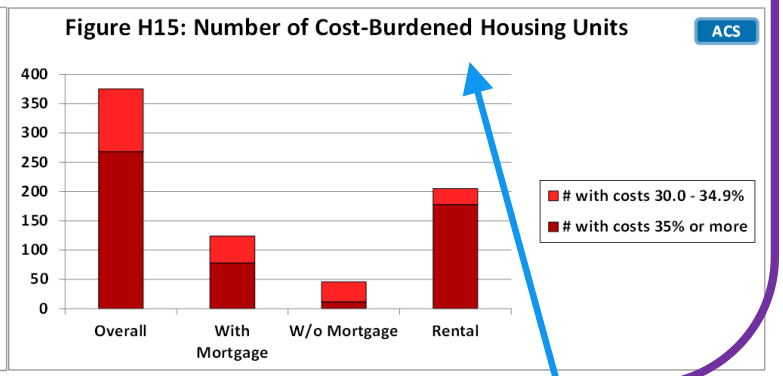
Owner-ocupied House without a Mortgage, Median Value
$119,600

Median Annual Household Income	
Housing Units	Household Income
All-occupied	$ 91,302
Renter-occupied	$ 70,170
Owner-occupied	$ 107,908
w/ mortgage	$ 111,167
w/o mortgage	$ 70,400

Median Household Expenses		
	Monthly	Annual
All-occupied	$ 1,369	$ 16,428
Gross rent	$ 1,201	$ 14,412
Owner-occupied	$ 1,610	$ 19,320
Housing units w/ mortgage	$ 1,854	$ 22,248
Housing units w/out a mortgage	$ 680	$ 8,160

Avg % of Median Income Spent on Energy	8.8%





Rental housing costs: Contract rent, fuels, utilities.

Owner housing costs: Mortgage payments, property taxes, insurance, fuels, utilities, condo fees.

Households are considered "cost burdened" if they spend 30% or more of total household income on housing costs. Households spending more than this amount on housing costs may have difficulty affording basic necessities such as food, transportation, and medical care.

Census Area Profile for:	Denali Borough

ANCSA Region:	Doyon

Regional Housing Authority:	Interior Regional Housing Authority

BEES Climate Zone (Heating Degree Day Range)	Zone 8 (12,600 - 16,800 HDD)

COMMUNITY - Denali Borough

Figure C1: Existing Housing by Decade Built

ACS

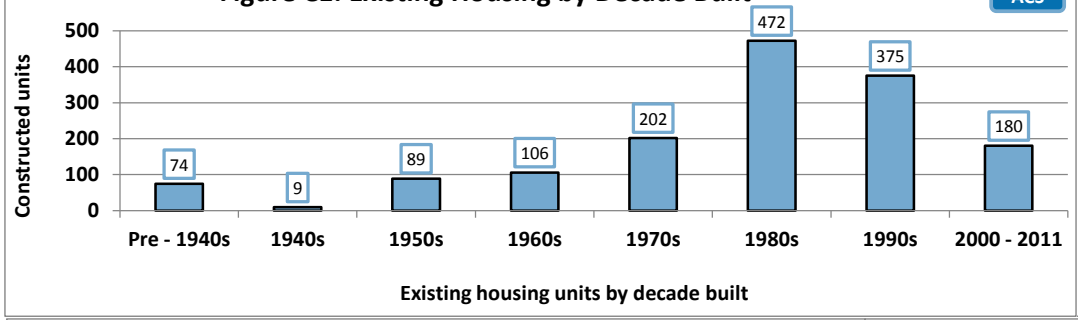


Figure C2: Population

CEN

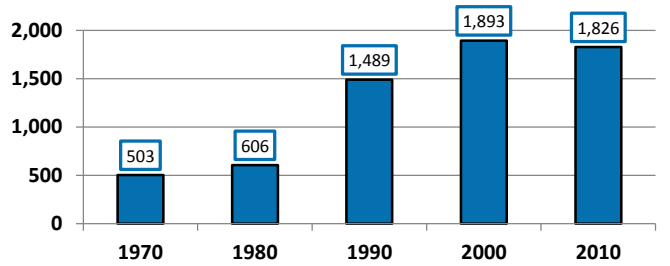


Figure C3: Trends in Housing Unit Size

MIX

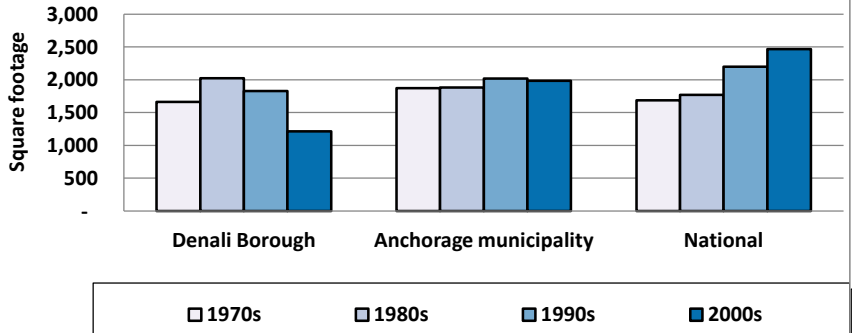
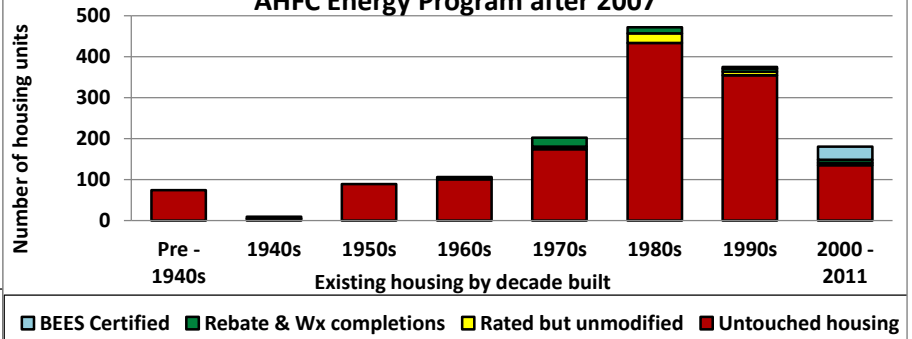


Figure C4: Housing Units Completing an AHFC Energy Program after 2007

ARIS



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	94	13%
Lack complete kitchen	93	13%

Avg Annual Energy Cost with PCE	$8,640
Avg Annual Energy Cost without PCE	$10,405

Weatherization Retrofits (funding increased 2008)	
Date Range	Units
2008 -2011	46
2003-2007	13
1990-2002	67

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	608,472	(gallons)
Natural Gas	-	(ccf)
Electricity	510,600	(kWh)
Wood	1,548	(cords)
Propane	7,704	(gallons)
Coal	352	(tons)

Housing Need Indicators	Number of Units	% Occupied Housing
Overcrowded	52	7%
Housing cost burdened	117	17%
1 Star Homes	62	9%

Housing Stock Estimates	Number of Units
All Housing	1,507
All Occupied Housing	699
All Vacant housing	808
Vacant Housing for Sale or Rent	61

OVERCROWDING & VENTILATION - Denali Borough

Figure C5: Overcrowded Units

ACS

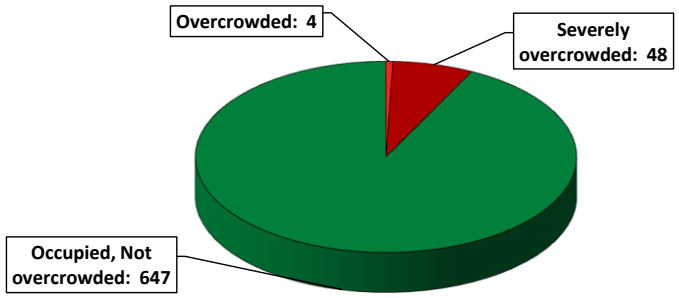


Figure C6: Housing Occupancy

MIX

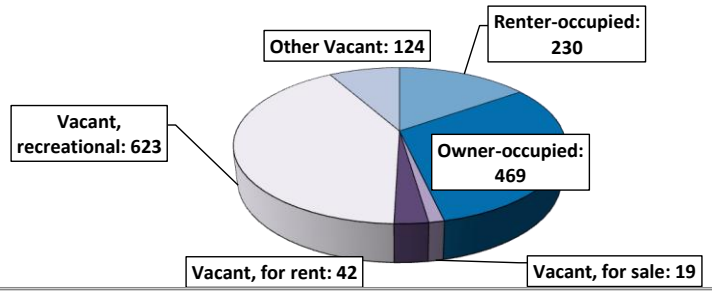


Figure C7: Average Air-Tightness of Current Homes by Decade Built

ARIS

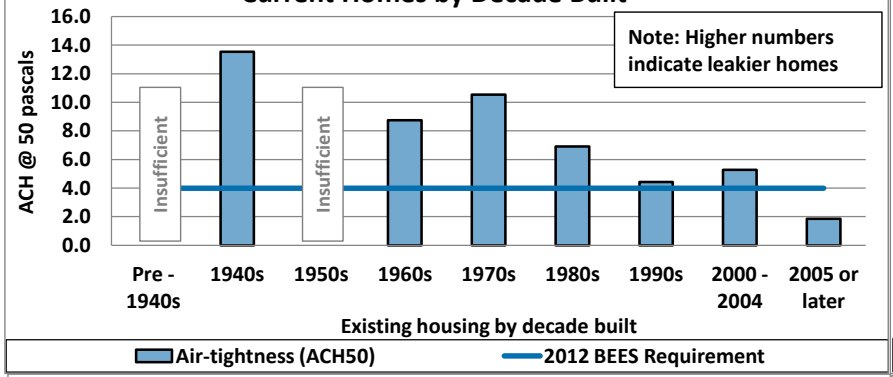


Figure C8: Existing Ventilation Type by Decade Built

ARIS

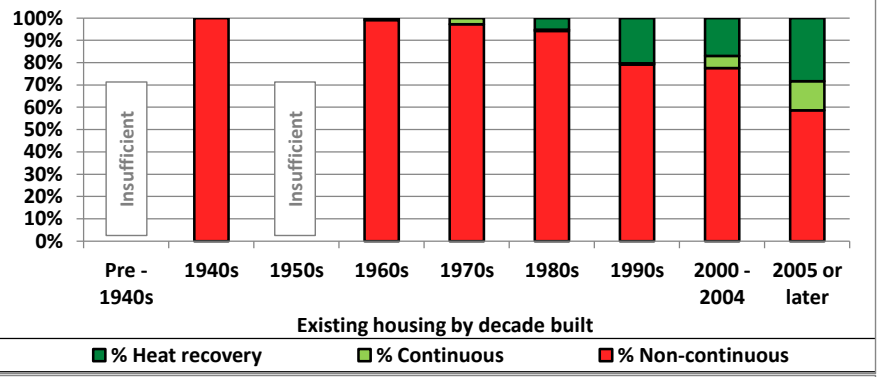


Figure C9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

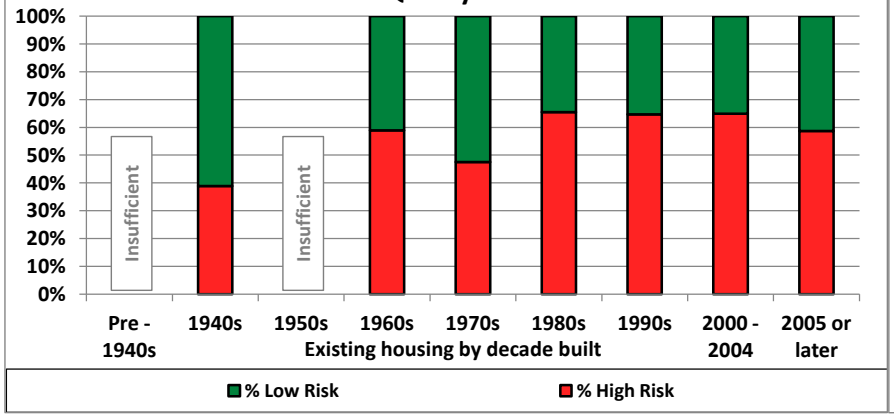
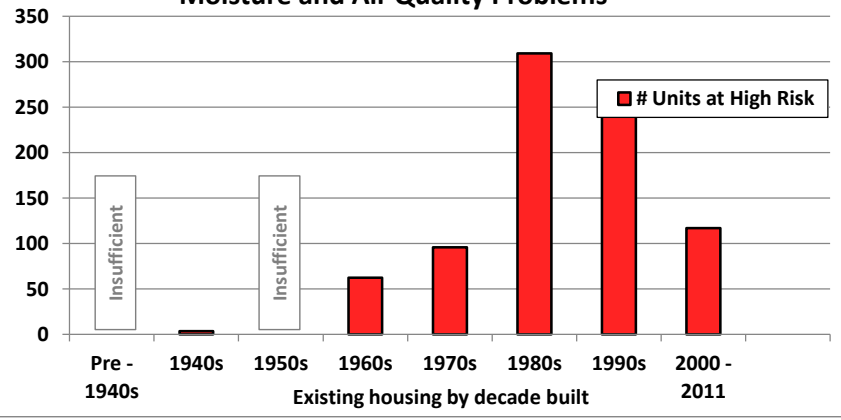


Figure C10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Denali Borough												
Current Denali Borough Housing Energy Characteristics By Decade Built												
Current Residential Units by Year Built	# of AkWarm Records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Annual Energy Cost (with PCE)	Avg. Annual Energy Use (million BTUs)	Avg Ann Energy by End Use (million Btus)			Avg. EUI (kBTUS /SF)	Avg. ECI ($ / SF)	Avg. Home Heating Index
							Space Heating	DHW	Appliances			
OVERALL	155	3-star	72.1	1,838	$8,640	225	170	24	31	141	$5.32	8.5
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	10	2-star	56.8	894	$6,578	161	129	8	24	180	$7.48	11.2
1950- 59	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	9	3-star	72.9	2,201	$8,064	248	202	16	31	162	$5.82	9.7
1970- 79	50	2-star	58.7	1,660	$9,164	267	217	21	28	168	$5.76	10.6
1980- 89	48	3-star	72.2	2,022	$9,699	238	185	22	31	126	$5.02	7.6
1990- 99	29	4-star	79.0	1,829	$8,120	201	140	30	30	133	$4.99	7.3
2000- 2004	25	2-star plus	63.7	1,216	$6,171	210	160	19	31	178	$5.17	10.9
2005 or later	27	4-star plus	84.1	1,656	$7,588	151	100	20	30	94	$5.36	4.8

Figure C11: Current Average Energy Use Intensity and Average Square Footage by Decade Built

ARIS

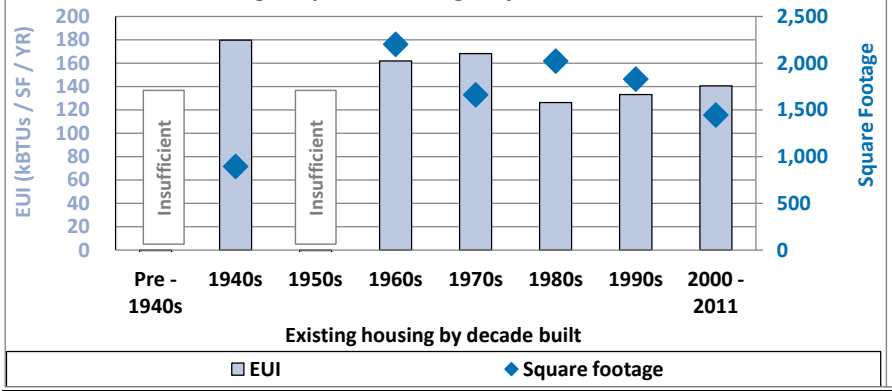
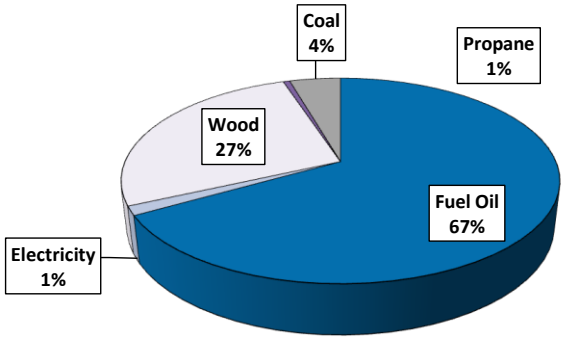


Figure C12: Percent of Total Residential Space Heating Energy by Fuel Type

ARIS

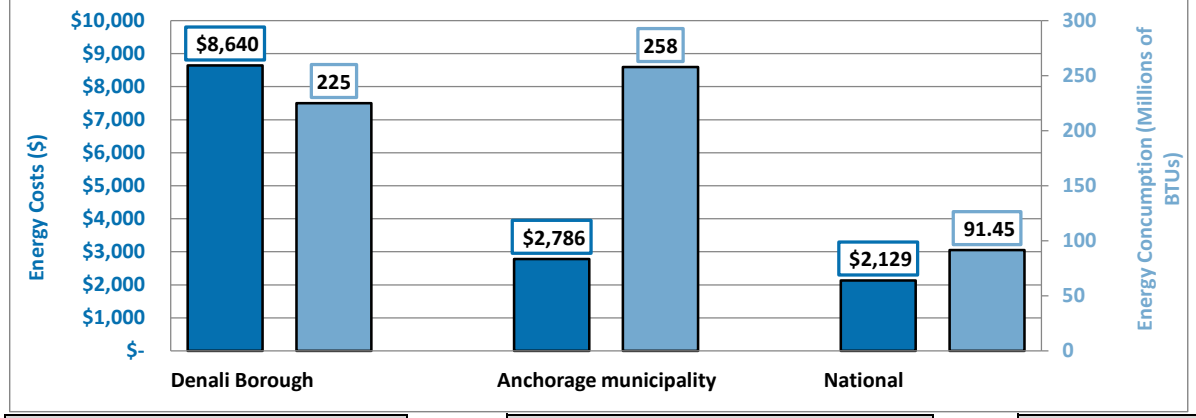


Current Denali Borough Housing Envelope Characteristics By Decade Built											
Current Residential Units by Year Built	# of AkWarm Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	155	7.2	31	15	12	23	3	3	0.29	0.29	0.51
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	10	13.5	36	13	NR	NR	NR	NR	0.31	NR	0.56
1950- 59	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	9	8.7	30	22	NR	NR	4	NR	0.33	NR	0.64
1970- 79	50	10.5	26	14	8	19	3	3	0.31	0.48	0.63
1980- 89	48	6.9	30	15	13	26	3	3	0.29	0.24	0.49
1990- 99	29	4.4	35	19	13	27	6	3	0.28	0.17	0.42
2000- 2004	25	5.3	34	14	16	23	6	3	0.31	0.15	0.46
2005 or later	27	1.9	43	18	20	NR	6	3	0.22	NR	0.32

BEES 2009 - Climate Zone 8	7.0	38	30	15	38	15	15	0.22	0.22	0.22
BEES 2012 - Climate Zone 8	4.0	48	30	15	38	15	15	0.22	0.22	0.22

Figure C13: Average Annual Home Energy Cost and Use

MIX



Housing Information	Avg Household Size (# of people)
All-occupied	2.1
Owner-occupied	2.2
Renter-occupied	1.9

Median Value of Owner-occupied House with Mortgage
$221,100

Median Value of Owner-occupied House without a Mortgage
$119,100

Median Annual Household Income	
Housing Units	Household Income
All-occupied	$ 82,898
Renter-occupied	$ 82,000
Owner-occupied	$ 83,011
w/ mortgage	$ 96,587
w/o mortgage	$ 64,722

Median Housing Costs		
	Monthly	Annual
All-occupied	$ 765	$ 9,180
Gross rent	$ 572	$ 6,864
Owner-occupied	$ 1,050	$ 12,600
Housing units w/ mortgage	$ 1,325	$ 15,900
Housing units w/out a mortgage	$ 270	$ 3,240

Avg % of Median Income Spent on Energy	10.4%

Figure C14: Affordability - Housing Costs as a Percent of Income

ACS

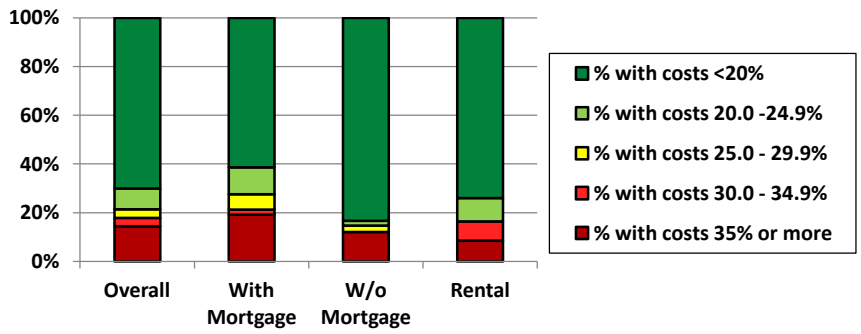
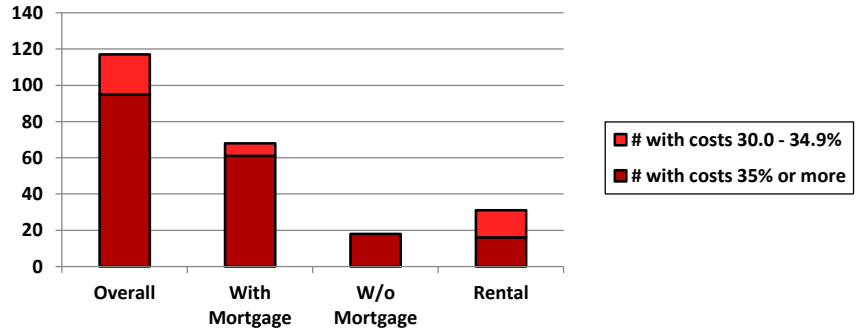


Figure C15: Number of Cost-Burdened Housing Units

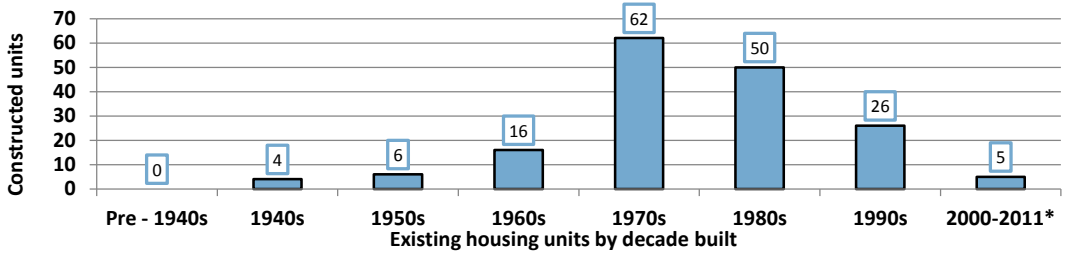
ACS



Community Profile for:	Anderson city	ANCSA Region	Doyon
Regional Housing Authority	Interior Regional Housing Authority	BEES Climate Zone (Heating Degree Days)	Zone 8 (13,561 HDD)

Figure M1: Existing housing by decade built

ACS



*Modified by data from Regional Housing Authorities

Figure M2: Population

CEN

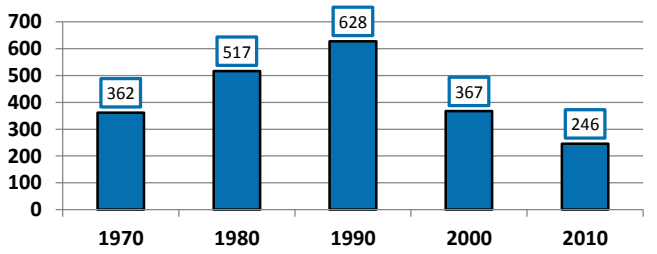


Figure M3: Overcrowded Units

ACS

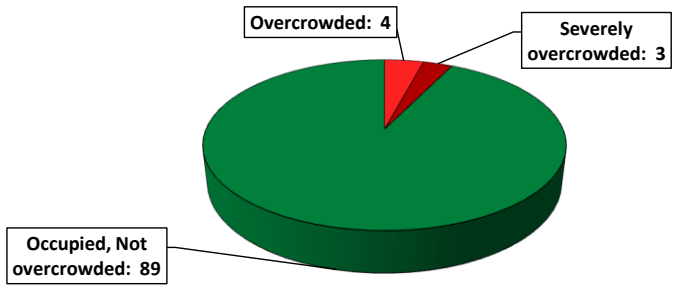
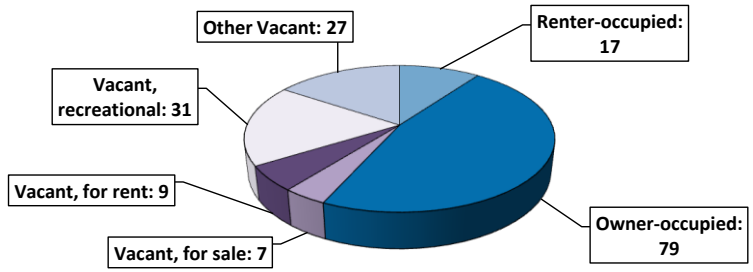


Figure M4: Housing Occupancy

MIX



Anderson city Housing Energy Characteristics

Residential Unit Categories	Number of records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Ann Energy Cost	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBTUS/SF	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	14	2-star plus	64.3	2,031	$ 8,549	270	172	$4.90	10.6	77%
Retrofit units	9	3-star plus	75.6	2,164	$ 6,911	207	121	$3.71	7.3	56%
New construction	4	5-star	88.9	1,722	$ 6,139	162	109	$4.14	5.3	0%
Overall	27	2-star plus	65.5	2,031	$ 8,405	264	168	$4.82	10.3	74%

Anderson city Housing Envelope Characteristics

Residential Unit Categories	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
Pre-retrofit units	14	7.8	26	14	8	14	3	3	0.33	0.39	0.57
Retrofit units	9	6.4	38	15	18	15	3	3	0.31	0.39	0.59
New construction	4	1.9	54	19	20	NR	NR	10	0.19	NR	0.25
Overall	27	7.6	27	14	8	14	3	3	0.32	0.39	0.57
BEES 2009		7.0	38	30	15	38	15	15	0.22	0.22	0.22
BEES 2012		4.0	48	30	15	38	15	15	0.22	0.22	0.22

Figure M5: Average Annual Home Energy Costs and Use

MIX

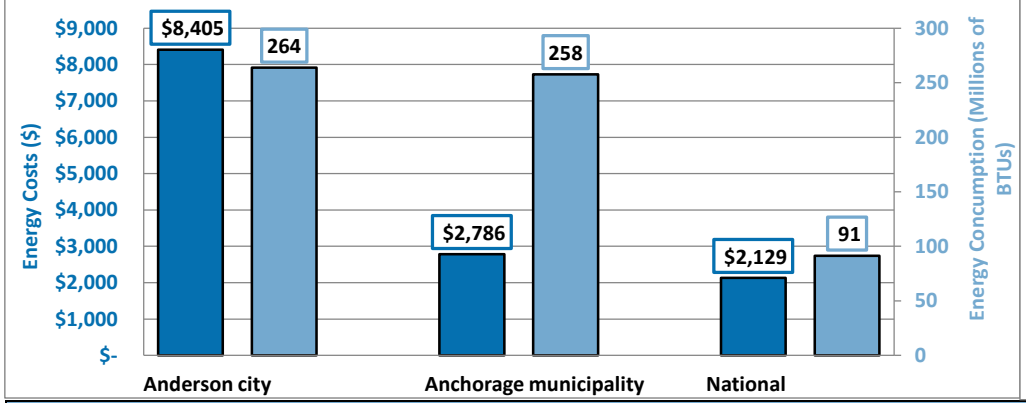
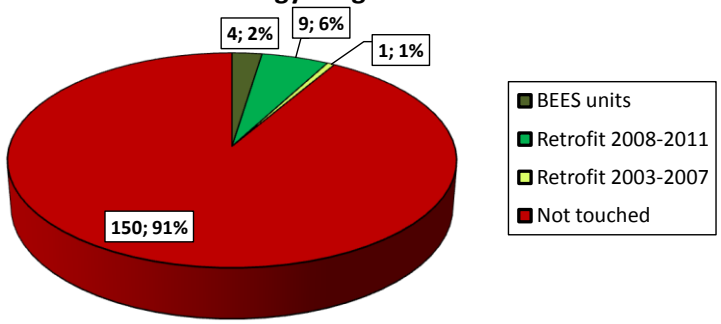


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Anderson city

Owner occupied House with Mortgage, Median Value
$110,200

Owner-ocupied House without a Mortgage, Median Value
$45,700

Median Annual Household Income	
Housing Units	Household Income
All-occupied	$ 67,500
Renter-occupied	$ 64,375
Owner-occupied	$ 67,639
w/ mortgage	$ 68,542
w/o mortgage	$ 66,250

Median Housing Costs		
	Monthly	Annual
All-occupied	$ 844	$ 10,128
Gross rent	$ 830	$ 9,960
Owner-occupied	$ 863	$ 10,356
Housing units w/ mortgage	$ 1,260	$ 15,120
Housing units w/out a mortgage	$ 263	$ 3,156

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost ($ / gallon)	$ 4.22
Electricity with PCE ($/kWh)	No PCE
Electricity without PCE ($/kWh)	$ 0.20

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	$8,405

Avg % Median Income spent on Energy	12.5%

Housing Stock Estimates	Number of Units
All Housing	169
All Occupied Housing	96
All Vacant housing	73
Vacant Housing for Sale/Rent	16

Figure M7: Affordability - Housing Costs as a Percent of Income

ACS

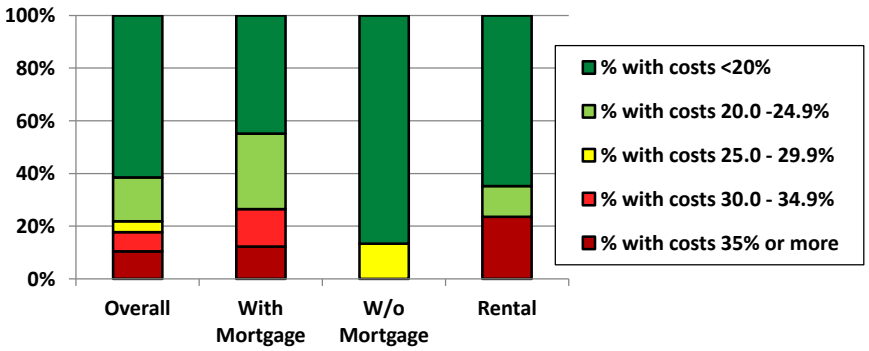
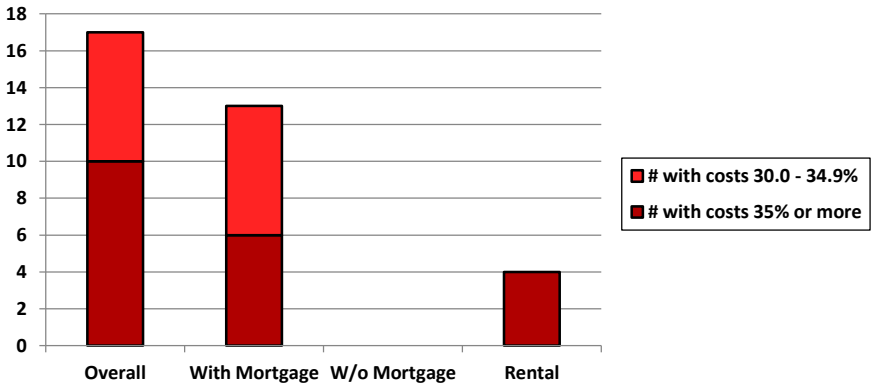


Figure M8: Number of Cost-Burdened Housing Units

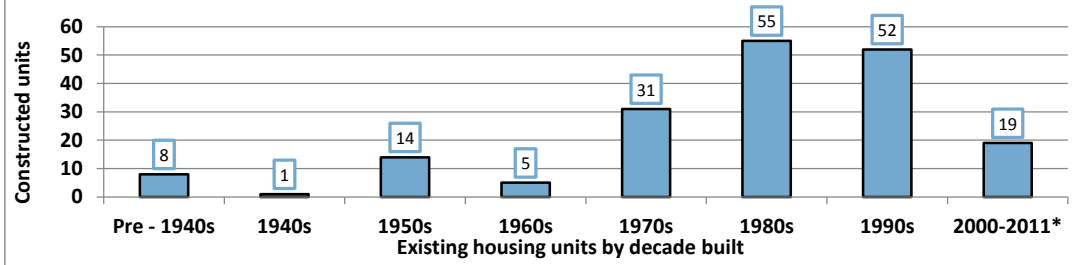
ACS



Community Profile for:	Cantwell CDP	ANCSA Region	Ahtna Inc
Regional Housing Authority	Interior Regional Housing Authority	BEES Climate Zone (Heating Degree Days)	Zone 8 (13,893 HDD)

Figure M1: Existing housing by decade built

ACS



*Modified by data from Regional Housing Authorities

Figure M2: Population

CEN

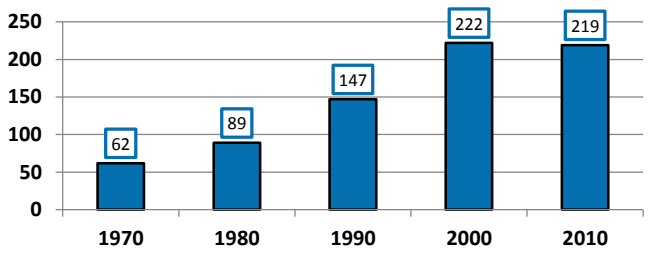


Figure M3: Overcrowded Units

ACS

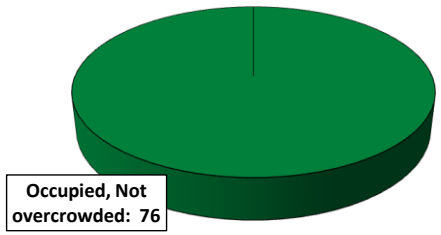
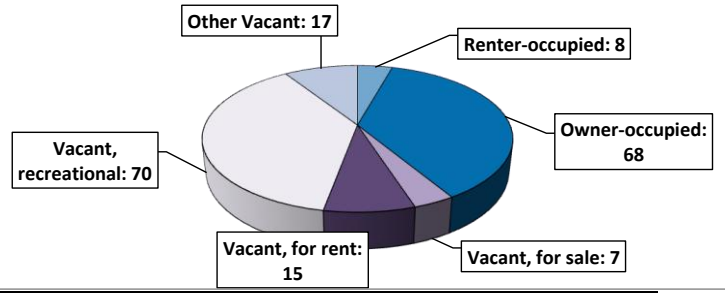


Figure M4: Housing Occupancy

MIX



Cantwell CDP Housing Energy Characteristics

Residential Unit Categories	Number of records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Ann Energy Cost	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBTUS/SF	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	12	2-star plus	67.9	1,242	$ 6,576	182	170	$6.24	9.4	75%
Retrofit units	8	3-star	71.0	1,640	$ 5,878	170	119	$4.18	6.6	70%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	20	3-star	68.0	1,259	$ 6,546	182	167	$6.15	9.3	75%

Cantwell CDP Housing Envelope Characteristics

Residential Unit Categories	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
Pre-retrofit units	12	8.0	30	12	14	24	4	2	0.35	NR	0.51
Retrofit units	8	7.7	33	13	14	23	3	2	0.25	NR	0.51
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	20	8.0	31	12	14	24	4	2	0.35	NR	0.51
BEES 2009		7.0	38	30	15	38	15	15	0.22	0.22	0.22
BEES 2012		4.0	48	30	15	38	15	15	0.22	0.22	0.22

Figure M5: Average Annual Home Energy Costs and Use

MIX

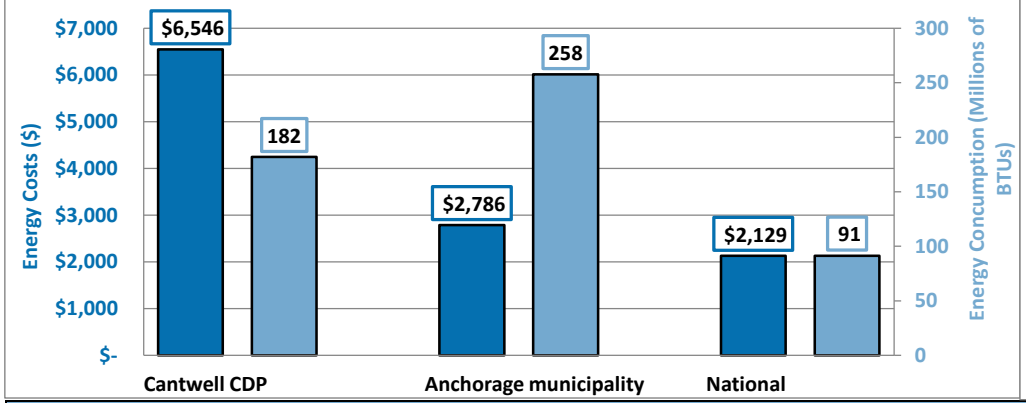
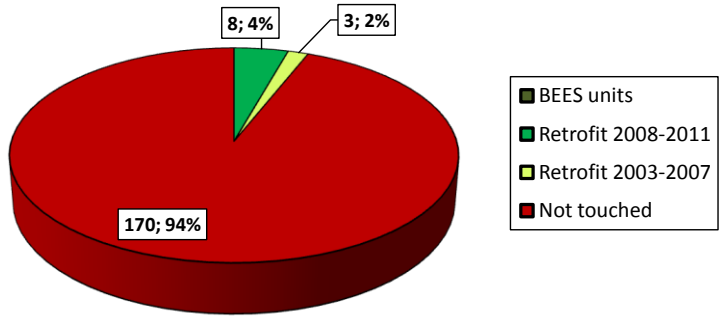


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Cantwell CDP

Owner occupied House with Mortgage, Median Value
$189,300

Owner-ocupied House without a Mortgage, Median Value
$137,500

Median Annual Household Income	
Housing Units	Household Income
All-occupied	$ 53,542
Renter-occupied	$ 82,500
Owner-occupied	$ 52,750
w/ mortgage	$ 60,833
w/o mortgage	$ 42,500

Median Housing Costs		
	Monthly	Annual
All-occupied	$ 725	$ 8,700
Gross rent	$ 725	$ 8,700
Owner-occupied	$ 700	$ 8,400
Housing units w/ mortgage	$ 1,188	$ 14,256
Housing units w/out a mortgage	$ 250	$ 3,000

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost ($ / gallon)	$ 4.25
Electricity with PCE ($/kWh)	No PCE
Electricity without PCE ($/kWh)	$ 0.20

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	$6,546

Avg % Median Income spent on Energy	12.2%

Housing Stock Estimates	Number of Units
All Housing	184
All Occupied Housing	76
All Vacant housing	108
Vacant Housing for Sale/Rent	21

Figure M7: Affordability - Housing Costs as a Percent of Income

ACS

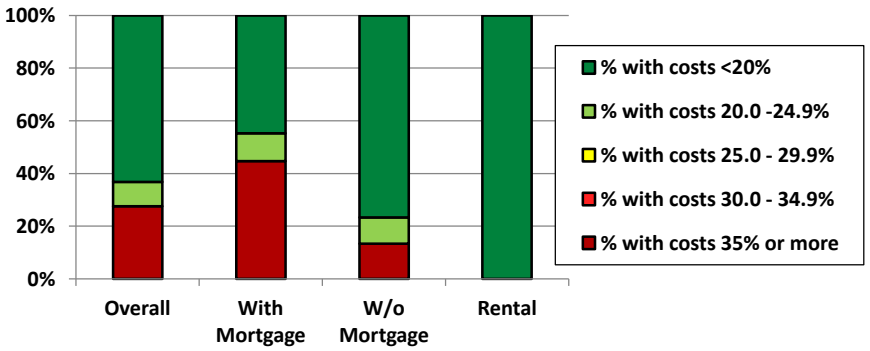
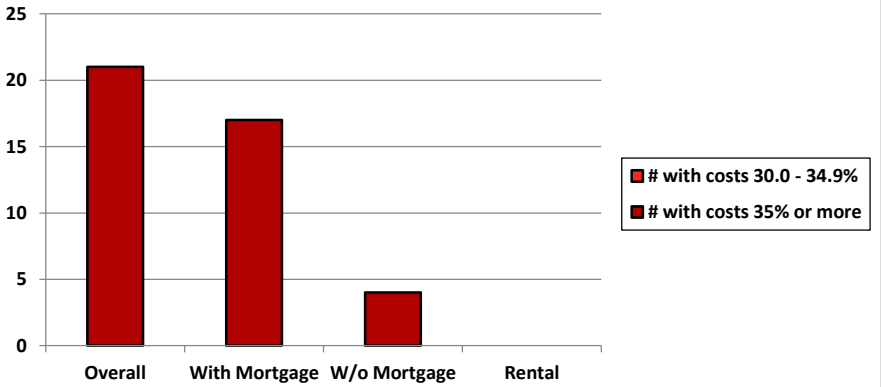


Figure M8: Number of Cost-Burdened Housing Units

ACS



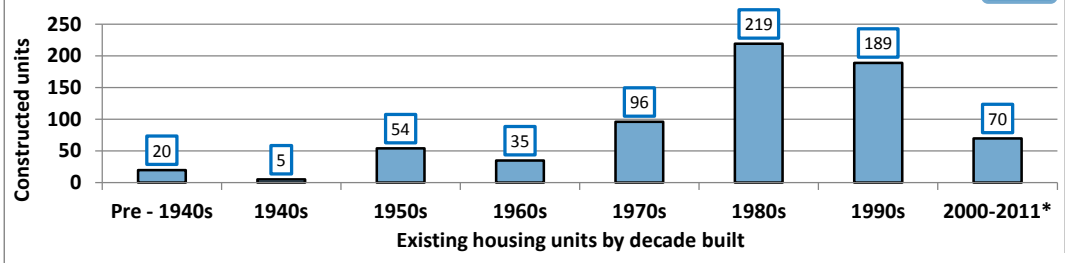
Community Profile for:	Healy CDP
Regional Housing Authority:	Interior Regional Housing Authority

ANCSA Region	Doyon
BEES Climate Zone (Heating Degree Days)	Zone 8 (14,152 HDD)

COMMUNITY - Healy CDP

Figure H1: Existing Housing by Decade Built

ACS



*Modified by data from Regional Housing Authorities

Figure H2: Population

CEN

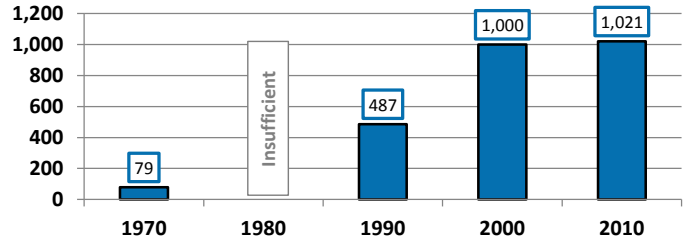


Figure H3: Trends in Housing Unit Size

MIX

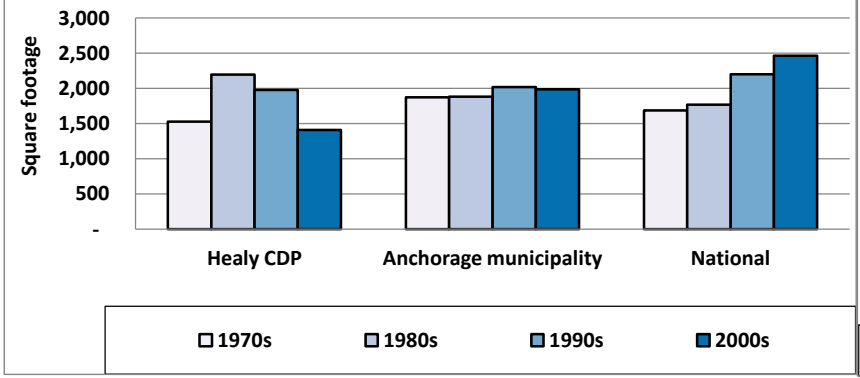
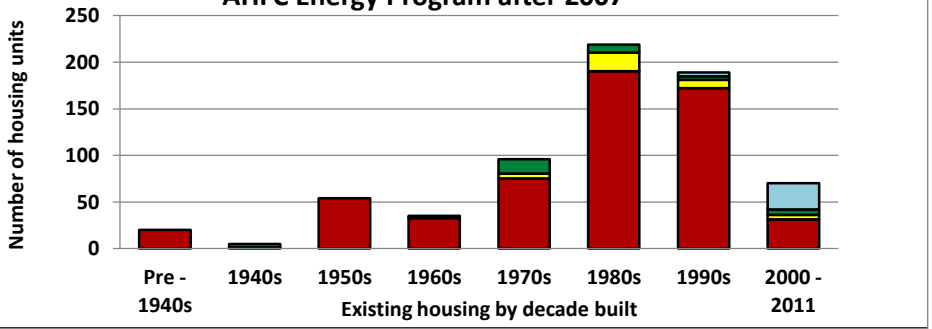


Figure H4: Housing Units Completing an AHFC Energy Program after 2007

ARIS



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	18	5%
Lack complete kitchen	31	9%

Avg Annual Energy Cost with PCE	$9,070
Avg Annual Energy Cost without PCE	$11,532

Weatherization Program Retrofits (funding increased in 2008)	
Date Range	Units
2008-2011	29
2003-2007	9
1990-2002	27

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	290,402	(gallons)
Nat Gas	-	(ccf)
Electricity	247,453	(kWh)
Wood	842	(cords)
Propane	2,028	(gallons)
Coal	208	(tons)

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost ($ / gallon)	$4.25
Electricity with PCE ($/kWh)	No PCE
Electricity cost without PCE ($/kWh)	$0.20

Housing Stock Estimates	Number of Units
All Housing	688
All Occupied Housing	354
All Vacant housing	334
Vacant Housing for Sale or Rent	39

OVERCROWDING & VENTILATION - Healy CDP

Figure H5: Overcrowded Units

ACS

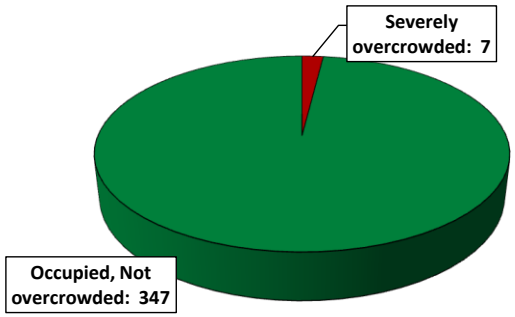


Figure H6: Housing Occupancy

MIX

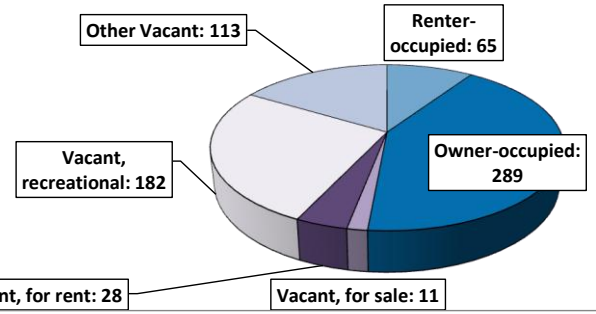


Figure H7: Average Air-Tightness of Current Homes by Decade Built

ARIS

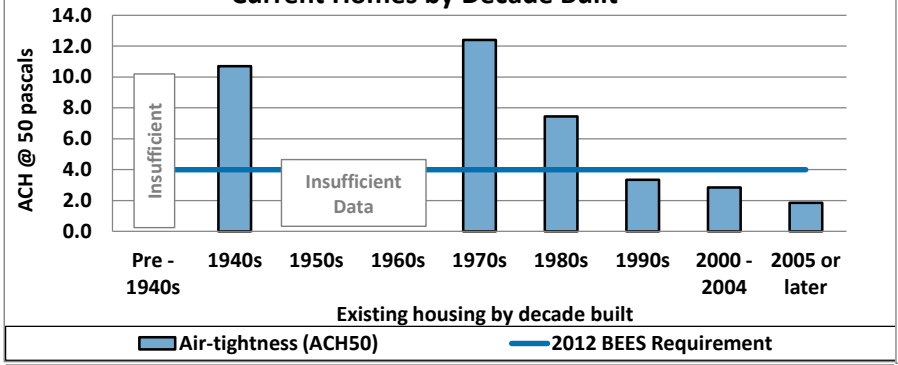


Figure H8: Existing Ventilation Type by Decade Built

ARIS

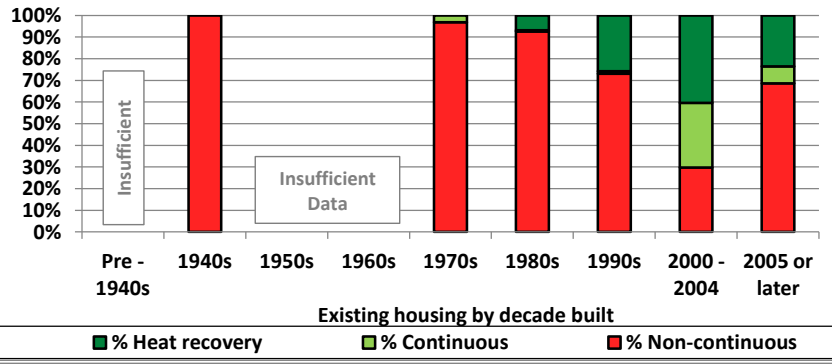


Figure H9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

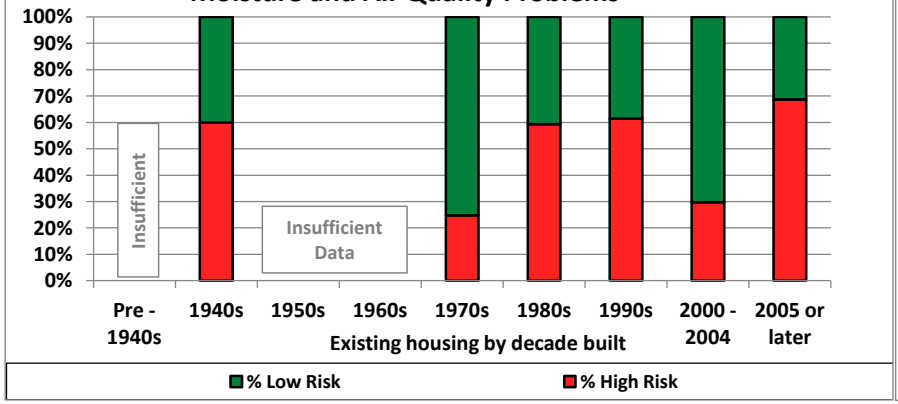
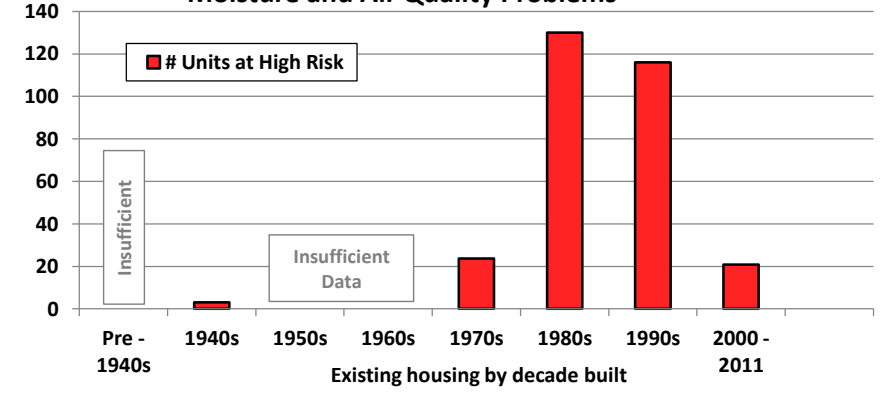


Figure H10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Healy CDP												
Current Healy CDP Housing Energy Characteristics By Decade Built												
Current Residential Units by Year Built	Number of Records	Avg Energy Rating Stars	Avg Energy Rating Points	Avg Sq. Feet	Avg. Annual Energy Cost (with PCE)	Avg. Annual Energy Use (million BTUs)	Avg Ann Energy by End Use (million Btus)			Avg. EUI (kBTUS/SF)	Avg. ECI ($ / SF)	Avg. Home Heating Index
							Space Heating	DHW	Appliances			
OVERALL	121	3-star plus	73.5	1,943	$ 9,070	224	165	26	31	133	$ 5.30	8.0
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	8	2-star plus	64.5	1,011	$ 7,239	176	143	8	25	171	$ 7.22	11.1
1950- 59	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1970- 79	36	2-star	53.3	1,528	$ 9,241	279	230	22	27	193	$ 6.43	12.4
1980- 89	37	3-star	72.8	2,194	$ 10,735	253	196	25	32	119	$ 5.09	7.4
1990- 99	21	4-star	81.1	1,977	$ 8,280	191	126	32	30	110	$ 4.42	5.8
2000- 2004	21	4-star	82.4	1,411	$ 6,347	154	108	18	28	105	$ 4.40	5.8
2005 or later	24	4-star plus	83.5	1,701	$ 7,855	156	106	20	31	94	$ 5.32	4.9

Figure H11: Current Average Energy Use Intensity and Average Square Footage by Decade Built

ARIS

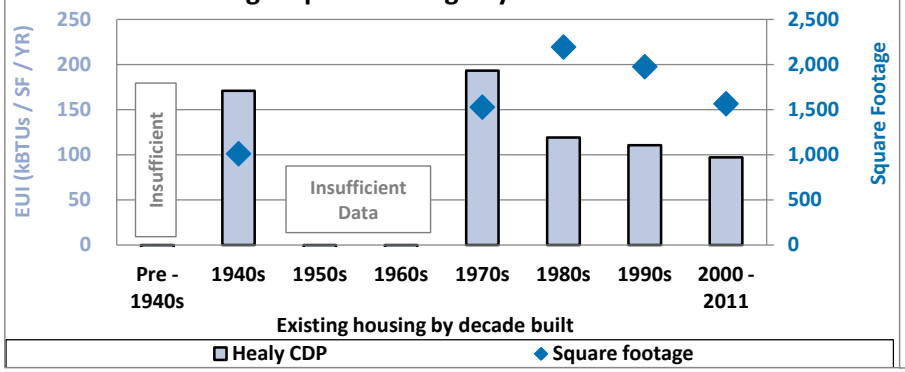
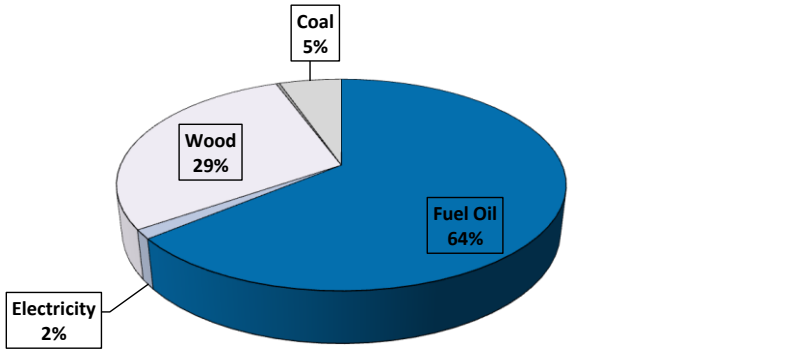


Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type

ARIS

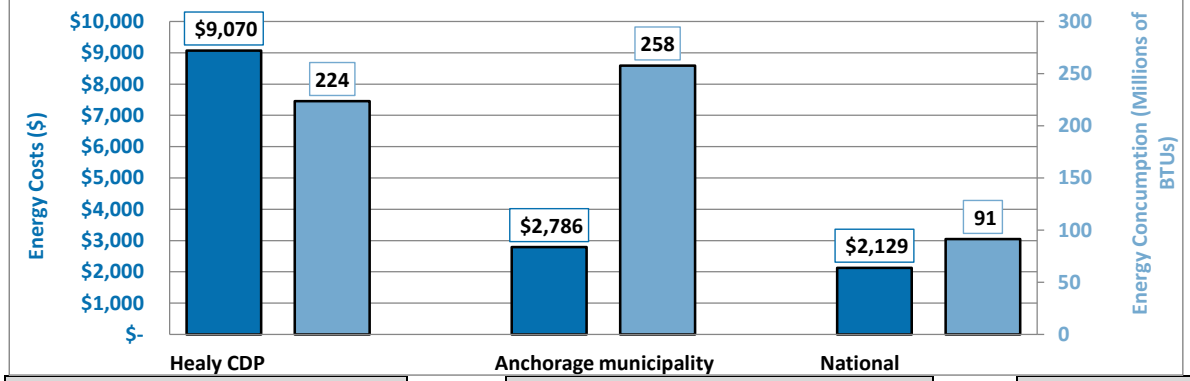


Current Healy CDP Housing Envelope Characteristics By Decade Built											
Current Residential Units by Year Built	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	121	7.0	31	17	12	24	3	3	0.28	0.22	0.49
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	8	10.7	36	16	NR	NR	NR	NR	0.34	NR	0.56
1950- 59	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1970- 79	36	12.4	25	14	6	20	3	2	0.29	NR	0.68
1980- 89	37	7.4	30	17	16	27	3	3	0.30	0.27	0.48
1990- 99	21	3.3	39	19	17	29	5	3	0.27	0.17	0.38
2000- 2004	21	2.8	39	18	16	32	6	3	0.22	0.15	0.37
2005 or later	24	1.8	42	17	20	NR	NR	3	0.22	NR	0.33

BEES 2009 - Climate Zone 8	7.0	38	30	15	38	15	15	0.22	0.22	0.22
BEES 2012 - Climate Zone 8	4.0	48	30	15	38	15	15	0.22	0.22	0.22

Figure H13: Average Annual Home Energy Costs and Use

MIX



Housing Information	Avg Household Size (# of people)
All-occupied	2.3
Owner-occupied	2.3
renter-occupied	2.1

Owner-occupied House with Mortgage, Median Value
$241,100

Owner-ocupied House without a Mortgage, Median Value
$132,000

Median Annual Household Income	
Housing Units	Household Income
All-occupied	$ 96,250
Renter-occupied	$ 91,528
Owner-occupied	$ 96,648
w/ mortgage	$ 101,667
w/o mortgage	$ 64,375

Median Housing Costs		
	Monthly	Annual
All-occupied	$ 1,113	$ 13,356
Gross rent	$ 772	$ 9,264
Owner-occupied	$ 1,140	$ 13,680
Housing units w/ mortgage	$ 1,327	$ 15,924
Housing units w/out a mortgage	$ 298	$ 3,576

Avg % of Median Income Spent on Energy	9.4%

Figure H14: Affordability - Housing Costs as a Percent of Income

ACS

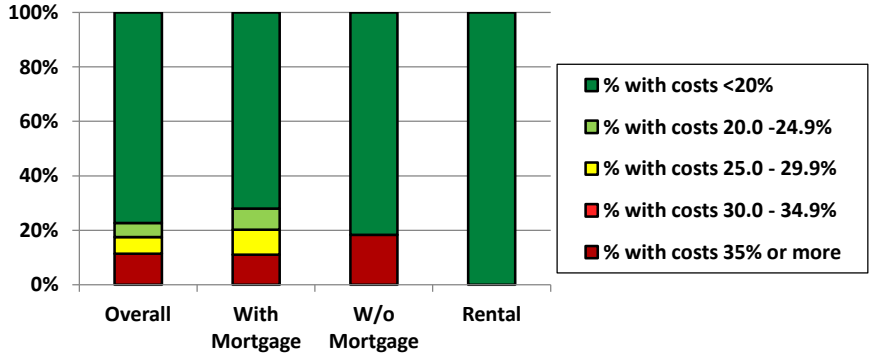
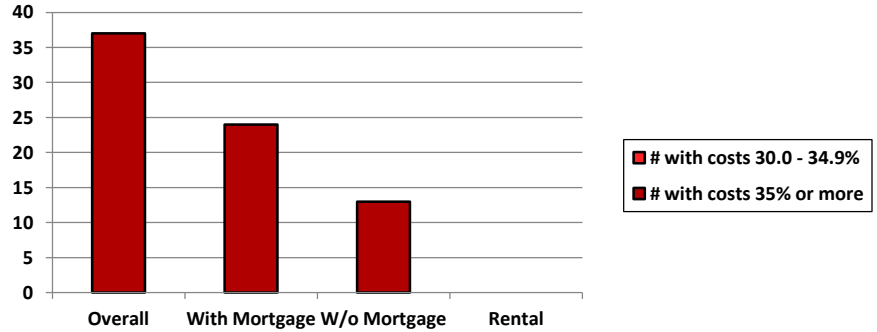


Figure H15: Number of Cost-Burdened Housing Units

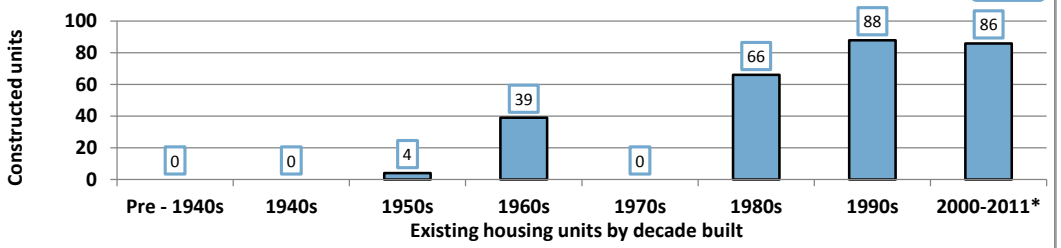
ACS



Community Profile for:	McKinley Park CDP	ANCSA Region	Doyon	Climate Zone	8

Figure L1: Existing Housing by Decade Built

ACS



*Modified by data from Regional Housing Authorities

Figure L2: Population

CEN

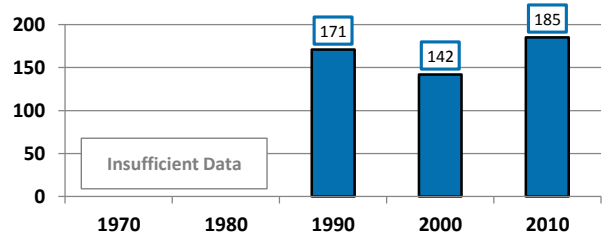


Figure L3: Overcrowded Units

ACS

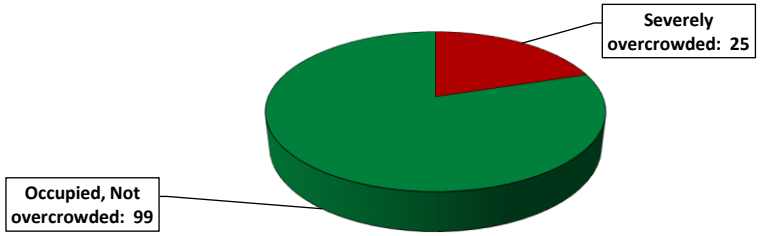


Figure L4: Housing Occupancy

MIX

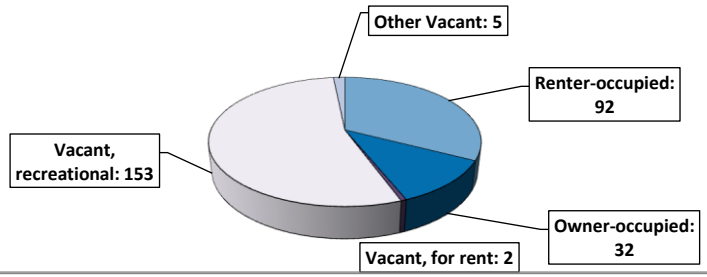
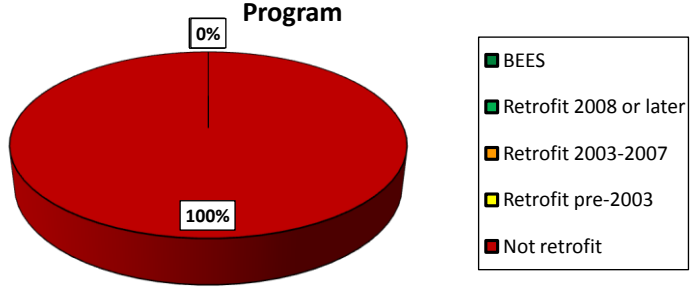


Figure L5: Affordability - Housing Costs as a Percent of Income

ACS

Figure L6: Housing Units Completing an AHFC Energy Program

ARIS



Owner-occupied House with Mortgage, Median Value
NR

Owner-occupied House without a Mortgage, Median Value
$118,800

Median Annual Household Income	
Housing Units	Household Income
All-occupied	$ 66,731
Renter-occupied	$ 44,327
Owner-occupied	$ 85,278
w/ mortgage	NR
w/o mortgage	NR

Median Housing Costs		
	Monthly	Annual
All-occupied	$ 599	$ 7,188
Gross rent	$ 705	$ 8,460
Owner-occupied	$ 467	$ 5,604
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	$ 188	$ 2,256

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost ($ / gallon)	No Data
Electricity with PCE ($/kWh)	No Data
Electricity without PCE ($/kWh)	No Data

Housing Stock Estimates	Number of Units
All Housing	283
All Occupied Housing	124
All Vacant housing	159