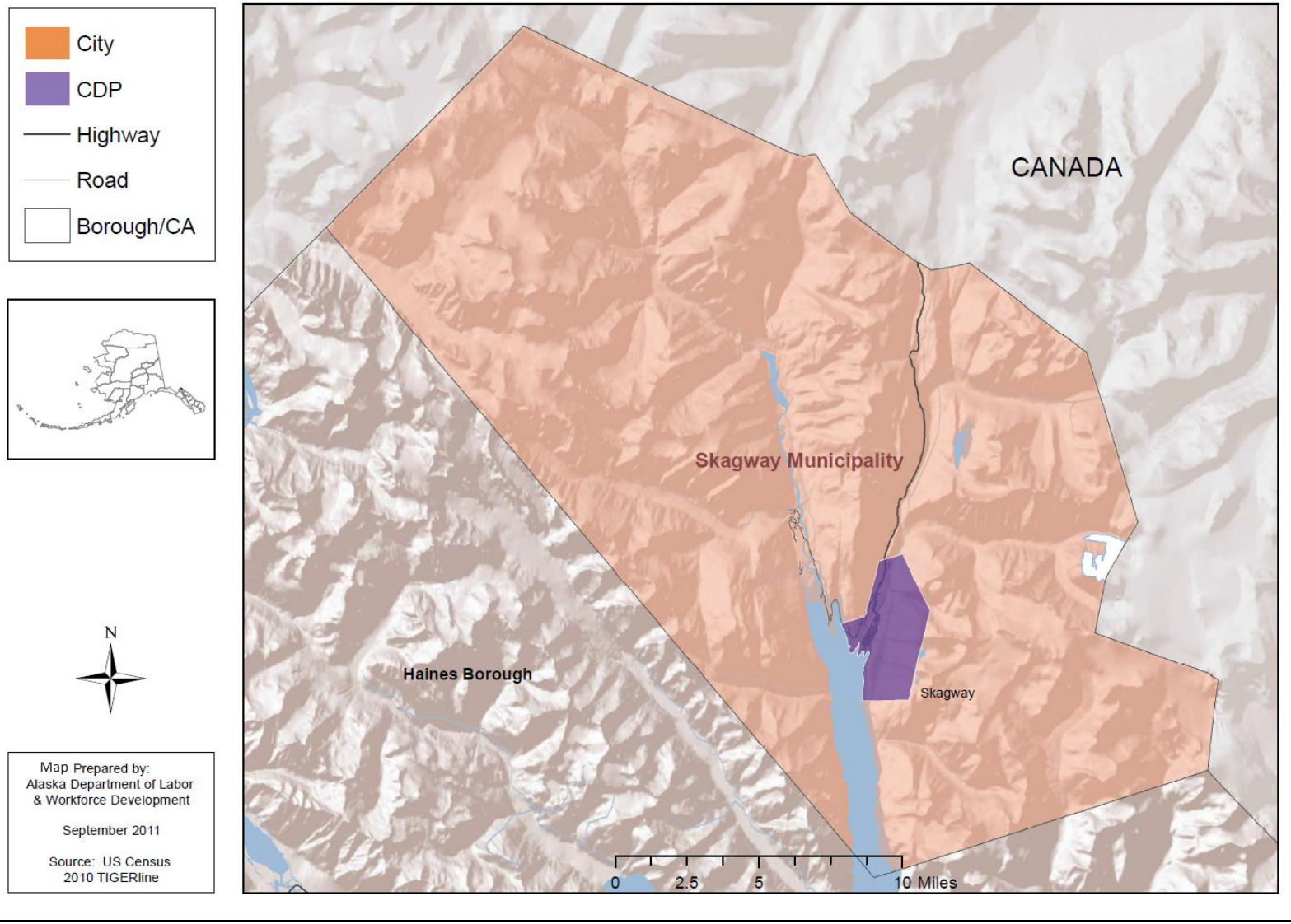
Municipality of Skagway



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Skagway Municipality Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2012) population estimate for the Skagway Municipality is 961–an increase of 11% from 2000.

Housing Units: There are currently 638 housing units in the Skagway Municipality. Of these, 430 are occupied, 20 are for sale or rent, and the remaining 188 are seasonal or otherwise vacant units (Profile Figure C6).

Energy: The average home in the Skagway Municipality is 1,580 square feet and uses 128,000 BTUs of energy per square foot annually, 6% less 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 Skagway Municipality is $5,260, which is approximately 1.9 times more than the cost in Anchorage, and 2.5 times more than the national average (Profile Figure C13).

Energy Programs: Approximately 10% of occupied housing in the Skagway Municipality 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 at 1-star-plus, compared to a current average rating of 4-star-plus for houses built after 2000.

Air-tightness: Within current housing stock, newer homes are tighter. On average, homes built in the last decade very nearly meet the 2012 BEES standard of 4 air-changes per hour at 50 pascals (ACH50). In contrast, homes built before 1940 are 2.6 times leakier than those built since 2000 (Profile Figure C7).

Ventilation: An estimated 218 occupied housing units (or 51%) in the Skagway Municipality 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: 1% of occupied units is estimated to be severely overcrowded, making the Skagway Municipality the 2nd least overcrowded census area in the state.

Affordability: On average, approximately 33% of households in the Skagway Municipality spend more than 30% of total household income on housing costs, which include rent, utilities, and energy costs. Based on average AKWarm estimates, annual energy costs constitute approximately 7% of census median area income for occupied housing.

Skagway Municipality Summary

Community

The Skagway Municipality lies on the northern panhandle of Alaska and is in the Sealaska Native Corporation ANCSA region. Average homes in Sitka are 1,580 square feet in size.

Overcrowding

Skagway is the second least overcrowded census area in Alaska. One percent of housing units fall into the severely overcrowded category. Approximately 41% of housing units are owner-occupied, 26% are renter-occupied, and 33% are vacant.

Energy

Approximately 10% of occupied homes in Skagway have completed an energy program, such as the Home Energy Rebate Program, a BEES program, or Weatherization. This is approximately half of the statewide average of 21%. Additionally, most building envelope components (such as floor, walls, ceilings, and windows) do not meet BEES on average. The exception is garage doors, which meet BEES standards on average for recently built homes.

While average air tightness is higher for more newly constructed homes, even new homes in Skagway do not on average meet the BEES standard for air changes per hour. Most newly built homes in Skagway have some type of continuous ventilation system installed, while most homes built before the 1990s do not.

Affordability

The Skagway Municipality is the fifth least affordable census area in Alaska, with 33% of households spending more than 30% of household income on housing costs. Slightly over 7% of household income is spent on energy, which is the seventh lowest rate among the 29 census areas in Alaska. Of owner-occupied households with mortgages, 62% are cost-burdened, with 43% spending more than 35% of household income on housing costs. By contrast, 29% of renter-occupied households are cost-burdened.

Community, Regional, and Statewide Housing Characteristics

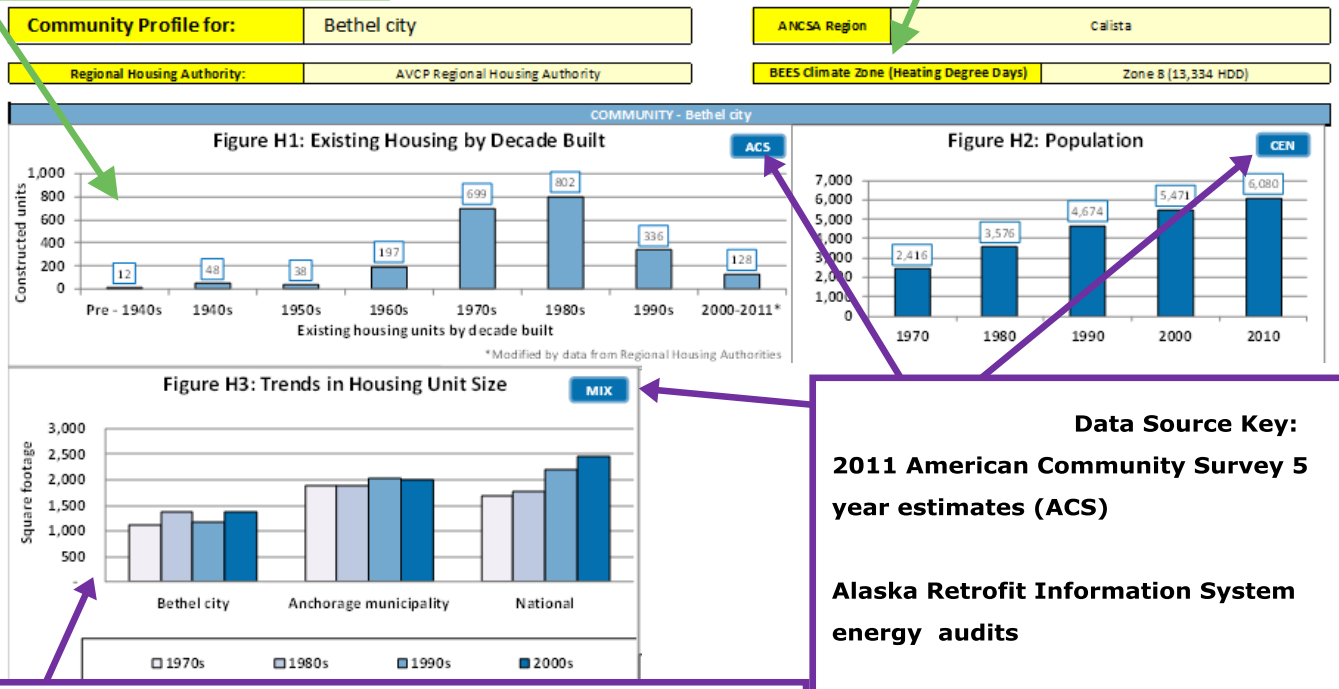
This census area summary only includes the highlights of housing characteristics at the census area level. Detailed data profile with charts and tables for both the census area and for each of the communities within it follow. The 2014 Alaska Housing Assessment provides a significant amount of data and 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

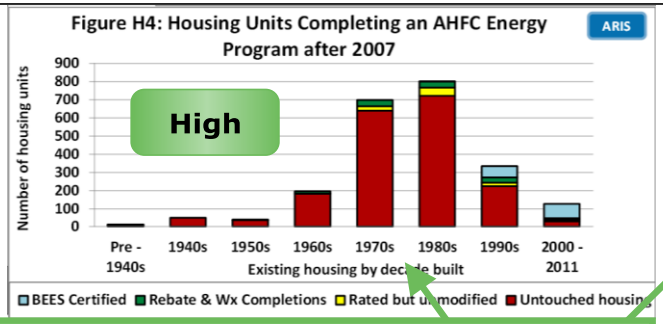
Mixed data source; see individual graphs for details. — MIX

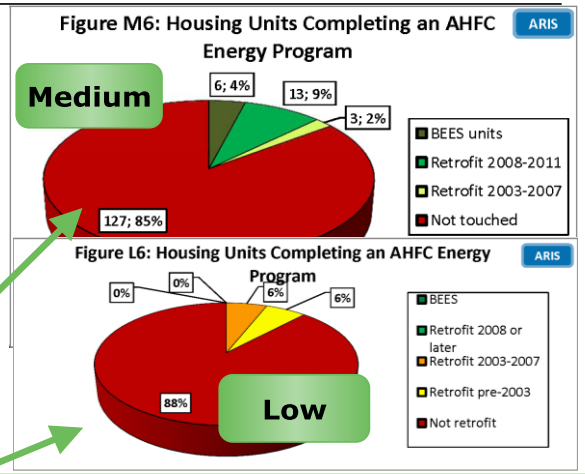
Data Sources: National trends come from the 2009 Residential Energy Consumption Statistics published by the U.S. Energy Information Administration. Anchorage and census area data come from the Alaska Retrofit Information System.

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).

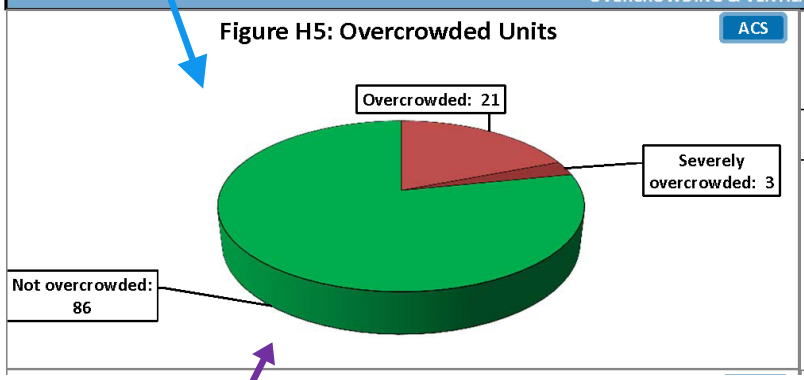
How to Interpret the Profile: Data Sources, Definitions & Clarifications

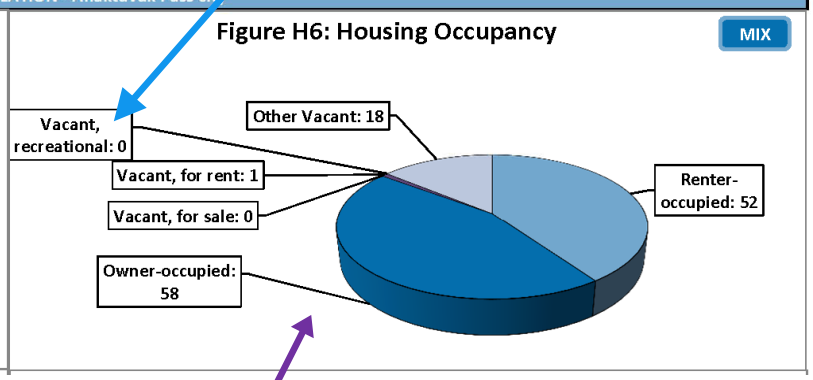
2

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

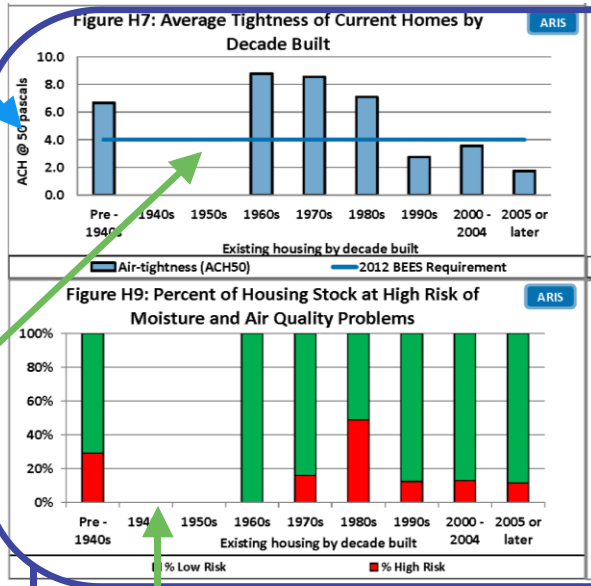
2

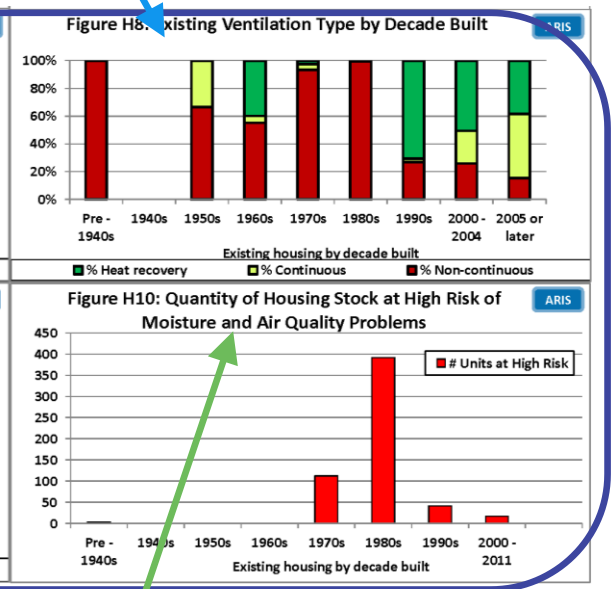
Heat Recovery: Continuous mechanical ventilation with heat recovery operated with automatic controls.

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.

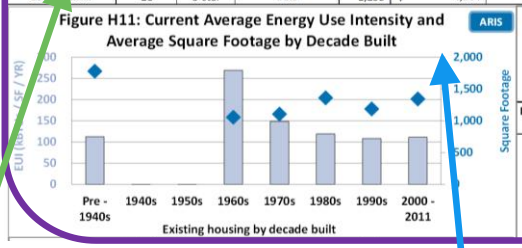
ECI: Energy Cost Index, the amount of money spent on energy per year divided by square footage.

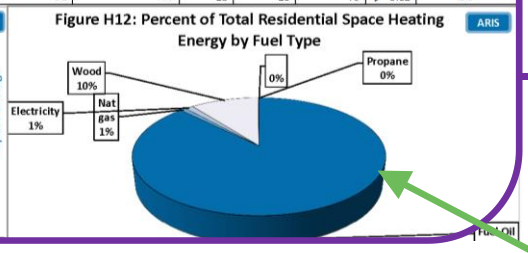
Home Heating Index: The energy used per square foot per year divided by the area's heating degree days.

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.

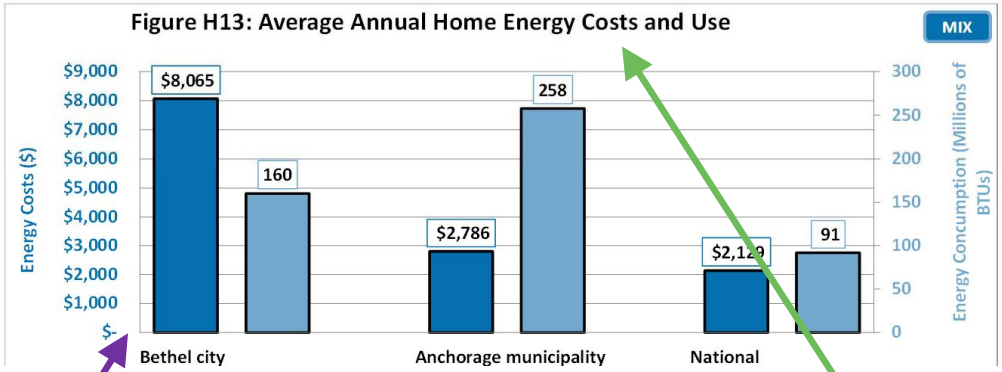
Red: value is less than 75% of the 2012 BEES requirement.

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).

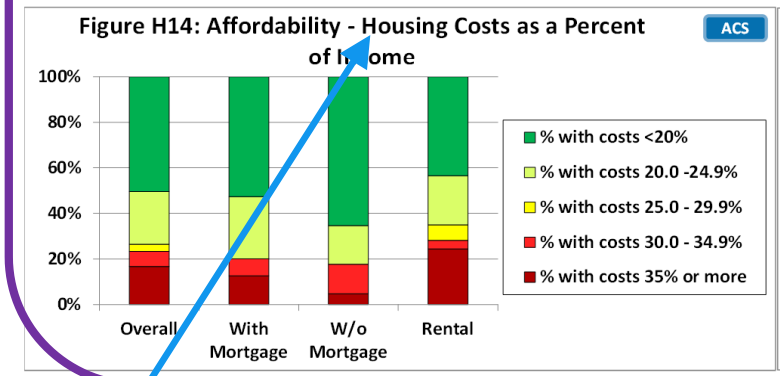
Owner-occupied House with Mortgage, Median Value
$226,800

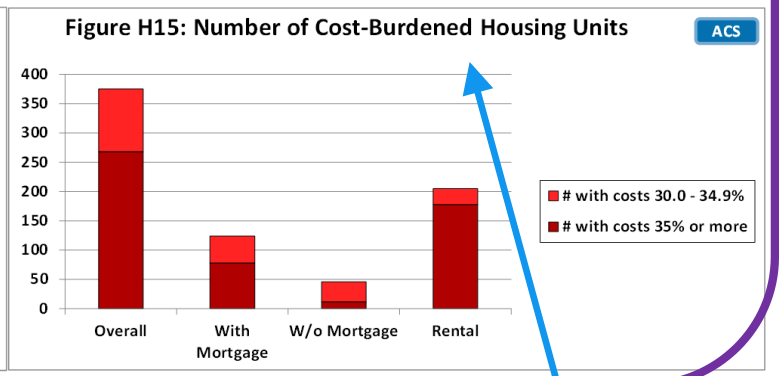
Owner-ocupied House without a Mortgage, Median Value
$119,600

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:	Skagway Municipality

ANCSA Region:	Sealaska Corporation

Regional Housing Authority:	Tlingit-Haida Regional Housing Authority

BEES Climate Zone (Heating Degree Day Range)	Zone 6 (7,200 - 9,000 HDD)

COMMUNITY - Skagway Municipality

Figure C1: Existing Housing by Decade Built

ACS

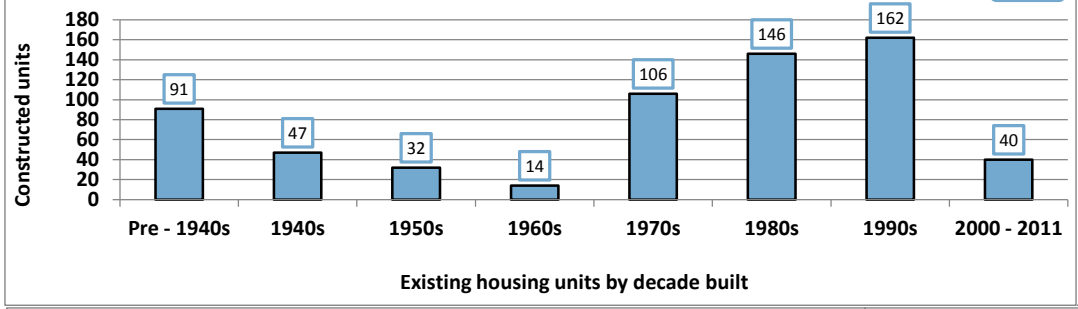


Figure C2: Population

CEN

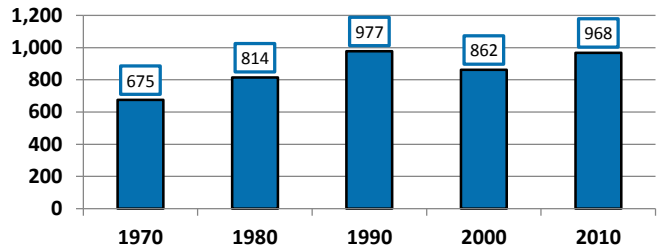


Figure C3: Trends in Housing Unit Size

MIX

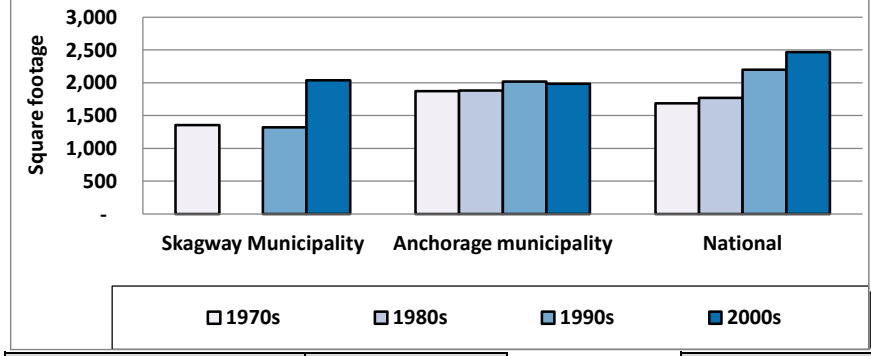
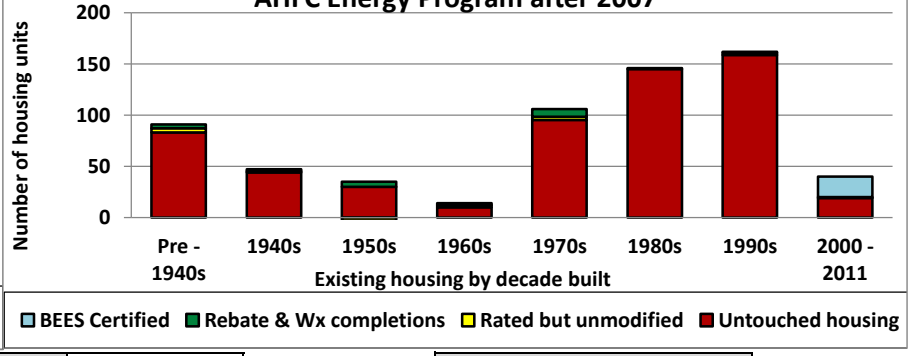


Figure C4: Housing Units Completing an AHFC Energy Program after 2007

ARIS



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	11	3%
Lack complete kitchen	12	3%

Avg Annual Energy Cost with PCE	$5,256
Avg Annual Energy Cost without PCE	$5,674

Weatherization Retrofits (funding increased 2008)	
Date Range	Units
2008 -2011	15
2003-2007	0
1990-2002	7

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	237,576	(gallons)
Natural Gas	-	(ccf)
Electricity	241,962	(kWh)
Wood	903	(cords)
Propane	-	(gallons)
Coal	-	(tons)

Housing Need Indicators	Number of Units	% Occupied Housing
Overcrowded	6	1%
Housing cost burdened	141	33%
1 Star Homes	133	31%

Housing Stock Estimates	Number of Units
All Housing	638
All Occupied Housing	430
All Vacant housing	208
Vacant Housing for Sale or Rent	20

OVERCROWDING & VENTILATION - Skagway Municipality

Figure C5: Overcrowded Units

ACS

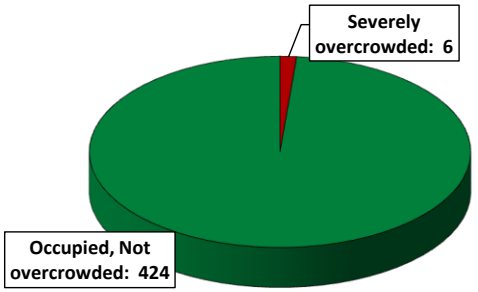


Figure C6: Housing Occupancy

MIX

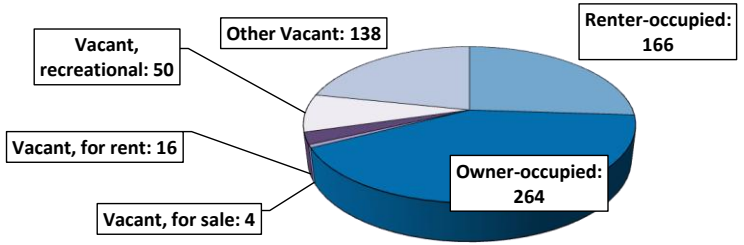


Figure C7: Average Air-Tightness of Current Homes by Decade Built

ARIS

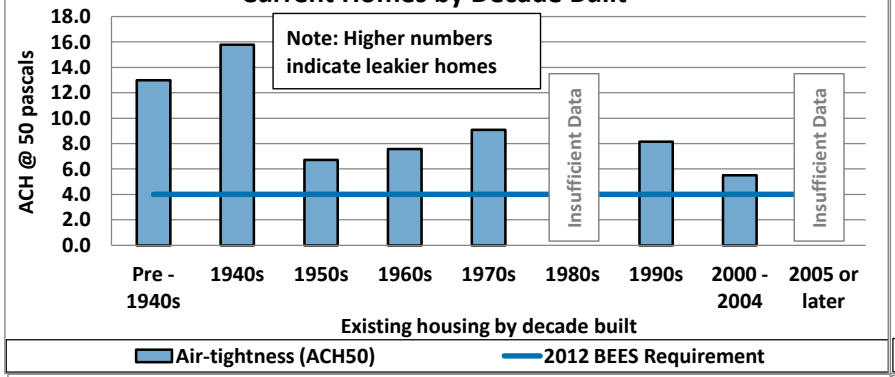


Figure C8: Existing Ventilation Type by Decade Built

ARIS

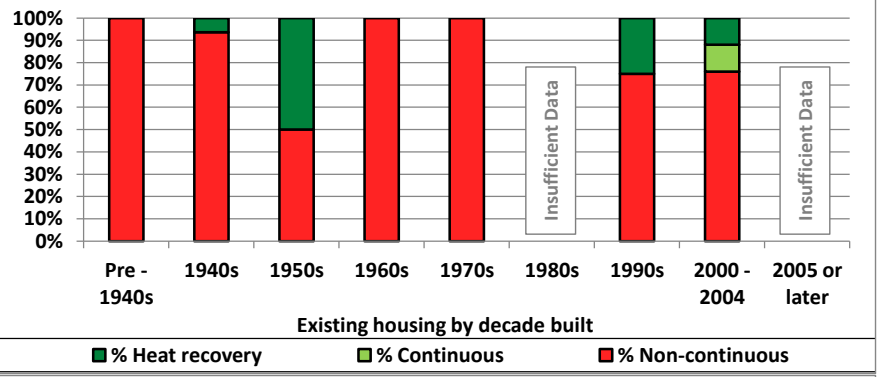


Figure C9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

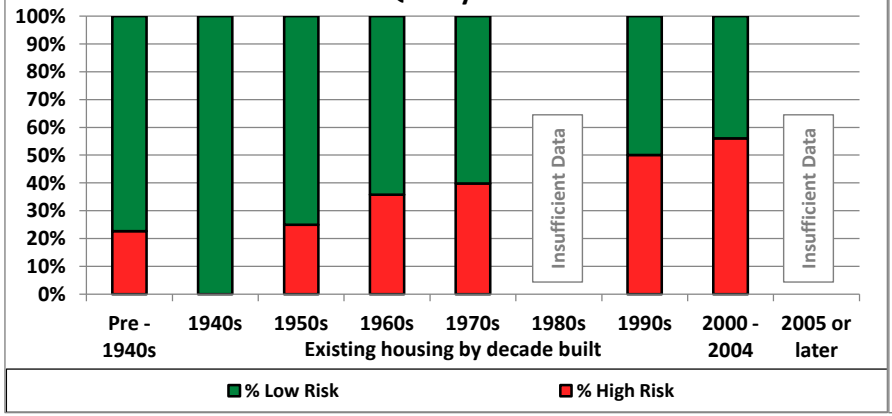
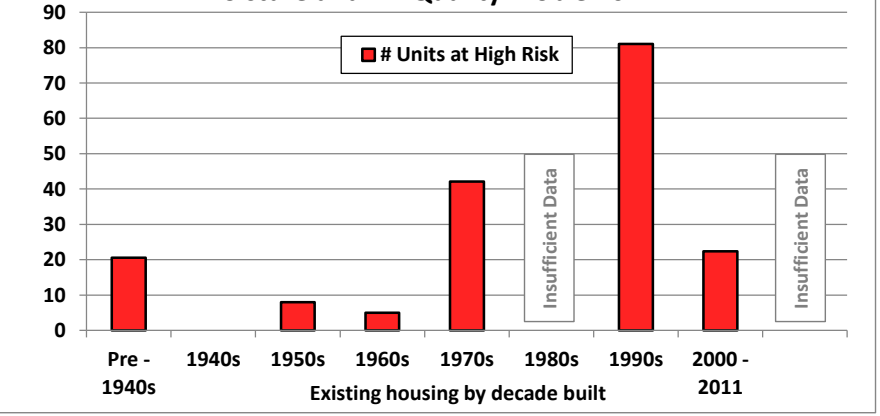


Figure C10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Skagway Municipality

Current Skagway Municipality 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	58	2-star plus	63.1	1,580	$5,256	167	109	26	28	128	$4.45	10.9
Pre- 1940	8	2-star	51.6	1,448	$6,980	214	162	21	31	139	$4.61	12.3
1940- 49	6	1-star plus	40.7	1,178	$7,475	207	174	7	26	179	$6.45	17.3
1950- 59	7	3-star	71.0	1,673	$6,101	180	114	36	30	106	$3.62	8.1
1960- 69	9	2-star plus	65.4	1,334	$6,150	172	118	23	31	143	$5.35	11.3
1970- 79	14	2-star	59.2	1,356	$6,291	171	126	17	28	142	$5.18	12.5
1980- 89	1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1990- 99	6	3-star	69.3	1,320	$3,922	148	91	19	19	112	$2.99	9.1
2000- 2004	21	4-star	82.6	2,037	$6,362	165	101	30	33	78	$3.08	5.8
2005 or later	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

ARIS

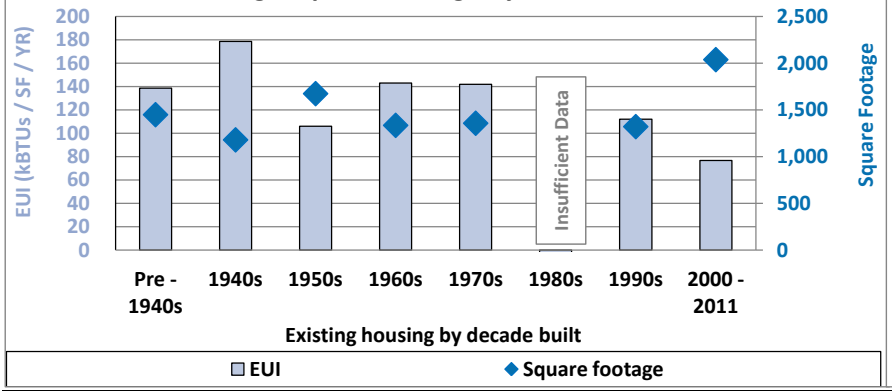
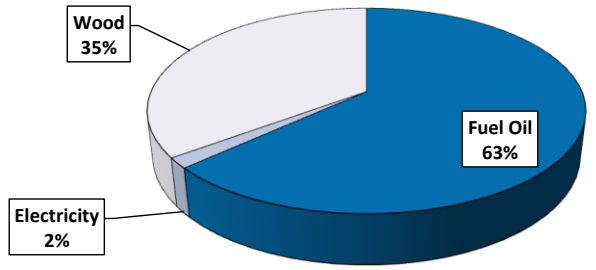


Figure C12: Percent of Total Residential Space Heating Energy by Fuel Type

ARIS



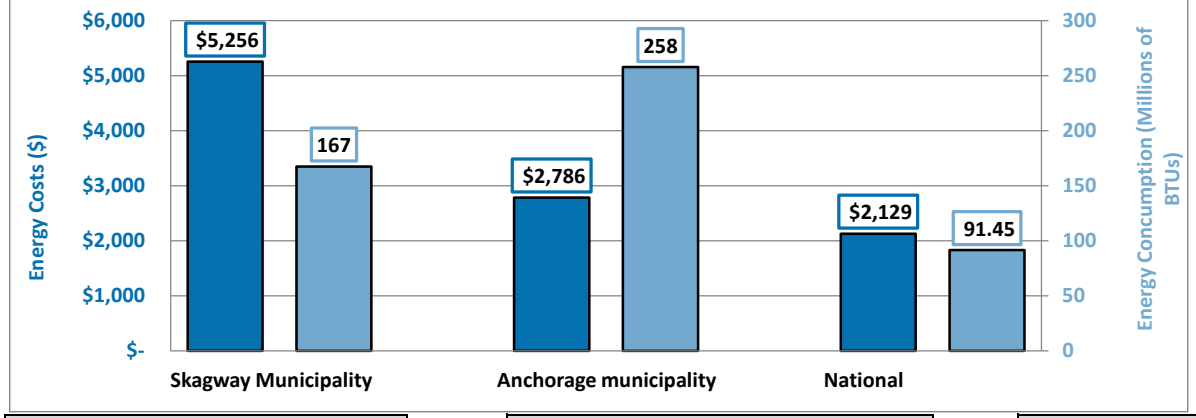
Current Skagway Municipality Housing Envelope Characteristics By Decade Built

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	58	9.5	24	11	4	16	3	NR	0.46	0.35	0.63
Pre- 1940	8	13.0	27	10	NR	15	NR	NR	0.48	NR	0.65
1940- 49	6	15.8	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	7	6.7	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	9	7.6	21	12	NR	NR	NR	NR	0.38	NR	0.76
1970- 79	14	9.1	24	12	4	18	NR	NR	0.58	NR	0.68
1980- 89	1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1990- 99	6	8.1	NR	NR	NR	NR	NR	NR	NR	NR	NR
2000- 2004	21	5.5	41	16	13	35	3	NR	0.35	0.25	0.35
2005 or later	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

BEES 2009 - Climate Zone 6	7.0	38	21	15	30	15	15	0.33	0.33	0.33
BEES 2012 - Climate Zone 6	4.0	43	25	15	38	15	15	0.30	0.30	0.30

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
$250,000

Median Value of Owner-occupied House without a Mortgage
$348,600

Median Annual Household Income	
Housing Units	Household Income
All-occupied	$ 73,000
Renter-occupied	$ 67,857
Owner-occupied	$ 75,769
w/ mortgage	$ 77,115
w/o mortgage	$ 68,409

Median Housing Costs		
	Monthly	Annual
All-occupied	$ 1,119	$ 13,428
Gross rent	$ 1,059	$ 12,708
Owner-occupied	$ 1,330	$ 15,960
Housing units w/ mortgage	$ 2,333	$ 27,996
Housing units w/out a mortgage	$ 641	$ 7,692

Avg % of Median Income Spent on Energy	7.2%

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

ACS

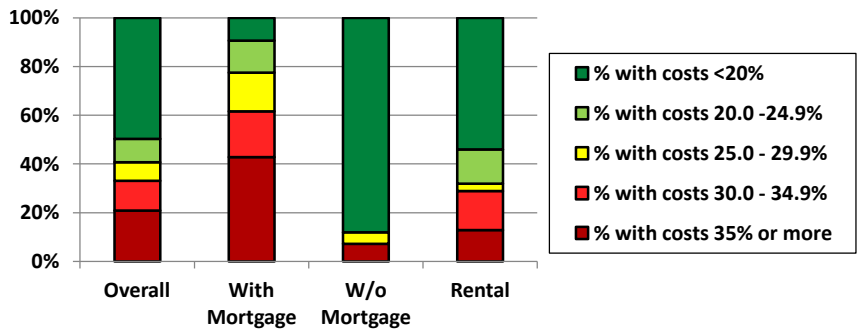


Figure C15: Number of Cost-Burdened Housing Units

ACS