

Bethel Census Area

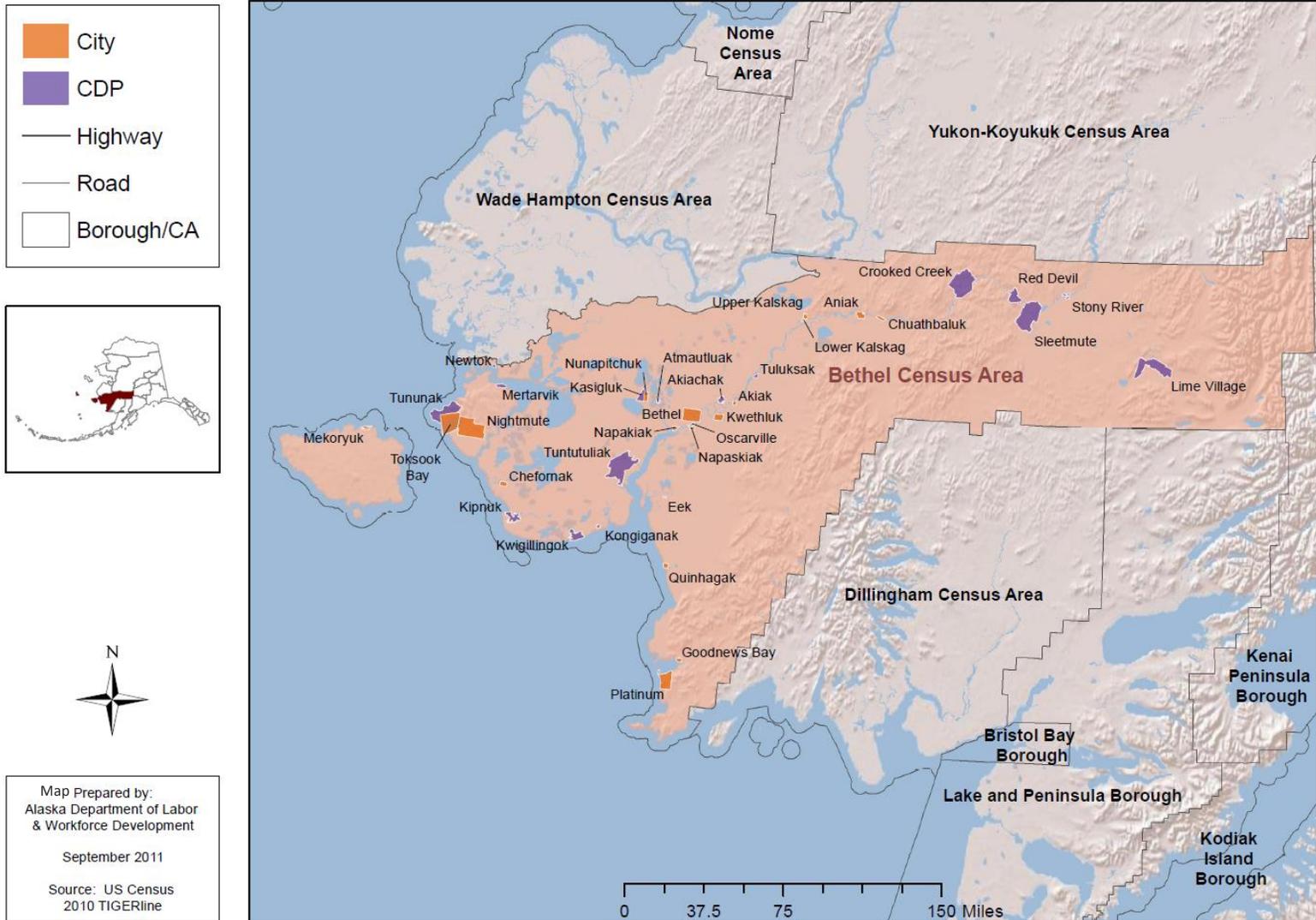


Table of Contents

Bethel Census Area Dashboard	IV
Bethel Census Area Summary	V-VII
Community.....	V
Overcrowding.....	V
Energy	VI
Affordability	VII
Community, Regional, and Statewide Housing Characteristics.....	VIII
How to Interpret the Profile: Data Sources, Definitions & Clarifications	A-H
Bethel Census Area Profile	1-4
Bethel Community Profiles	5-73
Akiachak Data Quantity: Medium	5
Akiak Data Quantity: Low	7
Aniak Data Quantity: Medium	8
Atmautluak Data Quantity: Low	10
Bethel Data Quantity: High	11
Chefornak Data Quantity: Low	15
Chuathbaluk Data Quantity: Medium	16
Crooked Creek Data Quantity: Low	18
Eek Data Quantity: High	19
Goodnews Bay Data Quantity: Medium	23

Kasigluk	Data Quantity: Low	25
Kipnuk	Data Quantity: High	26
Kongiganak	Data Quantity: Low	30
Kwethluk	Data Quantity: Medium	31
Kwigillingok	Data Quantity: Low	33
Lime Village	Data Quantity: Low	34
Lower Kalskag	Data Quantity: Medium	35
Mekoryuk	Data Quantity: Medium	37
Napakiak	Data Quantity: High	39
Napaskiak	Data Quantity: Medium	43
Newtok	Data Quantity: Low	45
Nightmute	Data Quantity: Medium	46
Nunapitchuk	Data Quantity: High	48
Oscarville	Data Quantity: Medium	52
Platinum	Data Quantity: Low	54
Quinhagak	Data Quantity: Medium	55
Red Devil	Data Quantity: Low	57
Sleetmute	Data Quantity: Medium	58
Stony River	Data Quantity: Medium	60
Toksook Bay	Data Quantity: Medium	62
Tuluksak	Data Quantity: Medium	64
Tuntutuliak	Data Quantity: Medium	66

Tununak	Data Quantity: Medium	68
Upper Kalskag	Data Quantity: High	70

Bethel Census Area Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2012) population estimate for the Bethel Census Area is 17,600—an increase of 10% from 2000.

Housing Units: There are currently 5,884 housing units in the Bethel Census Area. Of these, 4,295 are occupied, 253 are for sale or rent, and the remaining 1,336 are seasonal or otherwise vacant units (Profile Figure C6).

Energy: The average home in the Bethel Census Area is 944 square feet and uses 155,000 BTUs of energy per square foot annually, 13% 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 Bethel Census Area is \$6,440, which is approximately 2.3 times more than the cost in Anchorage and 3 times more than the national average (Profile Figure C13).

Energy Programs: Approximately 17% of the occupied housing in the Bethel Census Area 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 1960s are currently rated at 1-star-plus, compared to a current average rating of 4-stars 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 in the 1960s are 2.4 times leakier than those built since 2000 (Profile Figure C7).

Ventilation: An estimated 1,303 occupied housing units (or 30%) in the Bethel Census Area 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: 36% of occupied units are estimated to be either overcrowded (16%) or severely overcrowded (20%). This is roughly 11 times the national average, and makes the Bethel Census Area the third most overcrowded census area in the state.

Affordability: On average, approximately 19% of households in the Bethel Census Area 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 12% of census median area income for occupied housing.

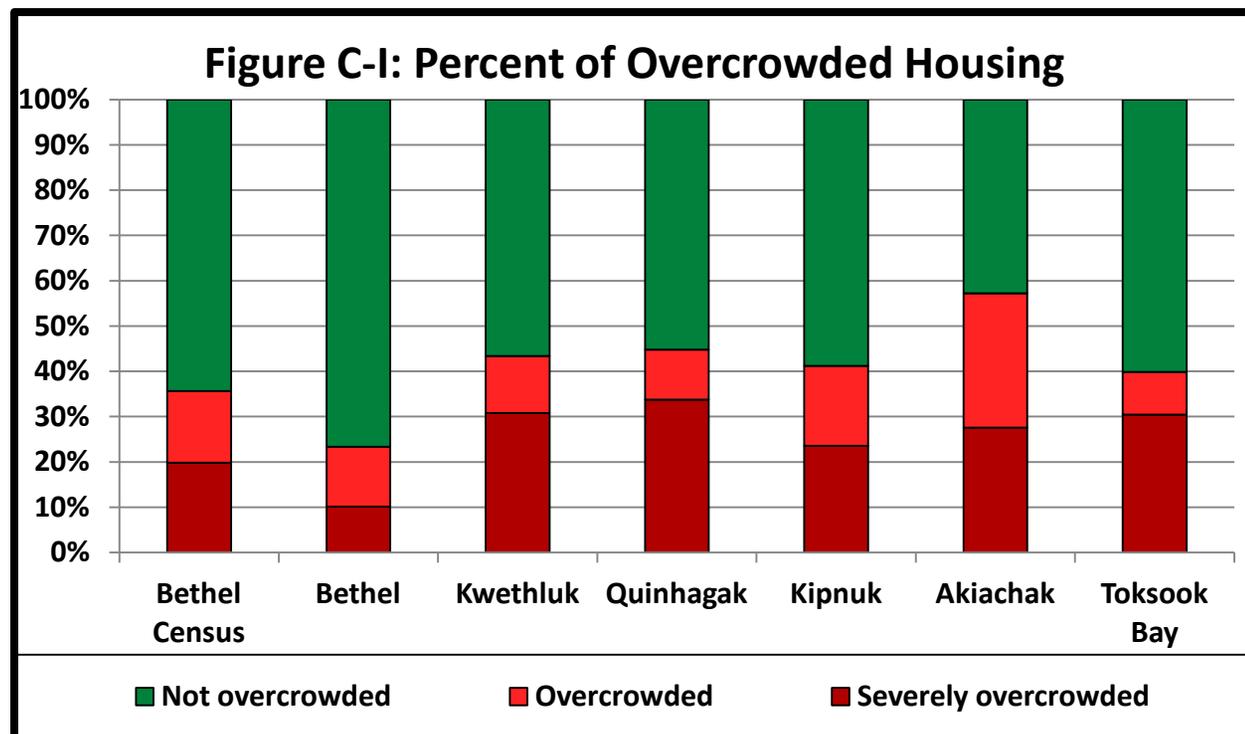
Bethel Census Area Summary

Community

The Bethel census area is bisected by the Kuskokwim River in Southwest Alaska. The majority of the census area’s many communities are located on the banks of the Kuskokwim and its tributaries, or on the coast of the Bering Sea. Bethel census area is in the Calista Native Corporation ANCSA region. Average homes in the census area range in size from 696 square feet in Eek to 1,237 square feet in the community of Bethel.

Overcrowding

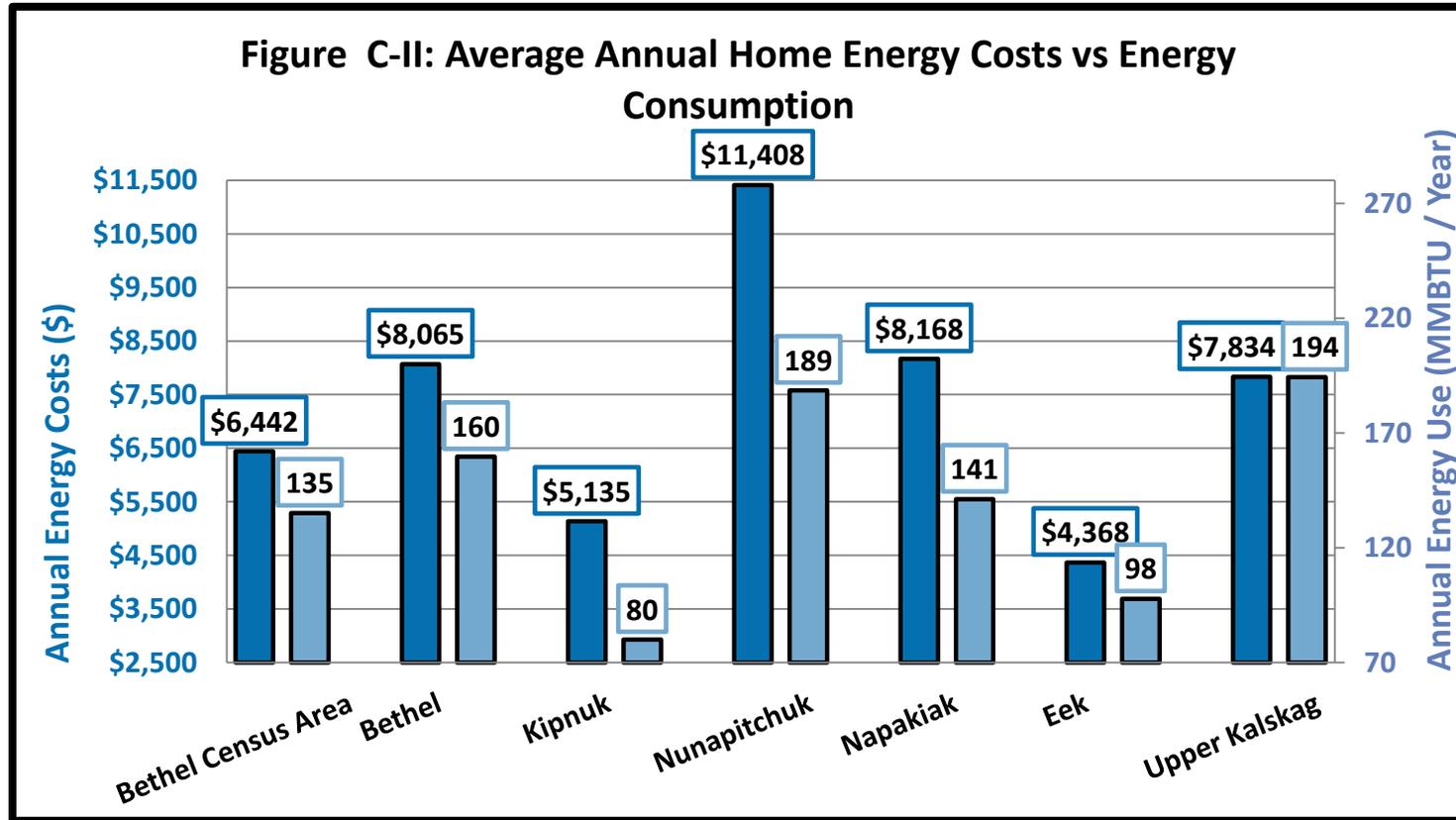
The Bethel census area has significantly higher levels of overcrowding than most areas in Alaska. More than one in three families are overcrowded in the census area as a whole, and the average home size, 932 square feet, is less than half that found in most urban areas in Alaska. The six most populous communities have between 23% and 57% of households with more than one person per room (Figure C-1). The lowest amount of overcrowding in the census area is found in the community of Lime Village, where an estimated zero homes are overcrowded. The highest amount of overcrowding occurs in Newtok, where 79% of houses have more than one person per room. The communities of Akiachak and Nunapitchuk also have more than 50% of households considered overcrowded.



Approximately 4% of housing in the Bethel census area is available for sale or rent. The community of Stony River has 8% of housing units available, which is the highest percentage for any community in the census area. The least amount of available housing is found in Akiachak, where an estimated zero houses are available for sale or rent. Additionally, 23% of housing units in the Bethel census area are considered vacant because they are used for seasonal, recreational, or “other” non-year round purposes.

Energy

Homes in the Bethel census area use on average 135 million BTUs per year in energy, for an annual energy cost of \$6,442 (Figure C-II). The community of Nightmute, which has an annual energy cost of \$3,541, has the lowest cost in the census area. This may be influenced by

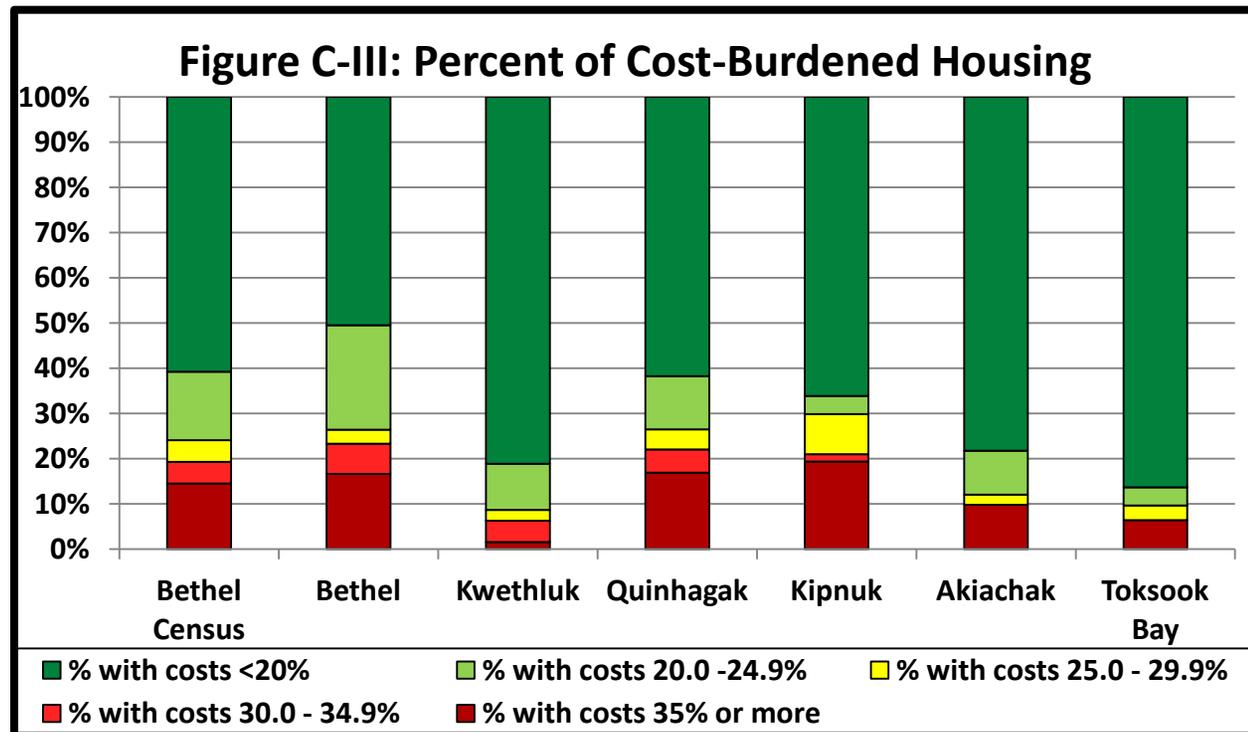


the near lack of domestic hot water heating in Nightmute, the relatively small average home size of just under 800 square feet, and a home heating index lower than the census area average. The community of Nunapitchuk has the highest annual energy cost of \$11,408, which may be due in part to their high home heating index and high annual energy usage relative to the census area average. Home heating indices for the census area span a wide range, from a low of 4.8 BTUs/ft²/HDD in Kipnuk to a high of 19.8 BTU/ft²/HDD in Sleetmute.

Approximately 19% of housing units in the census area have completed either the Weatherization, Home Energy Rebate, or a BEES program since 2003. Participation in energy programs among individual communities varies widely, from an estimated zero participation among households in Kasigluk to 75% participation among housing units in Oscarville. Considering only the six most populous communities, participation rates range from 4% to 58%. The number of housing units with an HRV or continuous mechanical ventilation system has increased steadily since the 1970s, with approximately 75% of homes built after 2005 having such a system.

Affordability

According to ACS estimates¹, between 4% (in Nunapitchuk) and 60% (in Platinum) of households in the Bethel census area are considered cost-burdened, or have families that spend more than 30% of income on housing costs. As a whole, 19% of households in the census area are cost-burdened. Considering only the six most populous communities, between 6% and 23% of households are cost-burdened (Figure C-III). Median household incomes in the census area vary greatly, from a low of \$11,250 in Platinum (the most cost-burdened community) to a high of \$91,302 in Bethel. The range is slightly smaller for the six most populous communities, which have median incomes between \$31,429 and \$91,302.



¹ CCHRC's analysis of ACS energy costs suggests they are systematic underestimates for rural Alaska, which would mean that 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.

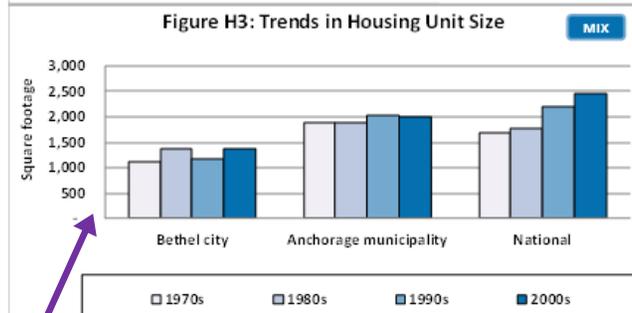
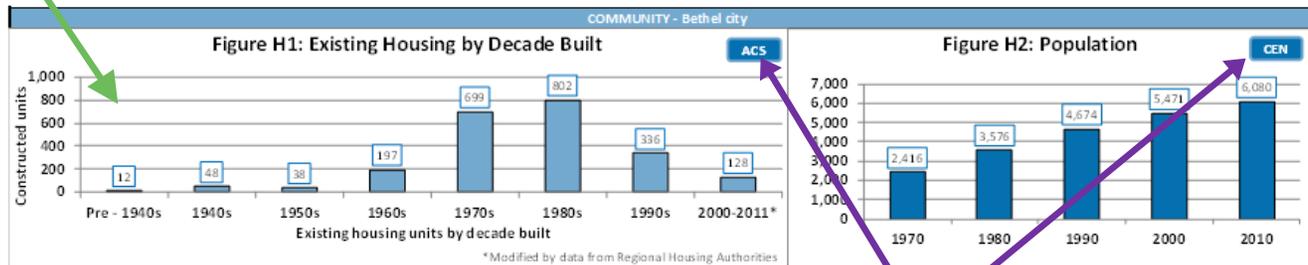
How to Interpret the Profile: Data Sources, Definitions & Clarifications

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.

Community Profile for:	Bethel city	ANCSA Region	Calista
Regional Housing Authority:	AVCP Regional Housing Authority	BEES Climate Zone (Heating Degree Days)	Zone 8 (13,334 HDD)



Data Source Key:

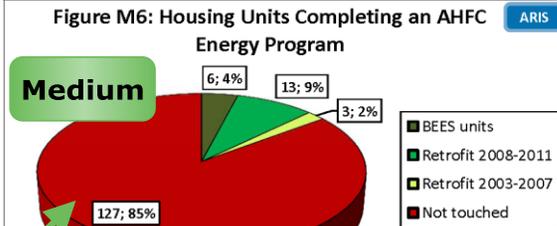
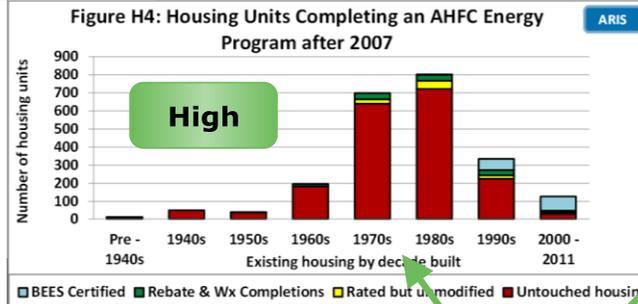
- 2011 American Community Survey 5 year estimates (ACS) **ACS**
- Alaska Retrofit Information System energy audits **ARIS**
- 2010 Decennial Census **CEN**
- Mixed data source; see individual graphs for details. **MIX**

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.

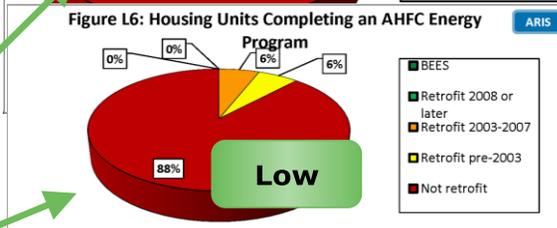
How to Interpret the Profile: Data Sources, Definitions & Clarifications

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.

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

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)

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

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 2008)	
Date Range	Units
2008-2011	17
2003-2007	-
1990-2002	10

Housing Stock Estimates	
All Housing	Nu
All Occupied Housing	
All Housing	
Vacant housing for Sale or Rent	

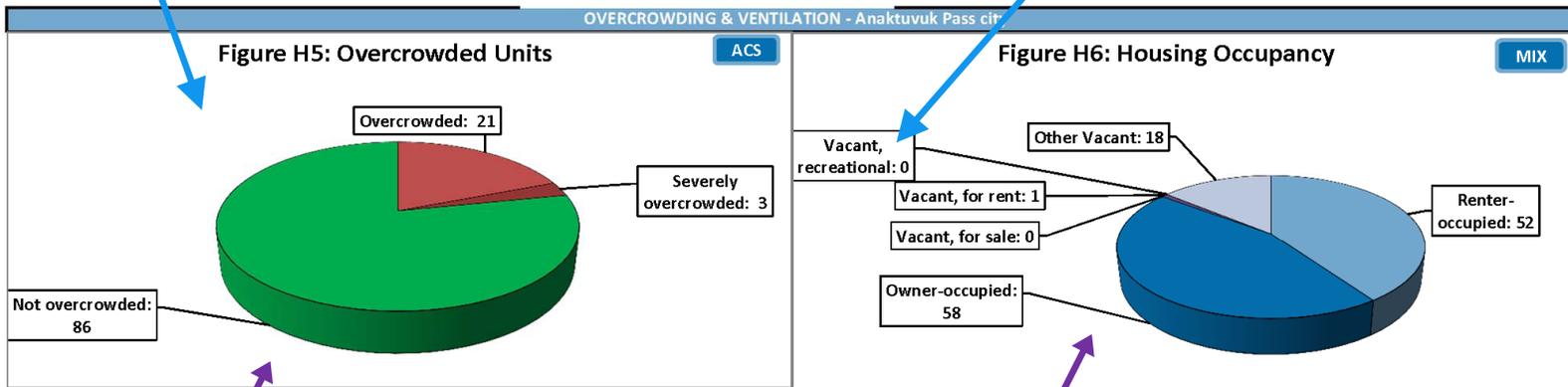
Units weatherized before 2008 are eligible to participate in the program again. (Data source: Alaska Housing Finance Corporation).

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.



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.

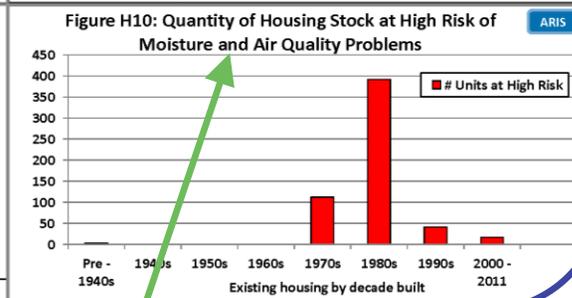
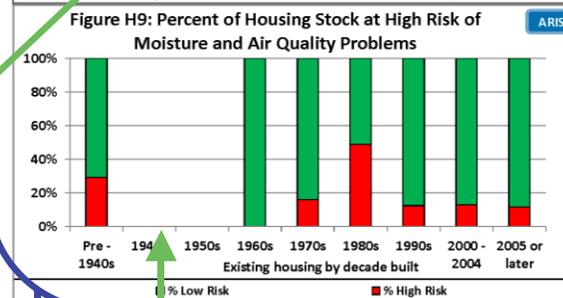
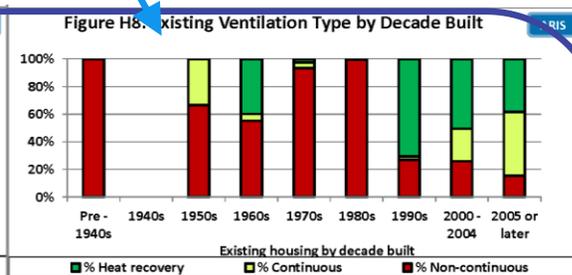
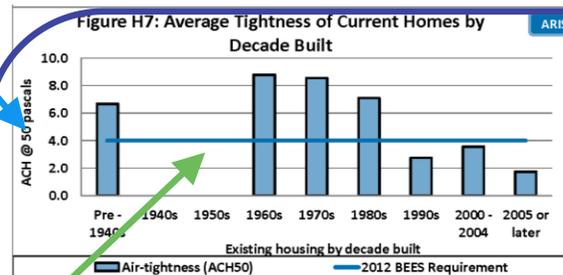
Continuous: Mechanical ventilation without heat recovery operated with automatic controls.

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.

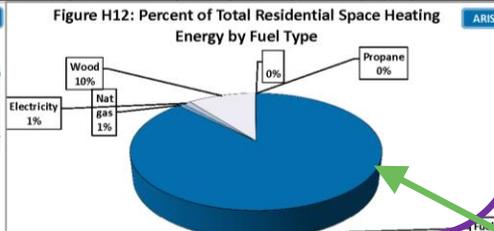
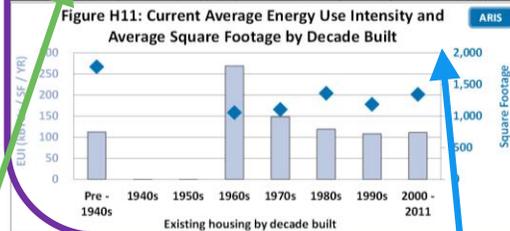
Space Heating, DHW, Appliances:
Estimated annual energy for the end uses of: Space Heating, Domestic Hot Water, and all other energy including lights, appliances, and electronics.

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

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

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 Use (million Btus)			Avg. EUI (kBtu/SqFt)	Avg. ECI (\$ / \$f)	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	153	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 or later	28	5-star	91.9	1,233	\$ 4,504	92	39	28	25	79	\$ 3.82	2.5

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



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

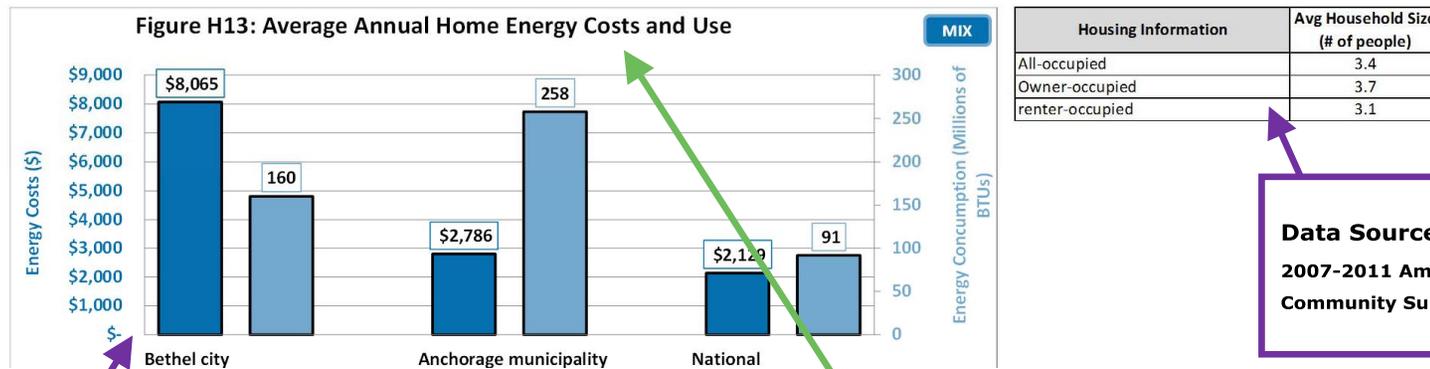
Communities are categorized in this report by the amount of ARIS data available, and reporting is more extensive for locations with more data. Data quantities are defined as--

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



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.

Data Source:
2007-2011 American Community Survey

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

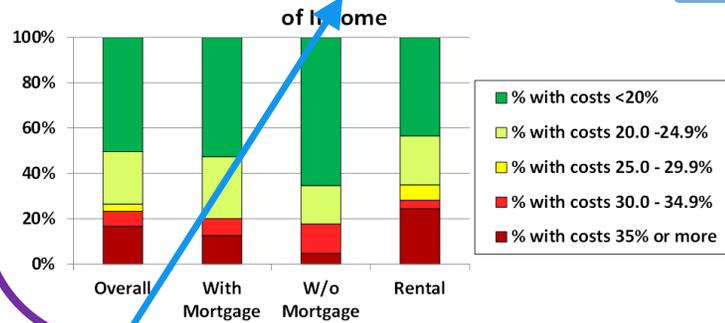
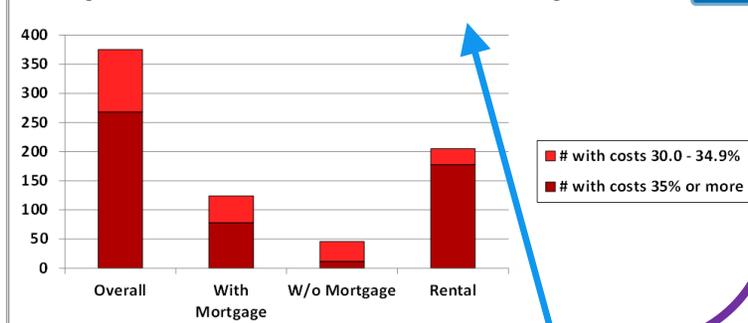


Figure H15: Number of Cost-Burdened Housing Units



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.

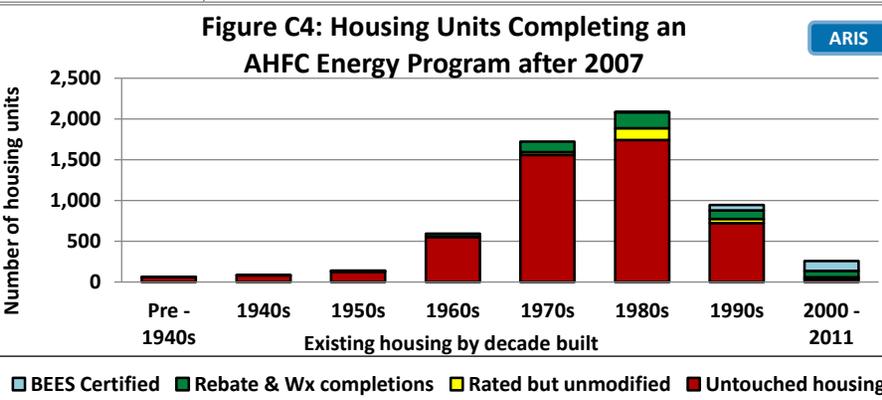
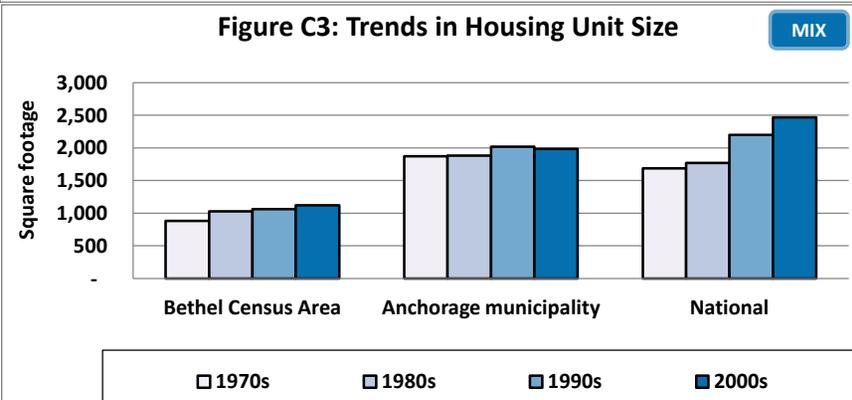
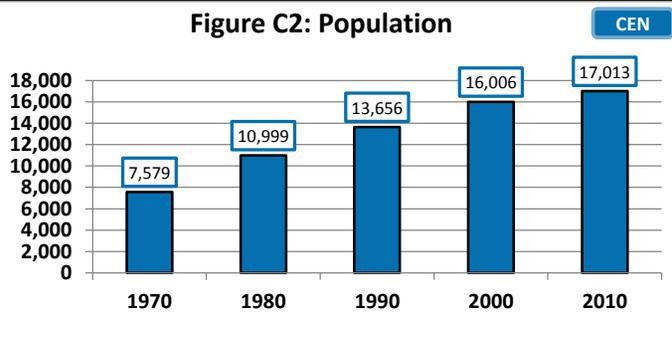
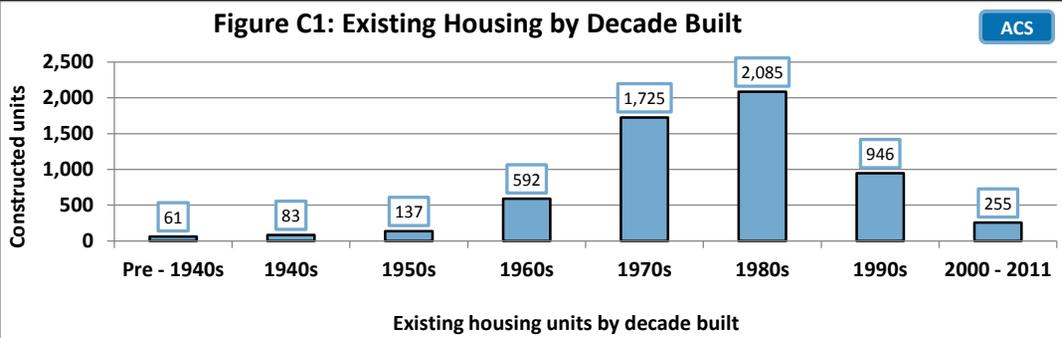
Census Area Profile for: Bethel Census Area

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

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

COMMUNITY - Bethel Census Area



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	1,739	41%
Lack complete kitchen	1,366	32%

Avg Annual Energy Cost with PCE	\$6,442
Avg Annual Energy Cost without PCE	\$8,395

Weatherization Retrofits (funding increased 2008)	
Date Range	Units
2008 - 2011	505
2003 - 2007	58
1990 - 2002	790

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	2,337,320	(gallons)
Natural Gas	-	(ccf)
Electricity	1,675,862	(kWh)
Wood	5,942	(cords)
Propane	489	(gallons)
Coal	-	(tons)

Housing Need Indicators	Number of Units	% Occupied Housing
Overcrowded	1,530	36%
Housing cost burdened	744	17%
1 Star Homes	833	19%

Housing Stock Estimates	Number of Units
All Housing	5,884
All Occupied Housing	4,295
All Vacant housing	1,589
Vacant Housing for Sale or Rent	253

OVERCROWDING & VENTILATION - Bethel Census Area

Figure C5: Overcrowded Units

ACS

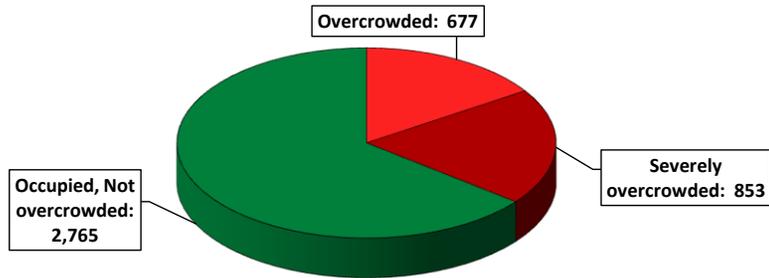


Figure C6: Housing Occupancy

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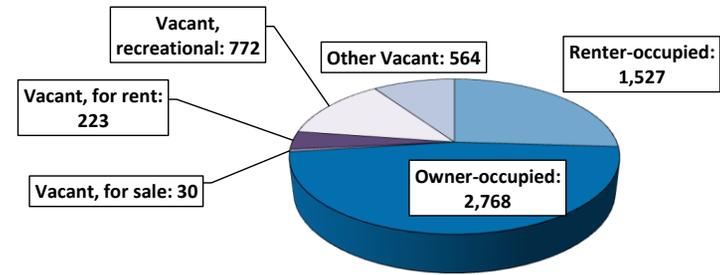


Figure C7: Average Air-Tightness of Current Homes by Decade Built

ARIS

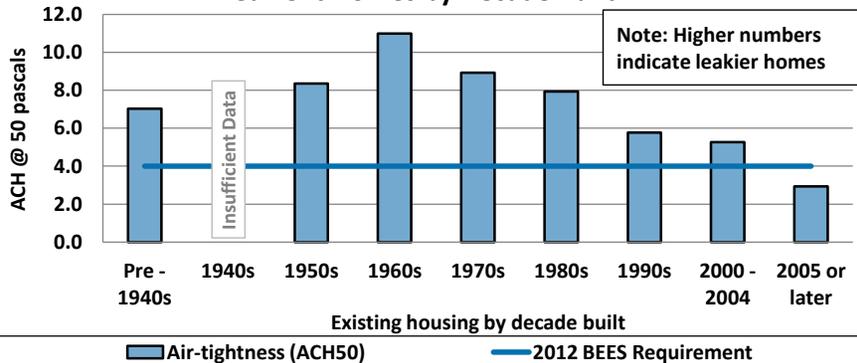


Figure C8: Existing Ventilation Type by Decade Built

ARIS

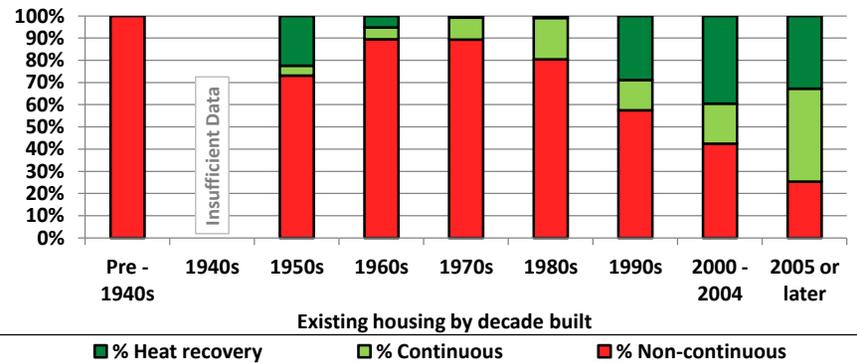


Figure C9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

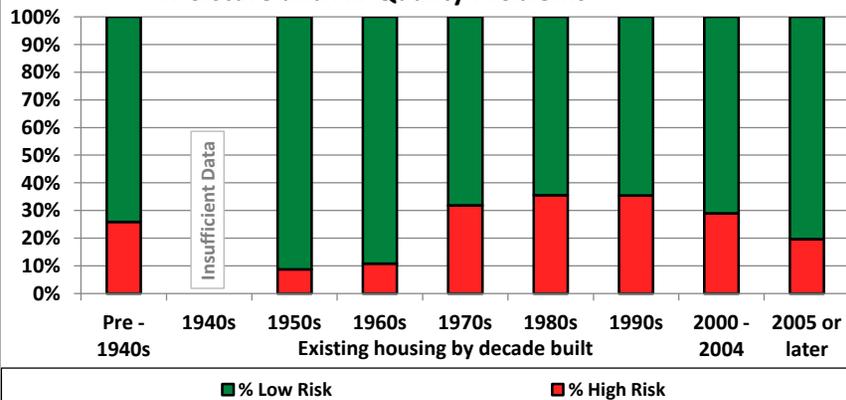
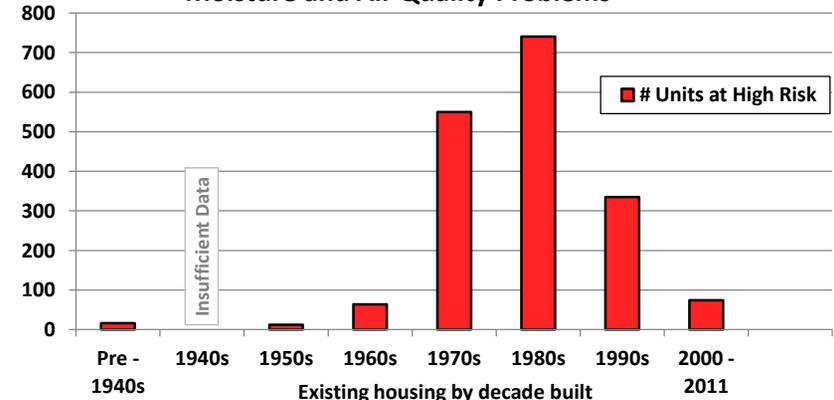


Figure C10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Bethel Census Area												
Current Bethel Census Area 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	1,069	2-star plus	61.3	944	\$6,442	135	97	13	23	155	\$7.11	9.0
Pre- 1940	7	2-star plus	66.4	1,628	\$10,933	194	137	22	35	116	\$7.01	6.4
1940- 49	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	21	1-star plus	45.0	784	\$5,175	95	73	1	20	132	\$7.27	7.9
1960- 69	90	1-star plus	41.0	596	\$5,670	130	104	5	21	217	\$10.06	13.6
1970- 79	297	2-star	58.9	880	\$6,134	129	96	11	22	159	\$7.54	9.3
1980- 89	609	2-star plus	65.5	1,027	\$6,982	145	104	18	24	151	\$7.13	8.6
1990- 99	331	3-star	69.2	1,062	\$6,615	137	89	15	23	135	\$6.40	7.4
2000- 2004	209	3-star plus	77.9	1,122	\$5,572	119	73	22	25	141	\$5.42	7.7
2005 or later	71	4-star plus	87.4	1,121	\$4,839	94	44	26	23	89	\$4.52	3.4

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

ARIS

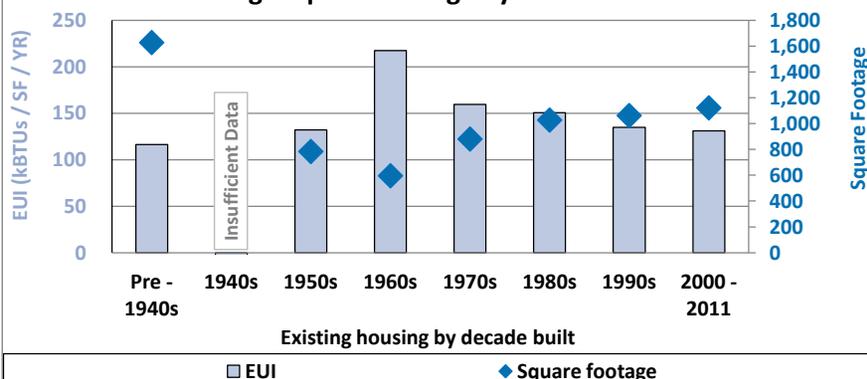
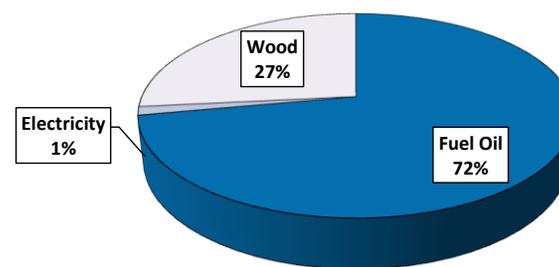


Figure C12: Percent of Total Residential Space Heating Energy by Fuel Type

ARIS

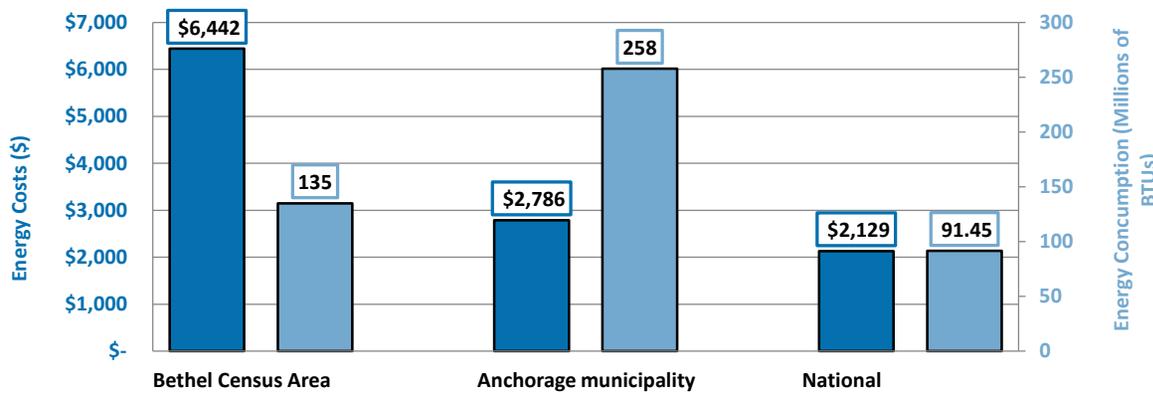


Current Bethel Census Area Housing Envelope Characteristics By Decade Built											
Current Residential Units by Year Built	# of AkWarm Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	1,069	7.9	22	16	8	22	3	3	0.48	0.23	0.61
Pre- 1940	7	7.0	25	20	NR	30	NR	NR	0.30	NR	0.40
1940- 49	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	21	8.4	18	13	NR	12	NR	NR	0.88	NR	0.70
1960- 69	90	11.0	13	12	NR	13	NR	NR	0.60	NR	0.91
1970- 79	297	8.9	18	14	NR	20	NR	NR	0.57	NR	0.64
1980- 89	609	7.9	25	17	12	26	NR	NR	0.42	0.18	0.58
1990- 99	331	5.8	25	20	NR	24	NR	NR	0.45	0.14	0.58
2000- 2004	209	5.3	26	18	NR	27	NR	NR	0.35	0.20	0.49
2005 or later	71	2.9	37	23	NR	38	NR	NR	0.22	NR	0.34

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

AFFORDABILITY - Bethel Census Area

Figure C13: Average Annual Home Energy Cost and Use



Housing Information	Avg Household Size (# of people)
All-occupied	3.9
Owner-occupied	4.2
Renter-occupied	3.3

Median Value of Owner-occupied House with Mortgage
\$205,200

Median Value of Owner-occupied House without a Mortgage
\$120,100

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 52,063
Renter-occupied	\$ 48,860
Owner-occupied	\$ 53,804
w/ mortgage	\$ 90,446
w/o mortgage	\$ 39,547

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 667	\$ 8,004
Gross rent	\$ 941	\$ 11,292
Owner-occupied	\$ 551	\$ 6,612
Housing units w/ mortgage	\$ 1,411	\$ 16,932
Housing units w/out a mortgage	\$ 396	\$ 4,752

Avg % of Median Income Spent on Energy	12.4%
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Figure C14: Affordability - Housing Costs as a Percent of Income

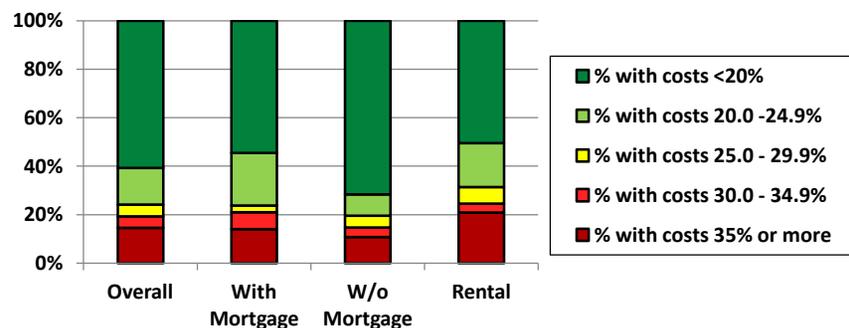
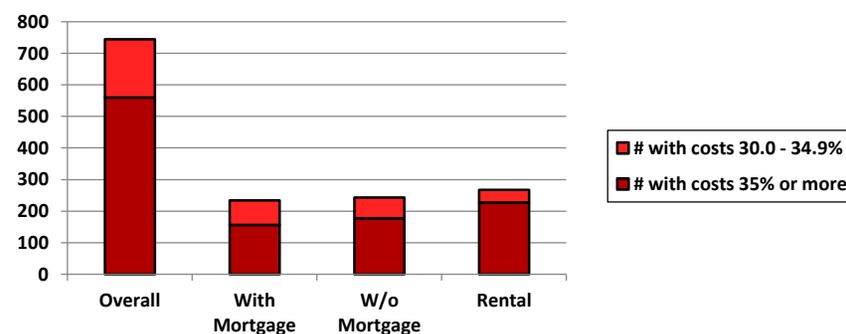


Figure C15: Number of Cost-Burdened Housing Units

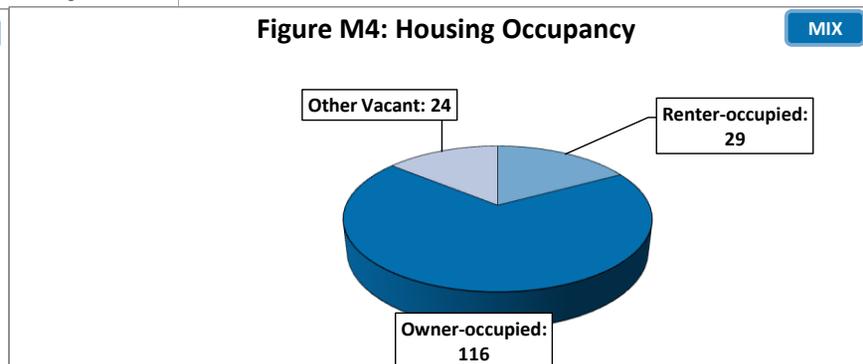
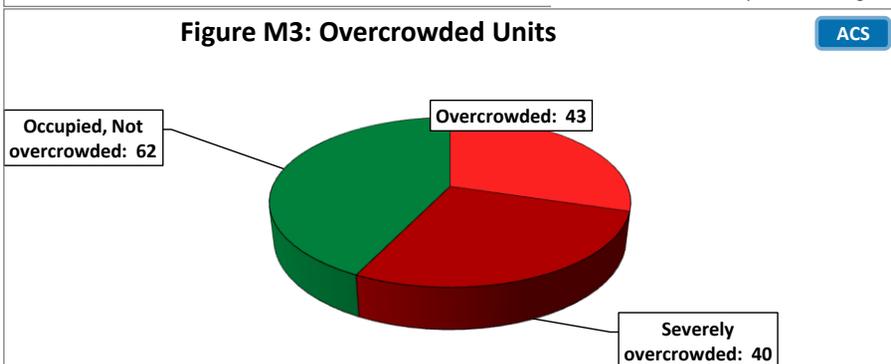
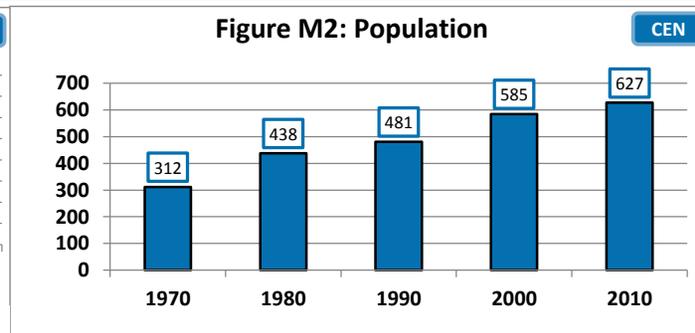
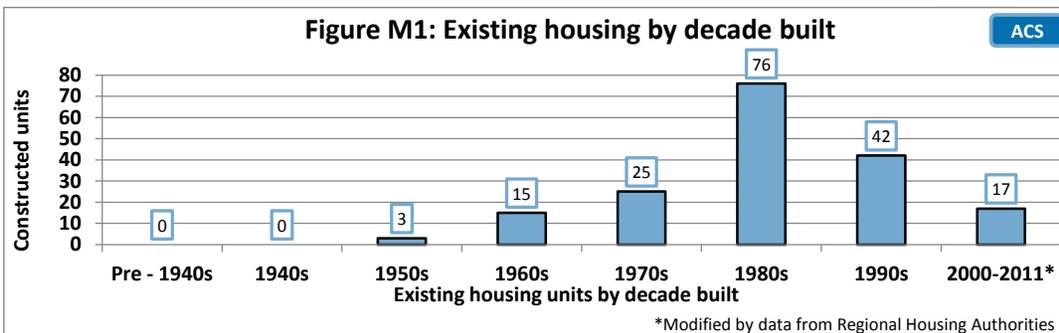


Community Profile for: Akiachak CDP

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,213 HDD)



Akiachak 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	51	3-star	71.4	706	\$ 4,981	88	123	\$6.78	6.6	55%
Retrofit units	26	3-star	72.8	673	\$ 6,919	107	160	\$9.88	6.9	0%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	77	3-star	71.6	701	\$ 5,279	91	129	\$7.26	6.6	46%

Akiachak 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	51	7.6	23	23	NR	36	NR	NR	0.40	NR	0.59
Retrofit units	26	8.8	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	77	7.6	23	23	NR	36	NR	NR	0.40	NR	0.59

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

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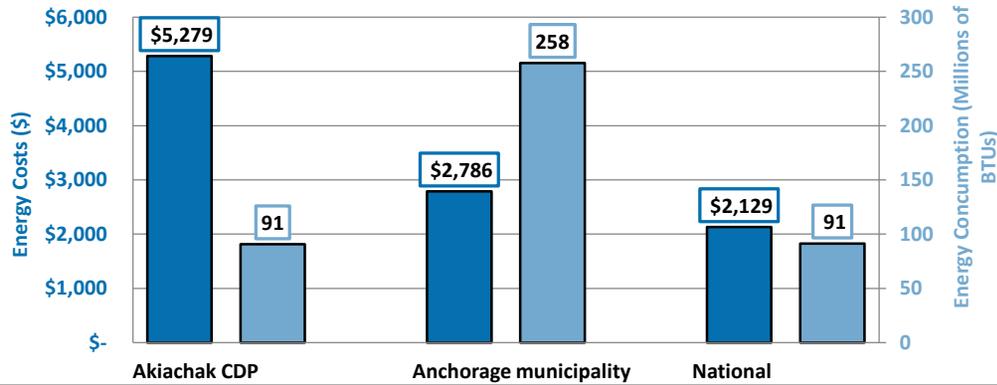
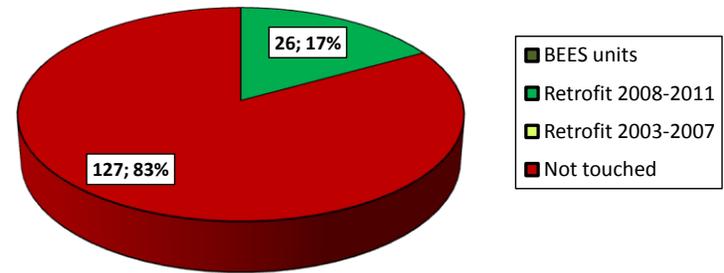


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Akiachak CDP

Owner occupied House with Mortgage, Median Value
\$133,300
Owner-occupied House without a Mortgage, Median Value
\$85,000

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 45,313
Renter-occupied	\$ 56,563
Owner-occupied	\$ 40,833
w/ mortgage	\$ 21,667
w/o mortgage	\$ 53,333

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 360	\$ 4,320
Gross rent	\$ 288	\$ 3,456
Owner-occupied	\$ 369	\$ 4,428
Housing units w/ mortgage	\$ 558	\$ 6,696
Housing units w/out a mortgage	\$ 269	\$ 3,228

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.89
Electricity with PCE (\$/kWh)	\$ 0.28
Electricity without PCE (\$/kWh)	\$ 0.63

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$7,089

Housing Stock Estimates	Number of Units
All Housing	169
All Occupied Housing	145
All Vacant housing	24
Vacant Housing for Sale/Rent	0

Avg % Median Income spent on Energy	15.6%
--	-------

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

ACS

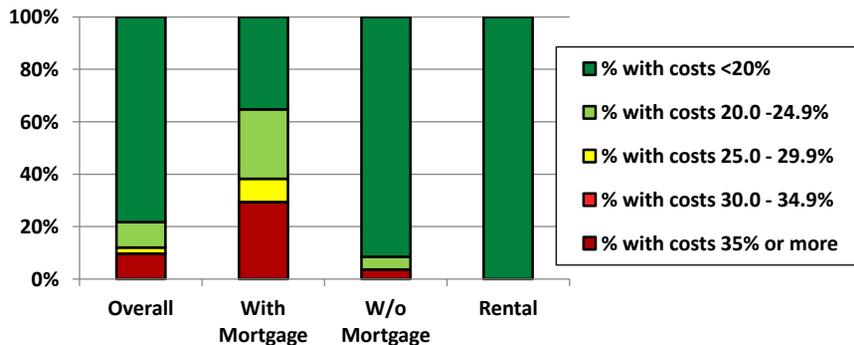
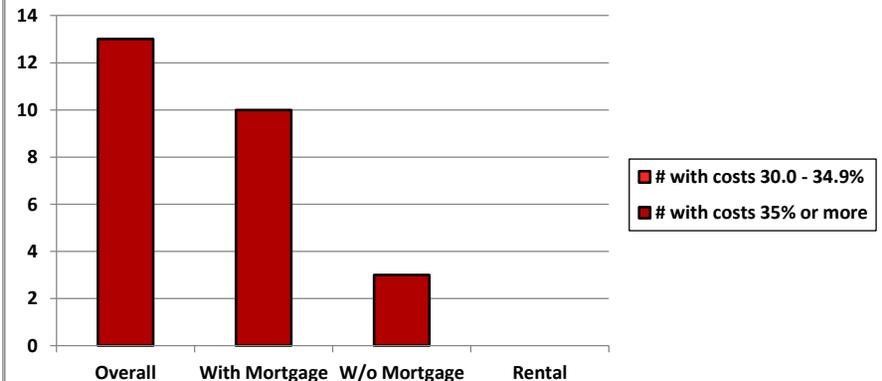


Figure M8: Number of Cost-Burdened Housing Units

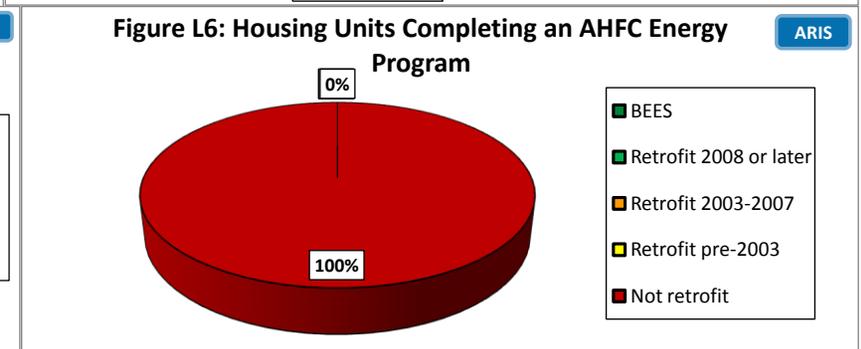
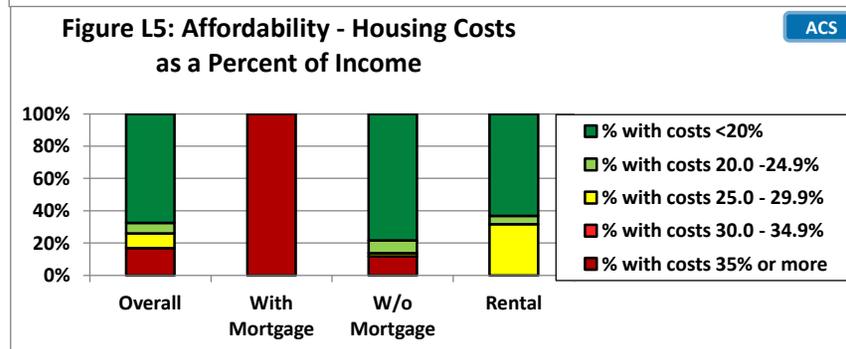
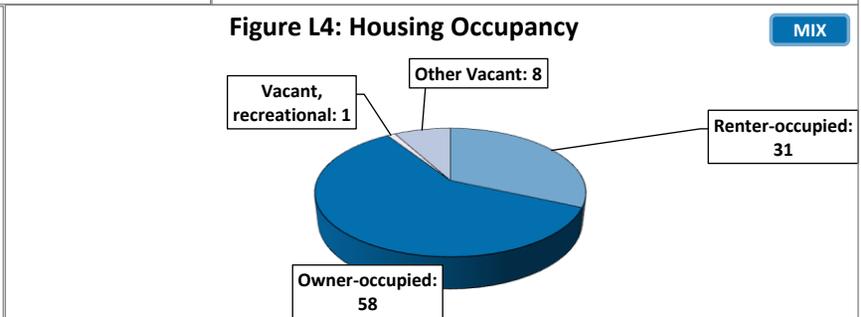
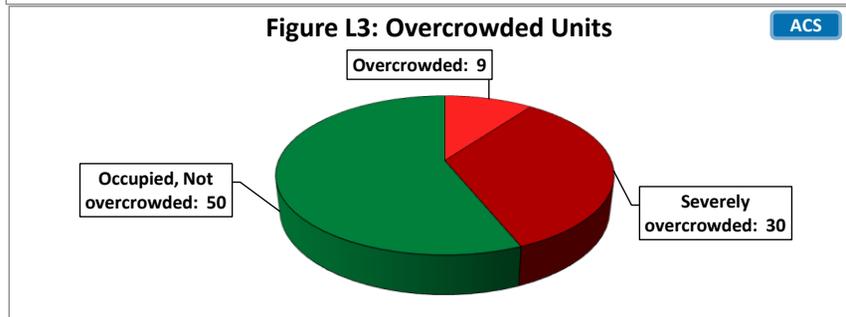
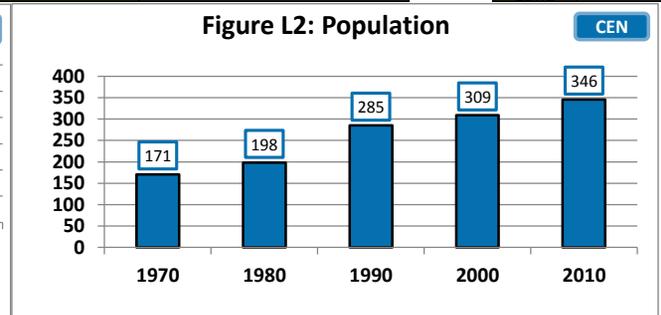
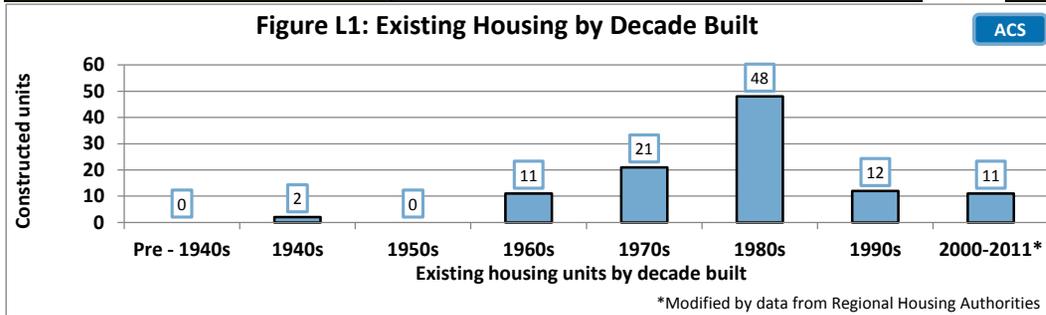
ACS



Community Profile for: Akiak city

ANCSA Region: Calista

Climate Zone: 8



Owner-occupied House with Mortgage, Median Value
NR

Owner-occupied House without a Mortgage, Median Value
\$231,300

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.85
Electricity with PCE (\$/kWh)	\$ 0.28
Electricity without PCE (\$/kWh)	\$ 0.63

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 37,969
Renter-occupied	\$ 46,250
Owner-occupied	\$ 36,071
w/ mortgage	NR
w/o mortgage	\$ 37,321

Housing Stock Estimates	
	Number of Units
All Housing	98
All Occupied Housing	89
All Vacant housing	9

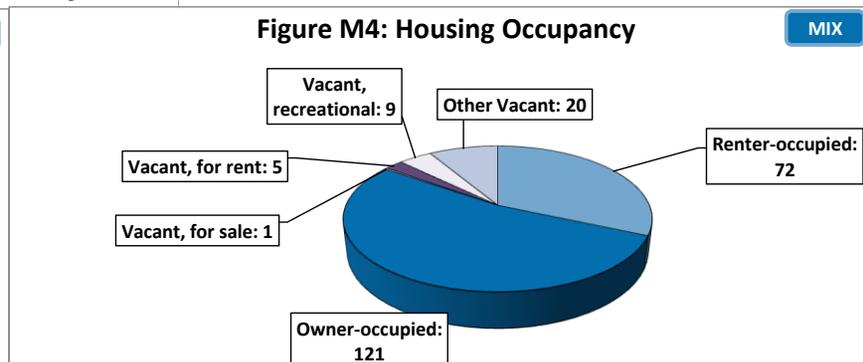
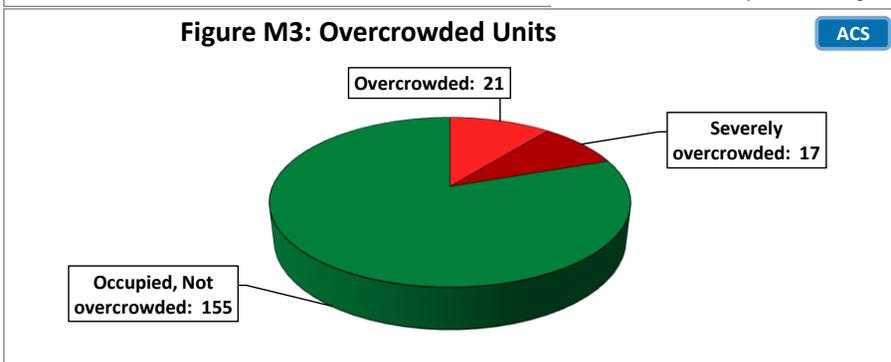
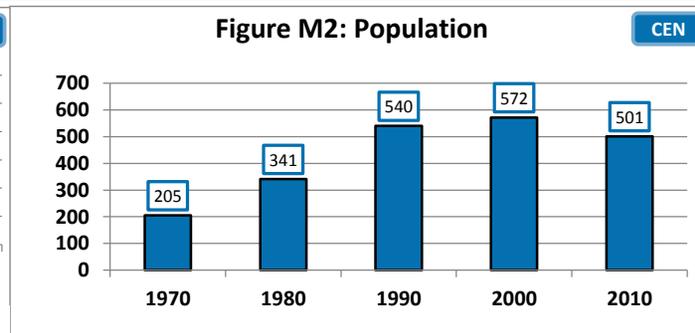
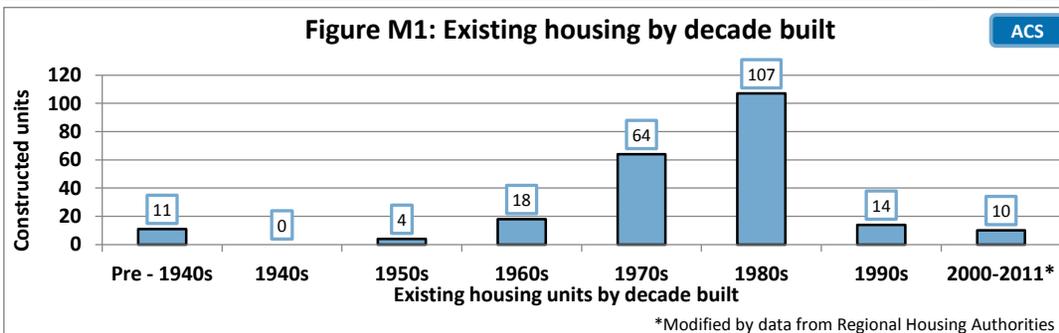
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 425	\$ 5,100
Gross rent	\$ 489	\$ 5,868
Owner-occupied	\$ 389	\$ 4,668
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 369	\$ 4,428

Community Profile for: Aniak city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,356 HDD)



Aniak 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	41	2-star plus	63.3	1,143	\$ 8,238	181	168	\$7.28	9.1	43%
Retrofit units	5	3-star plus	77.5	1,389	\$ 6,958	121	88	\$5.06	4.3	80%
New construction	5	4-star plus	87.8	1,502	\$ 7,178	131	110	\$5.66	5.1	0%
Overall	51	2-star plus	64.2	1,156	\$ 8,187	178	165	\$7.19	8.9	43%

Aniak 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	41	8.9	25	17	8	16	3	2	0.38	NR	0.57
Retrofit units	5	5.6	20	15	14	29	NR	NR	0.23	NR	0.39
New construction	5	4.3	42	21	NR	41	NR	NR	0.24	NR	0.32
Overall	51	8.7	25	17	9	16	3	2	0.37	0.18	0.56

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

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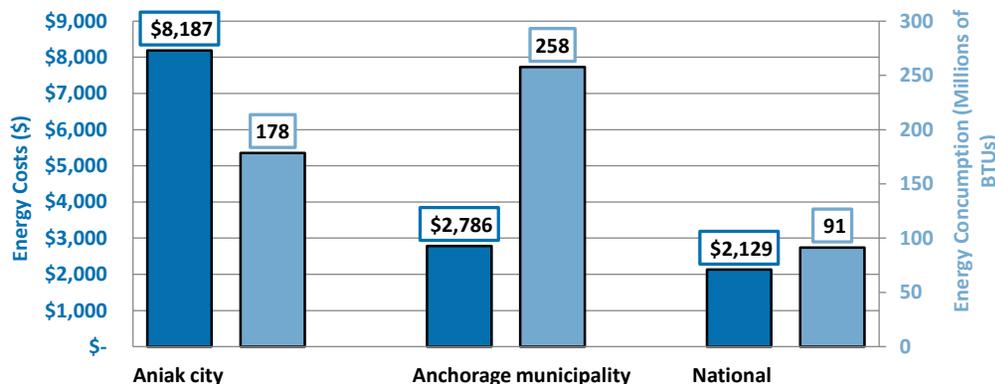
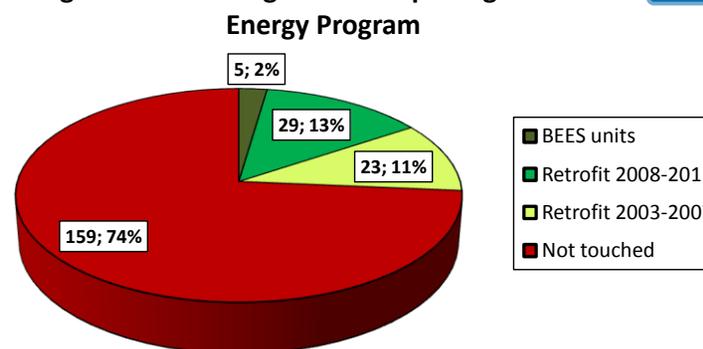


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Aniak city

Owner occupied House with Mortgage, Median Value
\$221,900

Owner-occupied House without a Mortgage, Median Value
\$201,900

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.87
Electricity with PCE (\$/kWh)	\$ 0.29
Electricity without PCE (\$/kWh)	\$ 0.68

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 60,673
Renter-occupied	\$ 69,167
Owner-occupied	\$ 55,208
w/ mortgage	\$ 66,750
w/o mortgage	\$ 48,750

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$10,338

Avg % Median Income spent on Energy	17.0%
-------------------------------------	-------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 920	\$ 11,040
Gross rent	\$ 1,082	\$ 12,984
Owner-occupied	\$ 744	\$ 8,928
Housing units w/ mortgage	\$ 1,484	\$ 17,808
Housing units w/out a mortgage	\$ 563	\$ 6,756

Housing Stock Estimates	Number of Units
All Housing	228
All Occupied Housing	193
All Vacant housing	35
Vacant Housing for Sale/Rent	6

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

ACS

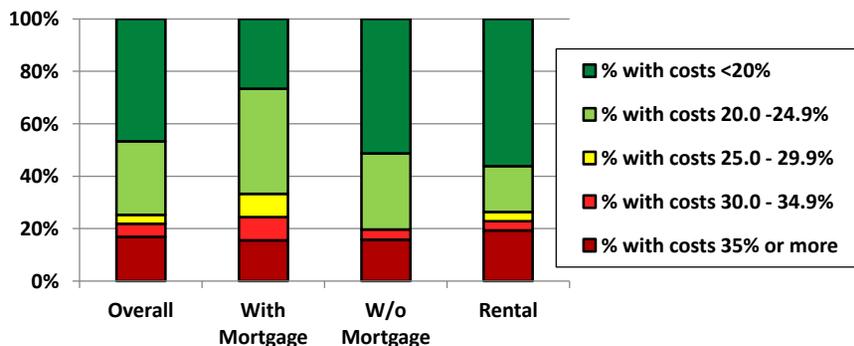


Figure M8: Number of Cost-Burdened Housing Units

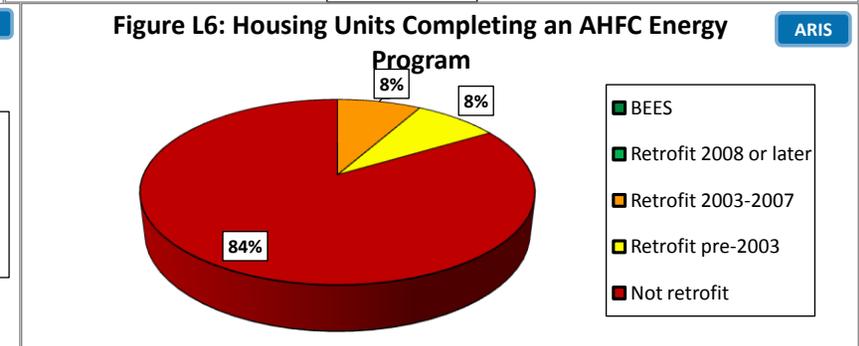
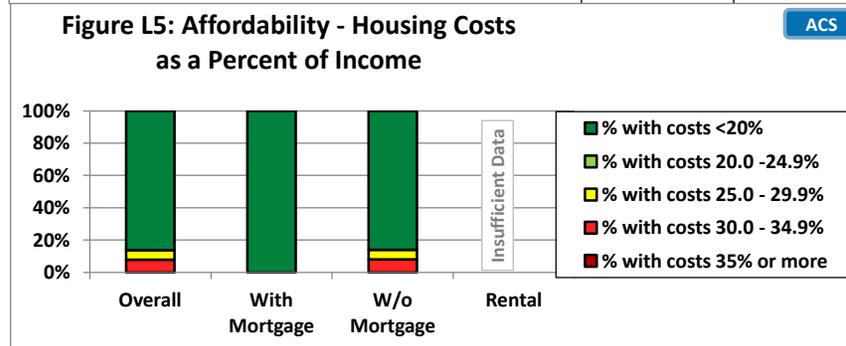
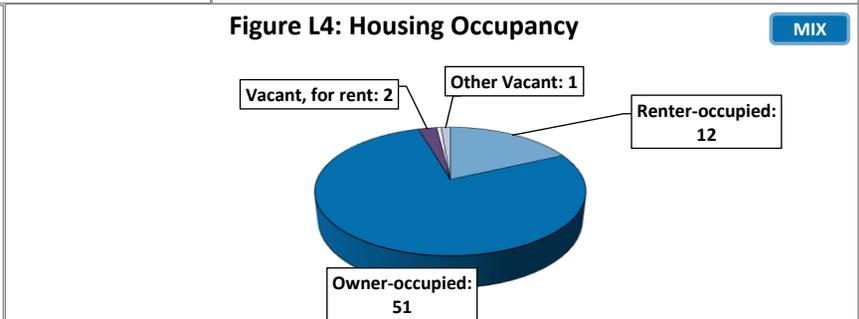
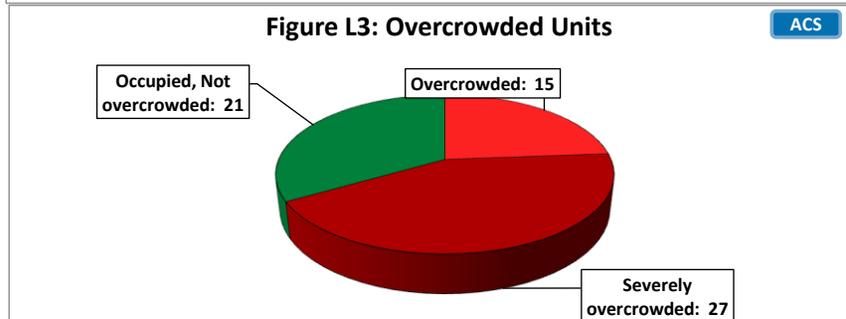
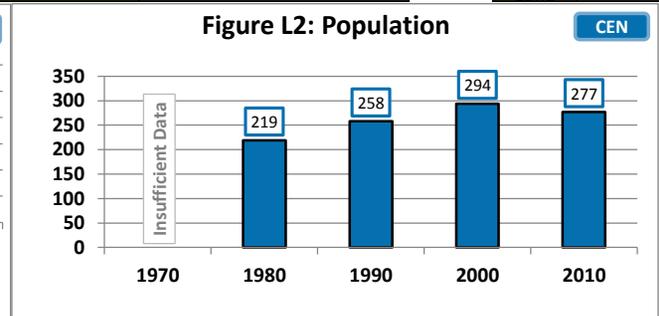
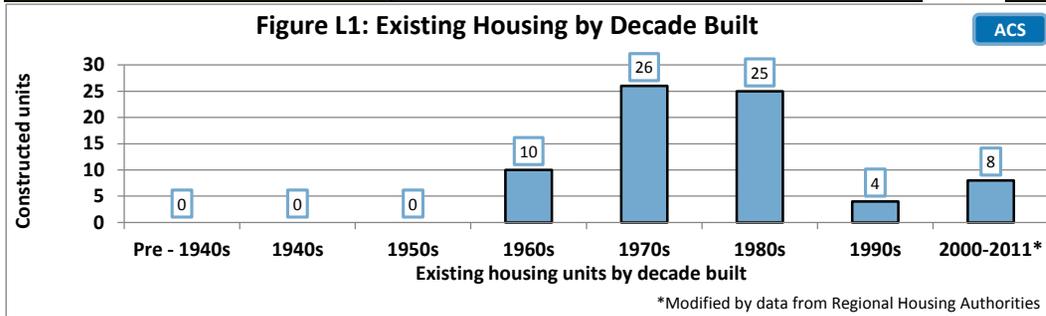
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Community Profile for: Atmautluak CDP

ANCSA Region: Calista

Climate Zone: 8



Owner-occupied House with Mortgage, Median Value
\$187,500

Owner-occupied House without a Mortgage, Median Value
\$46,400

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.56
Electricity with PCE (\$/kWh)	\$ 0.38
Electricity without PCE (\$/kWh)	\$ 0.70

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 48,750
Renter-occupied	\$ 58,750
Owner-occupied w/ mortgage	\$ 48,750
w/ mortgage	NR
w/o mortgage	\$ 48,571

Housing Stock Estimates	
Housing Stock Estimates	Number of Units
All Housing	66
All Occupied Housing	63
All Vacant housing	3

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 381	\$ 4,572
Gross rent	NR	NR
Owner-occupied	\$ 388	\$ 4,656
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 375	\$ 4,500

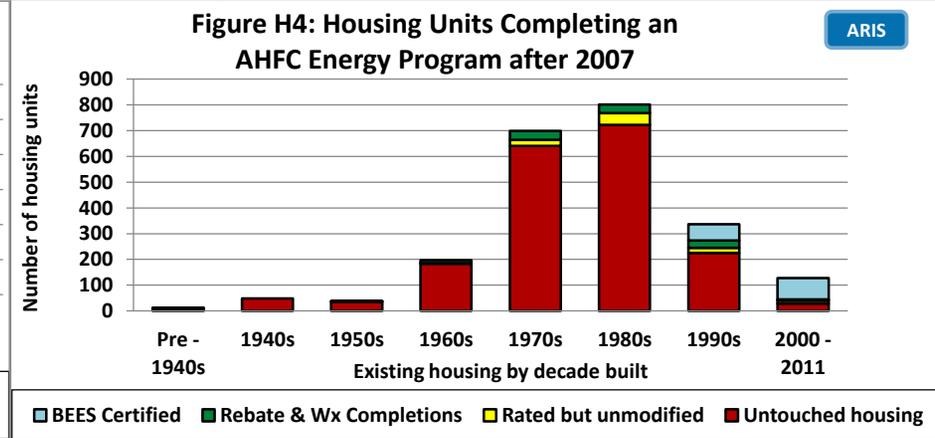
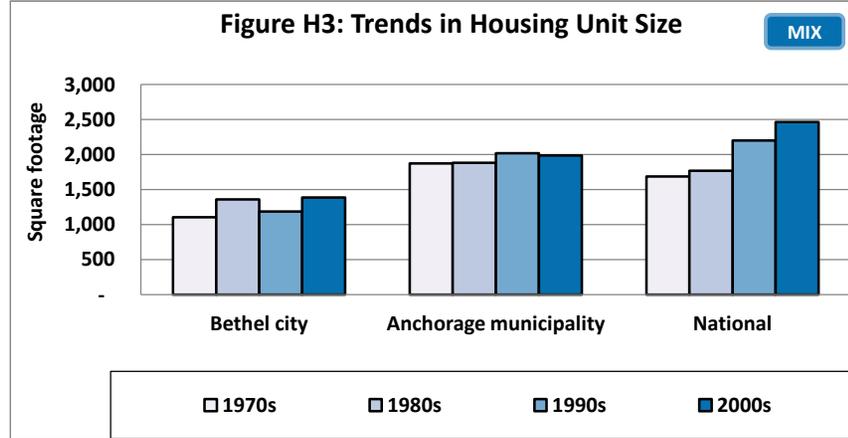
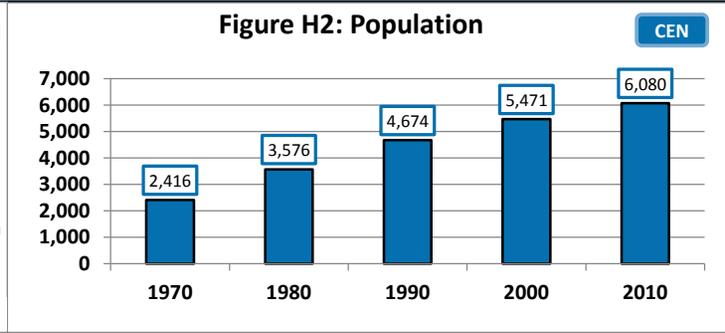
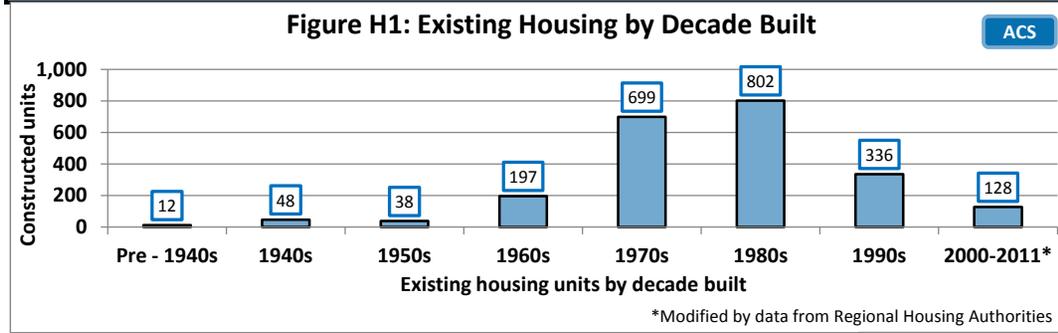
Community Profile for: Bethel city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,334 HDD)

COMMUNITY - Bethel city



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	60	4%
Lack complete kitchen	45	3%

Avg Annual Energy Cost with PCE	\$8,065
Avg Annual Energy Cost without PCE	\$10,266

Weatherization Program Retrofits (funding increased in 2008)	
Date Range	Units
2008-2011	65
2003-2007	1
1990-2002	17

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	1,202,940	(gallons)
Nat Gas	-	(ccf)
Electricity	647,629	(kWh)
Wood	1,050	(cords)
Propane	1,902	(gallons)
Coal	-	(tons)

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$6.13
Electricity with PCE (\$/kWh)	\$0.14
Electricity cost without PCE (\$/kWh)	\$0.52

Housing Stock Estimates	Number of Units
All Housing	2260
All Occupied Housing	1679
All Vacant housing	581
Vacant Housing for Sale or Rent	187

OVERCROWDING & VENTILATION - Bethel city

Figure H5: Overcrowded Units

ACS

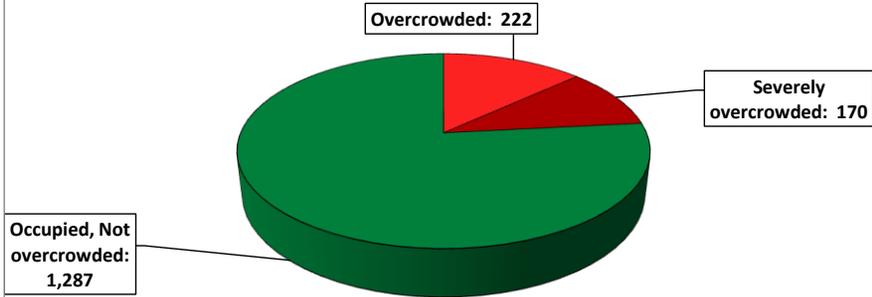


Figure H6: Housing Occupancy

MIX

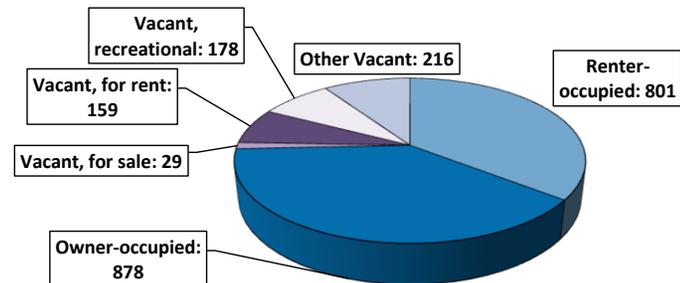


Figure H7: Average Air-Tightness of Current Homes by Decade Built

ARIS

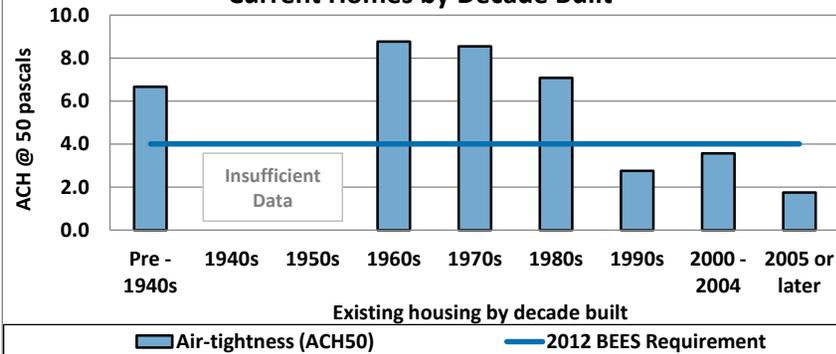


Figure H8: Existing Ventilation Type by Decade Built

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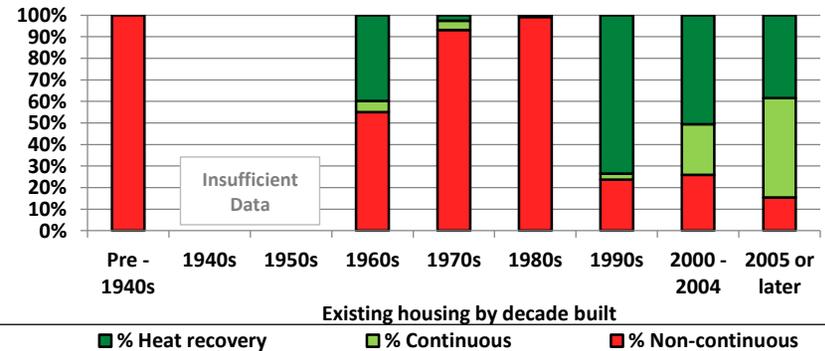


Figure H9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

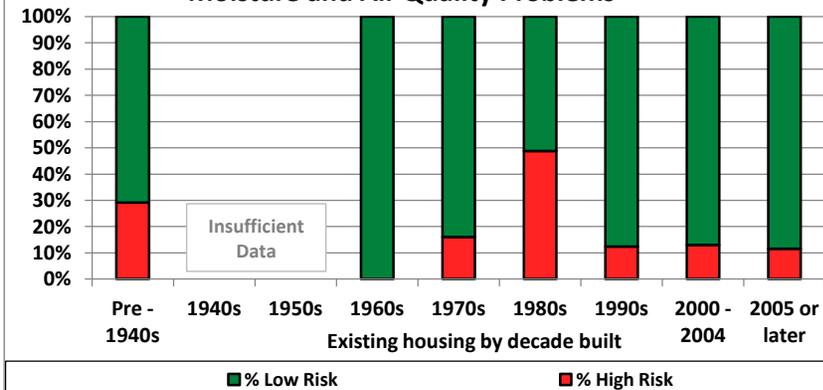
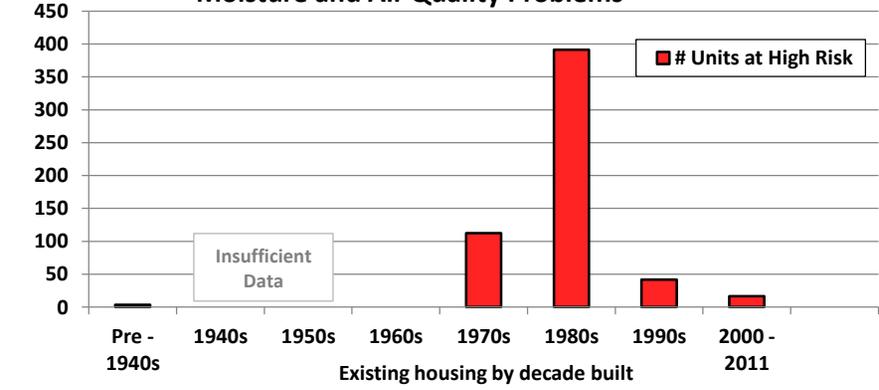


Figure H10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Bethel city												
Current Bethel city 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	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	25	2-star	52.3	1,056	\$ 11,087	287	225	35	27	269	\$ 10.60	16.0
1970- 79	99	2-star plus	64.5	1,106	\$ 7,961	151	105	21	25	149	\$ 8.09	7.8
1980- 89	116	3-star plus	74.7	1,361	\$ 8,239	157	100	30	26	119	\$ 6.40	5.8
1990- 99	128	4-star	79.9	1,187	\$ 6,395	122	57	21	20	108	\$ 5.58	4.7
2000- 2004	78	3-star plus	77.5	1,388	\$ 8,435	143	80	35	27	118	\$ 7.24	5.2
2005 or later	28	5-star	91.9	1,233	\$ 4,504	92	39	28	25	79	\$ 3.82	2.5

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

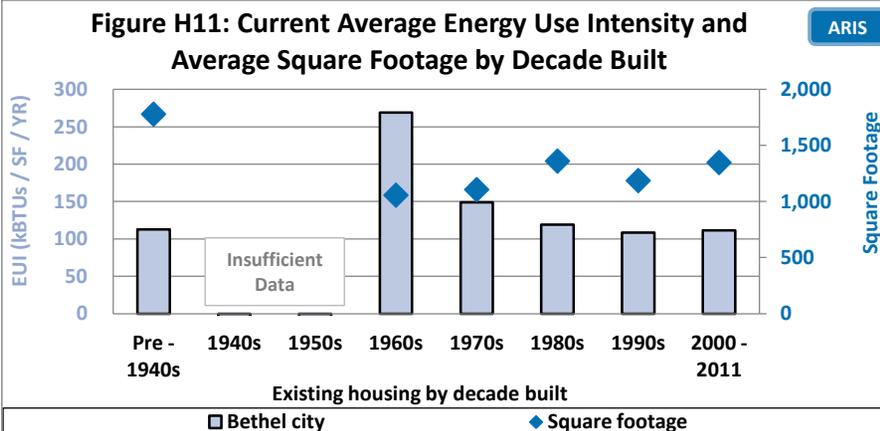
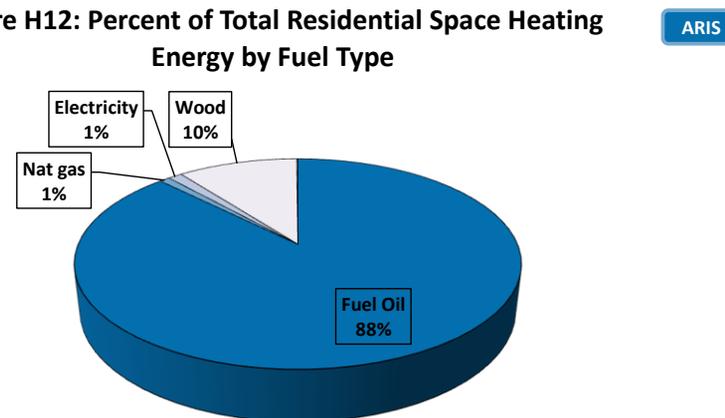


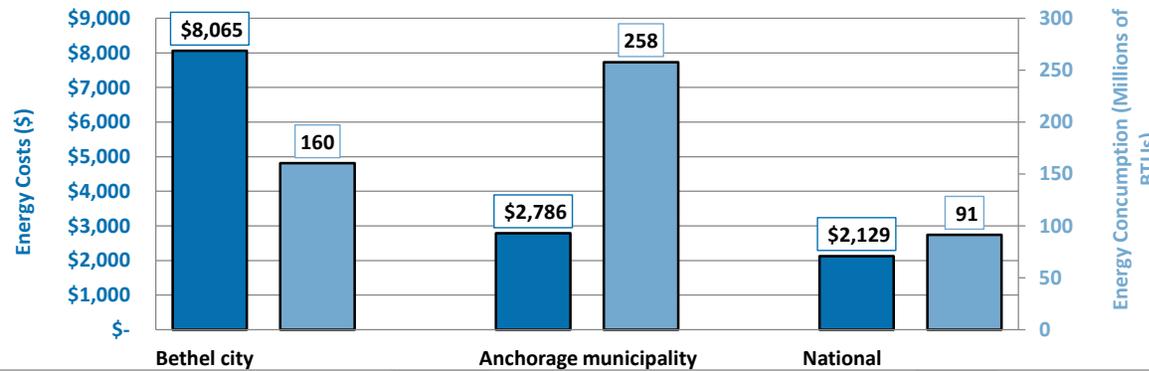
Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type



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	25	8.8	16	14	NR	21	NR	NR	0.44	NR	1.65
1970- 79	99	8.5	20	15	NR	29	NR	NR	0.39	NR	0.57
1980- 89	116	7.1	29	17	NR	32	NR	NR	0.30	NR	0.44
1990- 99	128	2.7	56	31	NR	50	NR	NR	0.19	0.12	0.29
2000- 2004	78	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

AFFORDABILITY - Bethel city

Figure H13: Average Annual Home Energy Costs and Use



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

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

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

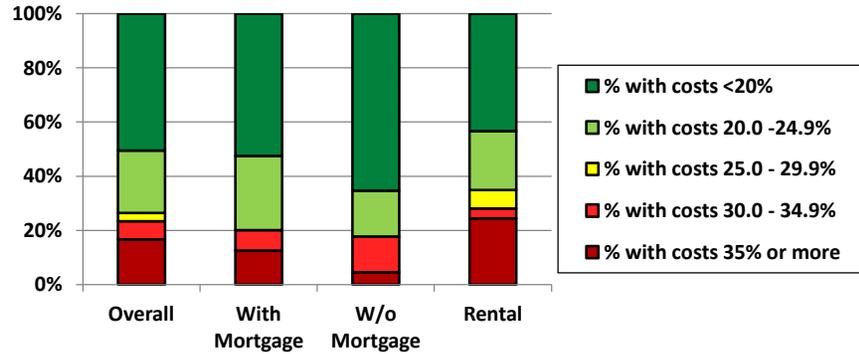


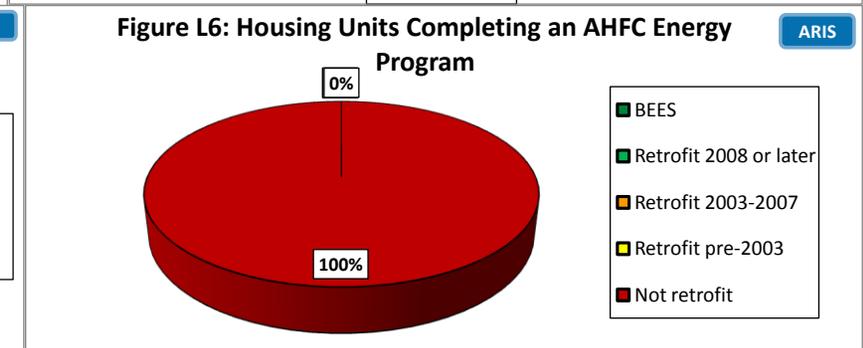
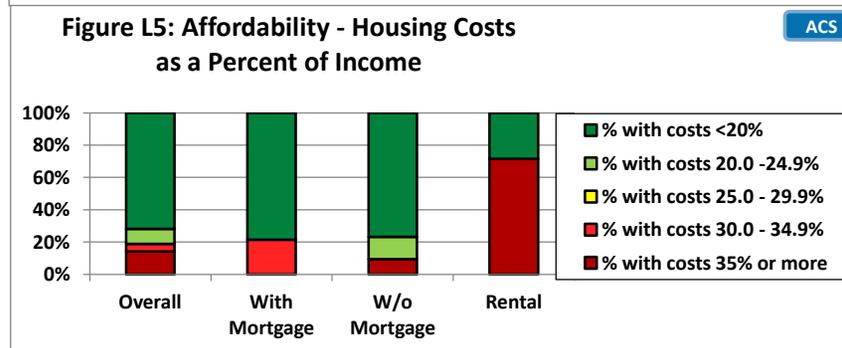
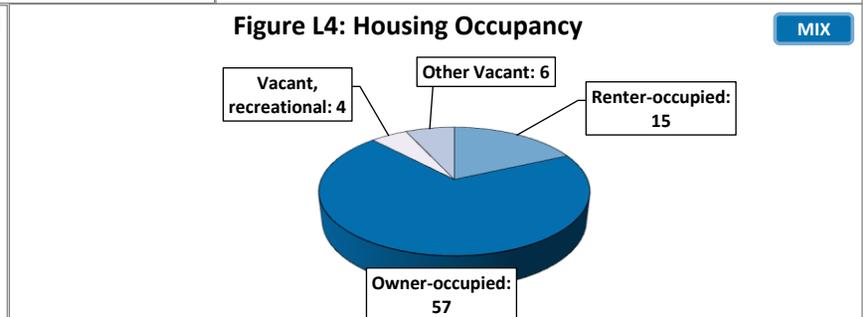
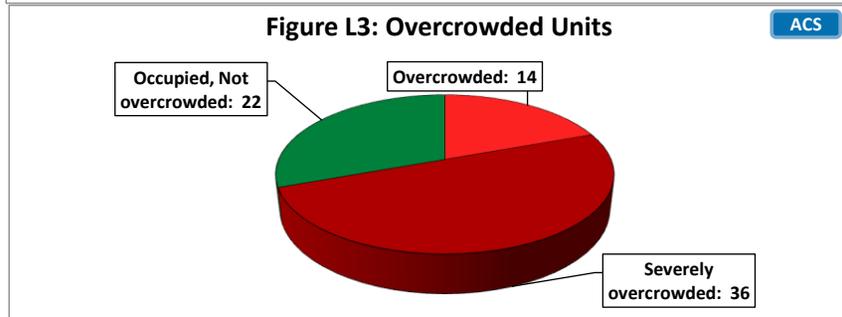
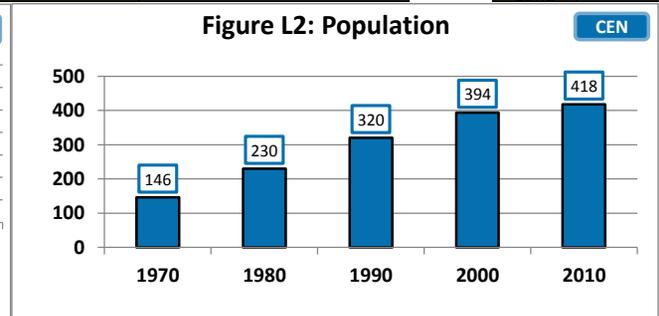
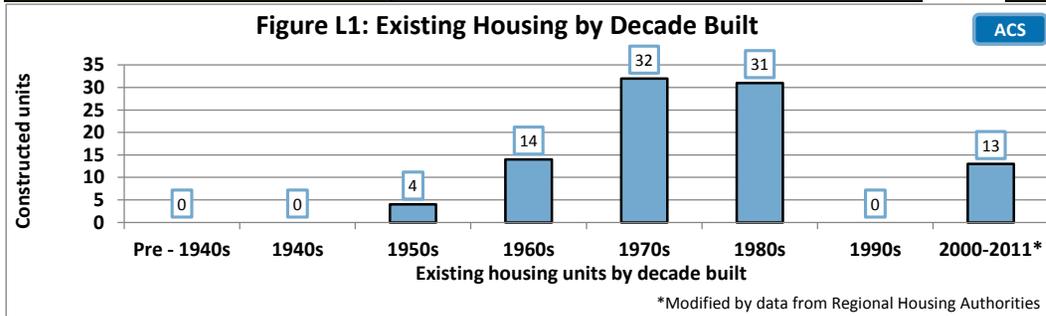
Figure H15: Number of Cost-Burdened Housing Units



Community Profile for: Chefnak city

ANCSA Region: Calista

Climate Zone: 8



Owner-occupied House with Mortgage, Median Value
\$212,500

Owner-occupied House without a Mortgage, Median Value
\$168,800

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 7.14
Electricity with PCE (\$/kWh)	No PCE
Electricity without PCE (\$/kWh)	\$ 1.00

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 39,583
Renter-occupied	\$ 35,417
Owner-occupied	\$ 55,795
w/ mortgage	\$ 110,625
w/o mortgage	\$ 51,250

Housing Stock Estimates	
Housing Stock Estimates	Number of Units
All Housing	82
All Occupied Housing	72
All Vacant housing	10

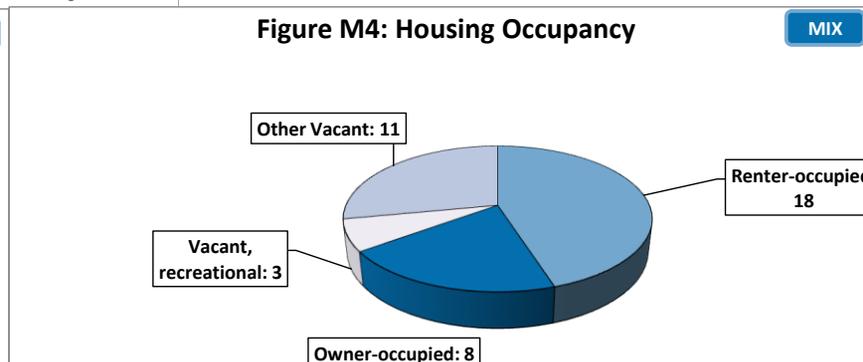
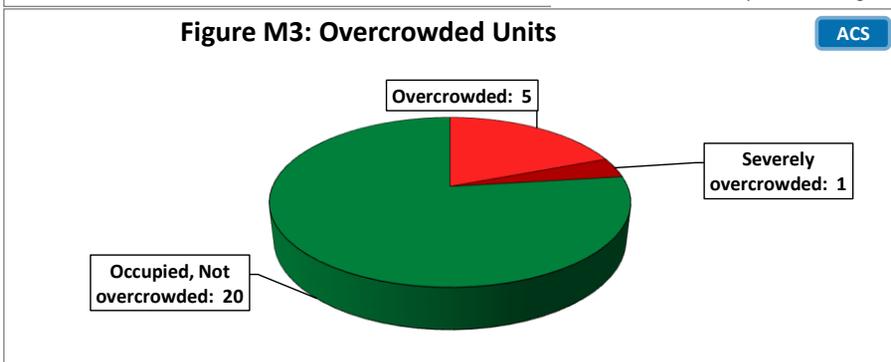
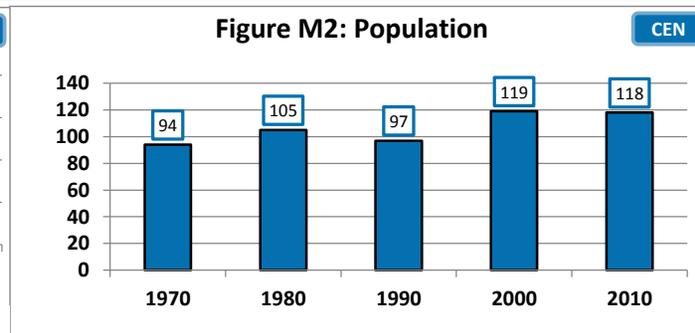
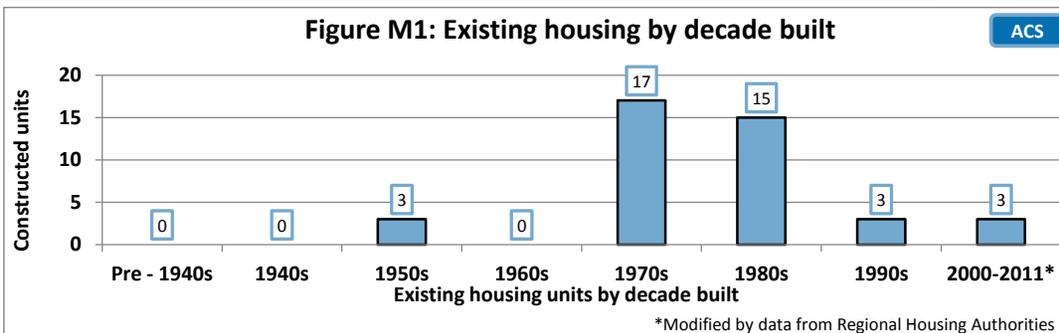
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 450	\$ 5,400
Gross rent	\$ 485	\$ 5,820
Owner-occupied	\$ 391	\$ 4,692
Housing units w/ mortgage	\$ 600	\$ 7,200
Housing units w/out a mortgage	\$ 366	\$ 4,392

Community Profile for: Chuathbaluk city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,356 HDD)



Chuathbaluk 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	1	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	10	1-star	22.2	573	\$ 6,241	176	307	\$10.89	20.2	0%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR

Chuathbaluk 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	1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	10	10.7	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

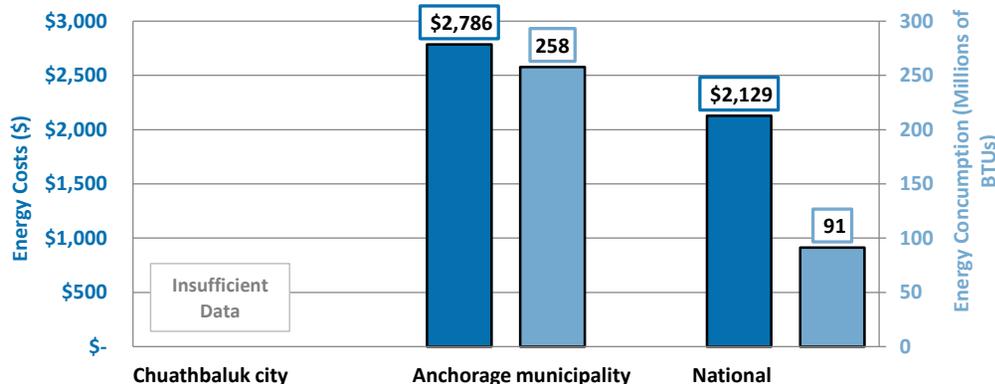
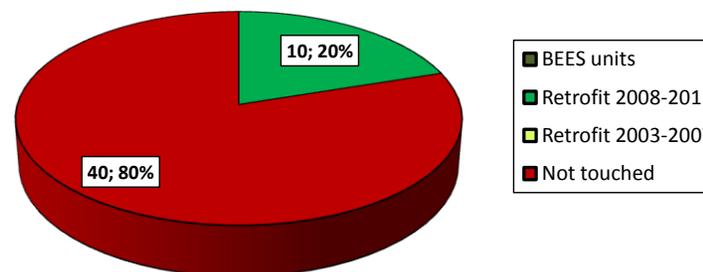


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Chuathbaluk city

Owner occupied House with Mortgage, Median Value
NR

Owner-occupied House without a Mortgage, Median Value
\$18,100

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.80
Electricity with PCE (\$/kWh)	\$ 0.18
Electricity without PCE (\$/kWh)	\$ 0.82

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 60,833
Renter-occupied	\$ 60,833
Owner-occupied	\$ 68,750
w/ mortgage	NR
w/o mortgage	\$ 80,938

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$6,892

Avg % Median Income spent on Energy	11.3%
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Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 620	\$ 7,440
Gross rent	\$ 583	\$ 6,996
Owner-occupied	\$ 850	\$ 10,200
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	1,000+	#VALUE!

Housing Stock Estimates	Number of Units
All Housing	40
All Occupied Housing	26
All Vacant housing	14
Vacant Housing for Sale/Rent	0

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

ACS

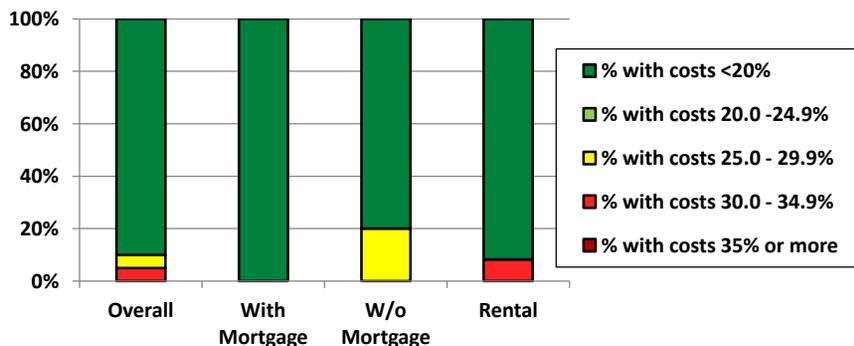


Figure M8: Number of Cost-Burdened Housing Units

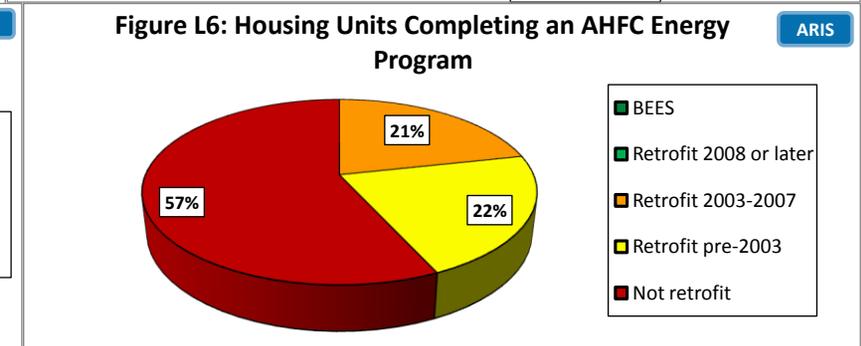
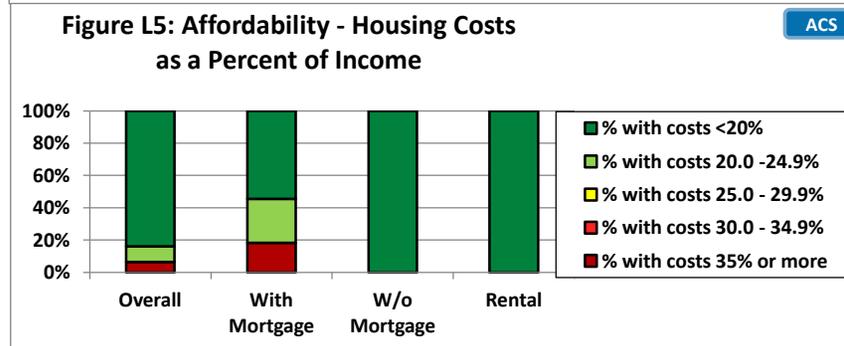
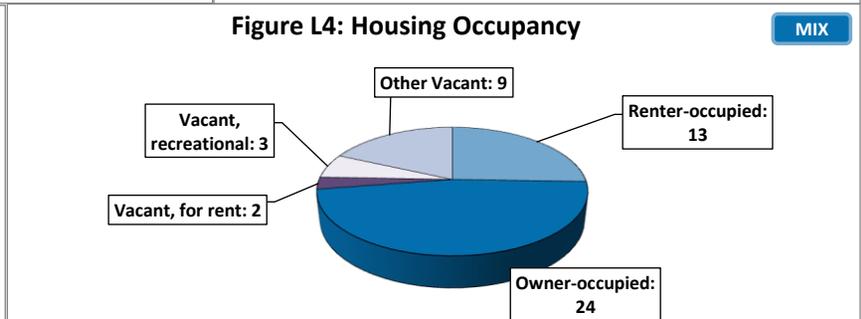
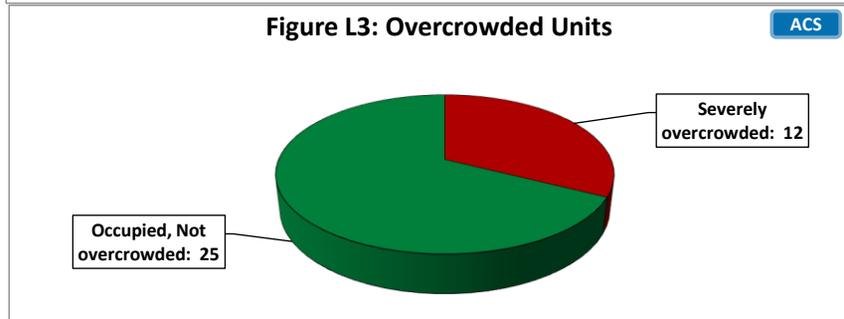
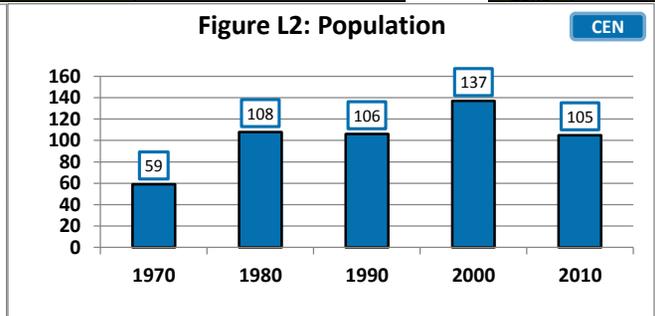
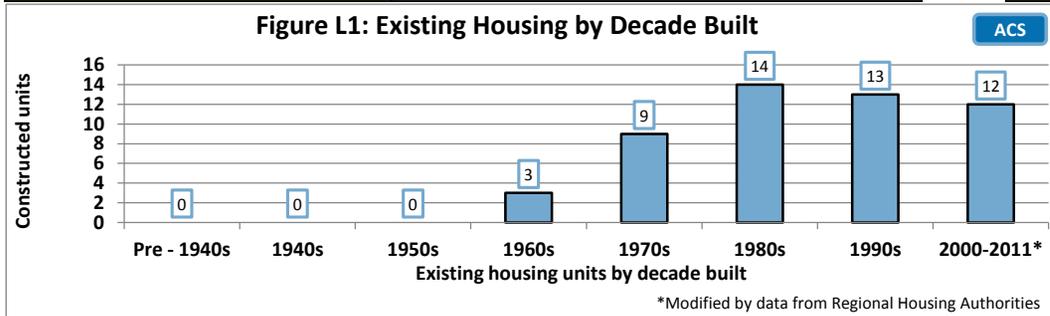
ACS



Community Profile for: Crooked Creek CDP

ANCSA Region: Calista

Climate Zone: 8



Owner-occupied House with Mortgage, Median Value
\$225,000

Owner-occupied House without a Mortgage, Median Value
\$22,500

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 7.55
Electricity with PCE (\$/kWh)	No PCE
Electricity without PCE (\$/kWh)	\$ 1.00

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 29,688
Renter-occupied	\$ 27,813
Owner-occupied	\$ 35,833
w/ mortgage	\$ 36,250
w/o mortgage	\$ 17,250

Housing Stock Estimates	
Housing Stock Estimates	Number of Units
All Housing	51
All Occupied Housing	37
All Vacant housing	14

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 375	\$ 4,500
Gross rent	NR	NR
Owner-occupied	\$ 350	\$ 4,200
Housing units w/ mortgage	\$ 625	\$ 7,500
Housing units w/out a mortgage	\$ 119	\$ 1,428

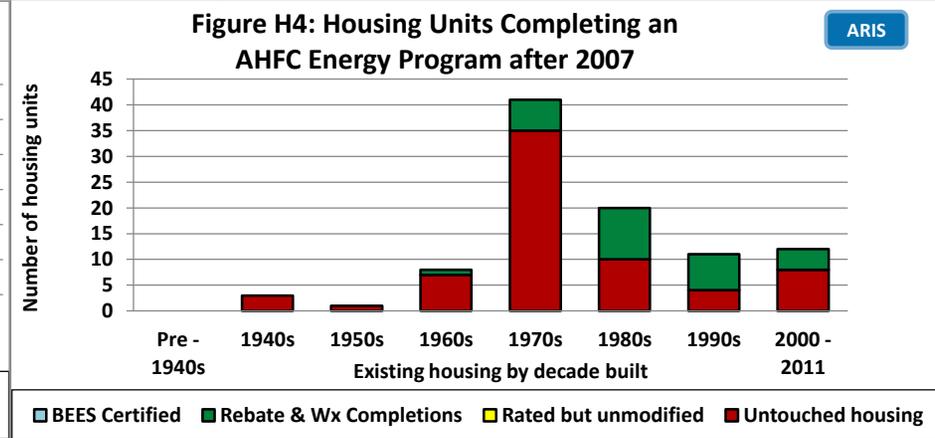
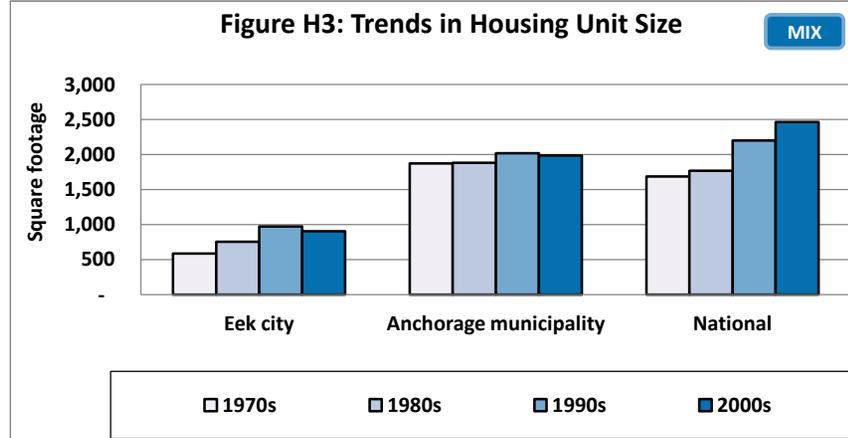
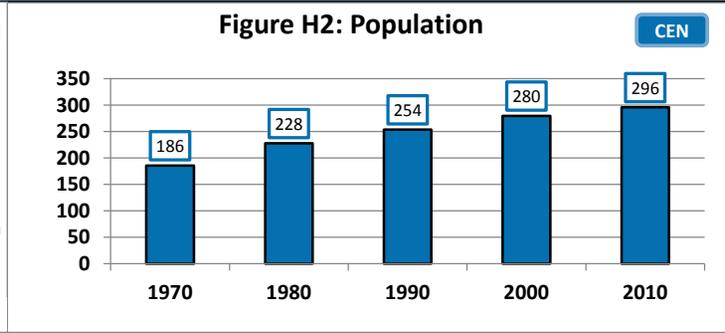
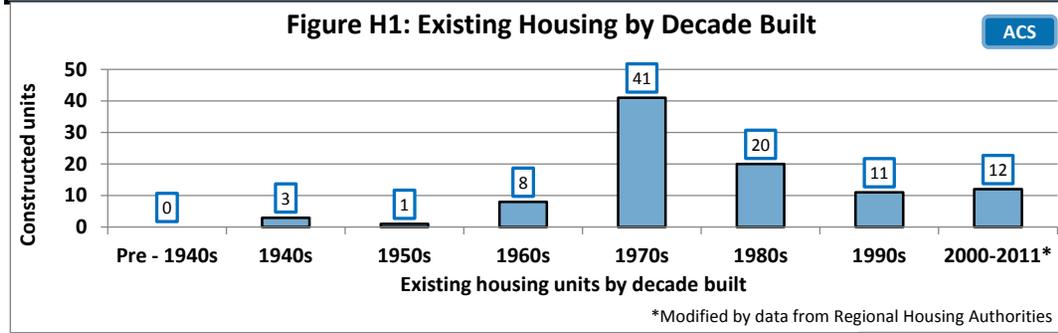
Community Profile for: Eek city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (11,548 HDD)

COMMUNITY - Eek city



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	68	100%
Lack complete kitchen	46	68%

Avg Annual Energy Cost with PCE	\$4,368
Avg Annual Energy Cost without PCE	\$6,334

Weatherization Program Retrofits (funding increased in 2008)	
Date Range	Units
2008-2011	28
2003-2007	-
1990-2002	1

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	27,226	(gallons)
Nat Gas	-	(ccf)
Electricity	24,623	(kWh)
Wood	100	(cords)
Propane	-	(gallons)
Coal	-	(tons)

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$7.14
Electricity with PCE (\$/kWh)	\$0.21
Electricity cost without PCE (\$/kWh)	\$0.60

Housing Stock Estimates	Number of Units
All Housing	94
All Occupied Housing	68
All Vacant housing	26
Vacant Housing for Sale or Rent	8

OVERCROWDING & VENTILATION - Eek city

Figure H5: Overcrowded Units

ACS

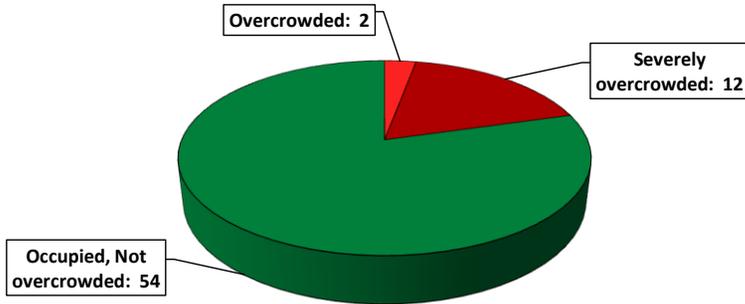


Figure H6: Housing Occupancy

MIX

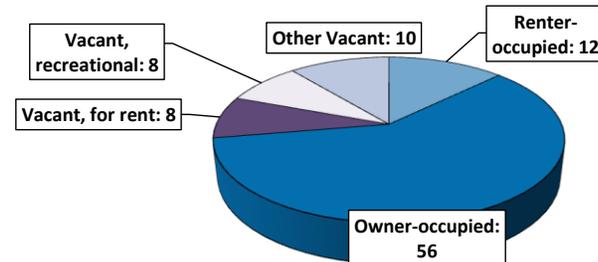


Figure H7: Average Air-Tightness of Current Homes by Decade Built

ARIS

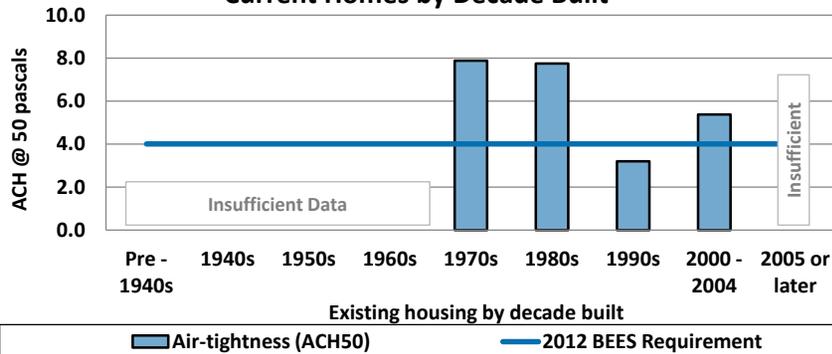


Figure H8: Existing Ventilation Type by Decade Built

ARIS

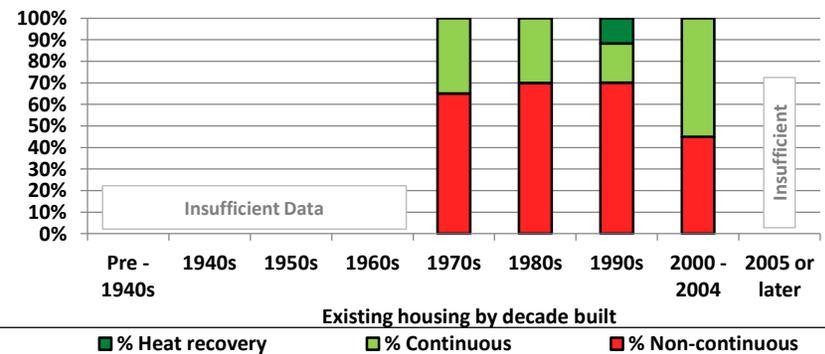


Figure H9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

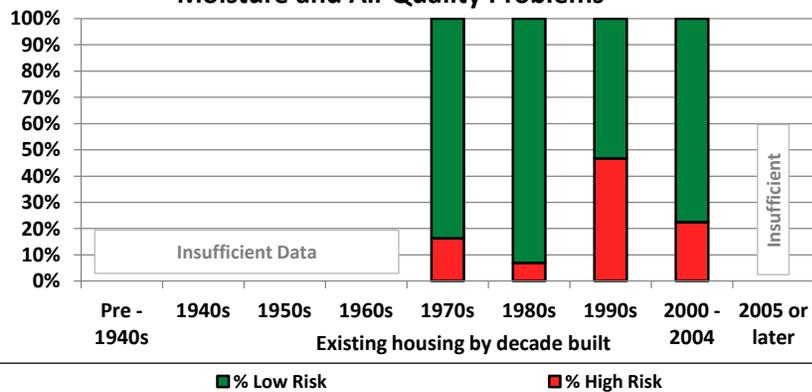
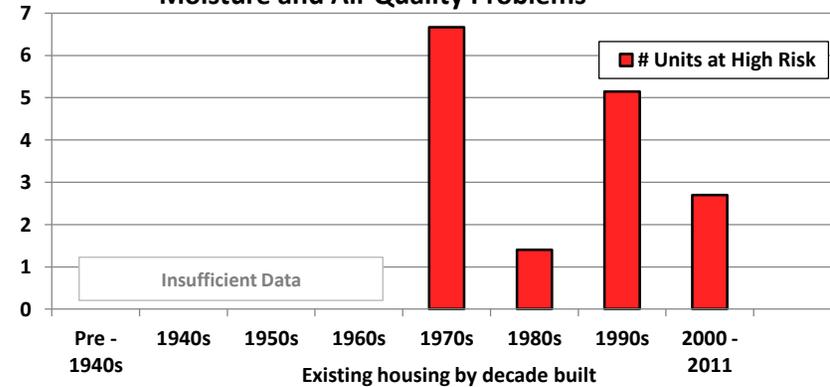


Figure H10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Eek city

Current Eek city 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	28	2-star	55.5	696	\$ 4,368	98	79	0	19	135	\$ 6.23	9.5
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1970- 79	7	1-star plus	48.9	584	\$ 4,243	102	84	0	18	186	\$ 7.72	13.7
1980- 89	16	2-star	58.9	755	\$ 4,473	92	73	0	19	123	\$ 6.05	8.6
1990- 99	9	3-star	70.6	971	\$ 5,040	107	84	0	23	111	\$ 5.28	7.6
2000- 2004	5	3-star	70.9	904	\$ 4,485	95	76	0	19	107	\$ 5.02	7.4
2005 or later	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

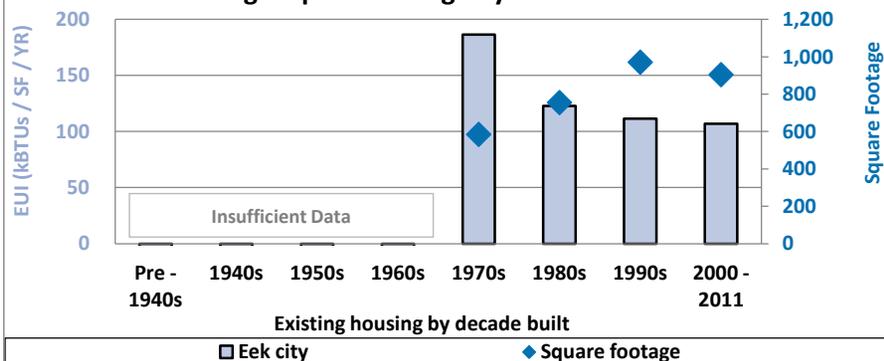
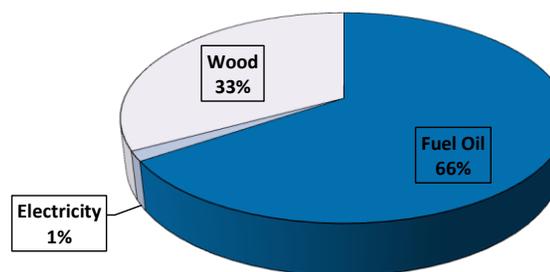


Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type



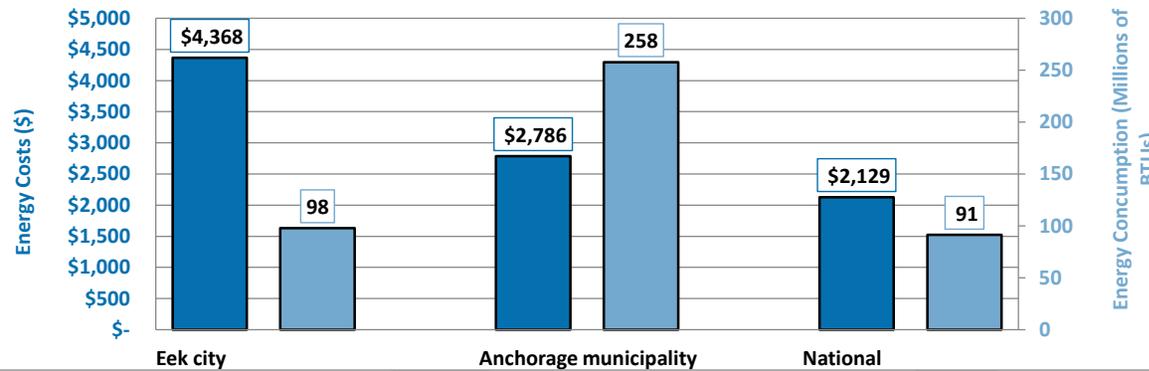
Current Eek city Housing Envelope Characteristics By Decade Built

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	28	7.0	17	15	NR	17	NR	NR	0.37	NR	0.71
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1970- 79	7	7.9	15	14	NR	13	NR	NR	0.39	NR	0.70
1980- 89	16	7.7	19	14	NR	20	NR	NR	0.36	NR	0.73
1990- 99	9	3.2	30	19	NR	20	NR	NR	0.30	NR	0.49
2000- 2004	5	5.4	19	18	NR	17	NR	NR	0.33	NR	0.69
2005 or later	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

AFFORDABILITY - Eek city

Figure H13: Average Annual Home Energy Costs and Use



Housing Information	Avg Household Size (# of people)
All-occupied	3.0
Owner-occupied	3.2
renter-occupied	2.1

Owner-occupied House with Mortgage, Median Value	\$225,000
Owner-occupied House without a Mortgage, Median Value	\$119,600

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 28,750
Renter-occupied	\$ 45,000
Owner-occupied w/ mortgage	\$ 37,083
Owner-occupied w/o mortgage	\$ 18,750

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 298	\$ 3,576
Gross rent	\$ 713	\$ 8,556
Owner-occupied	\$ 274	\$ 3,288
Housing units w/ mortgage	\$ 393	\$ 4,716
Housing units w/out a mortgage	\$ 247	\$ 2,964

Avg % of Median Income Spent on Energy	15.2%
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Figure H14: Affordability - Housing Costs as a Percent of Income

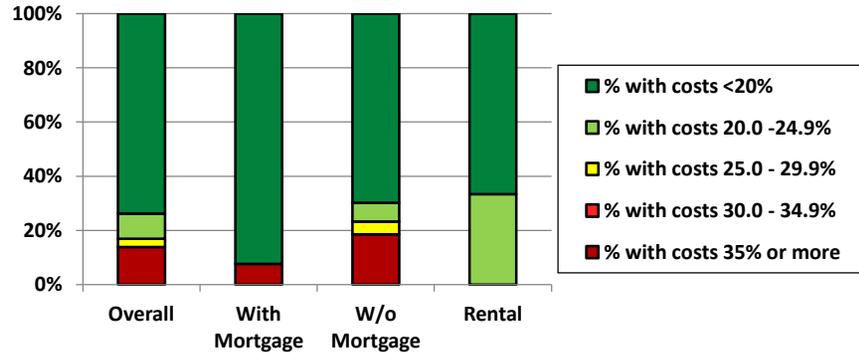
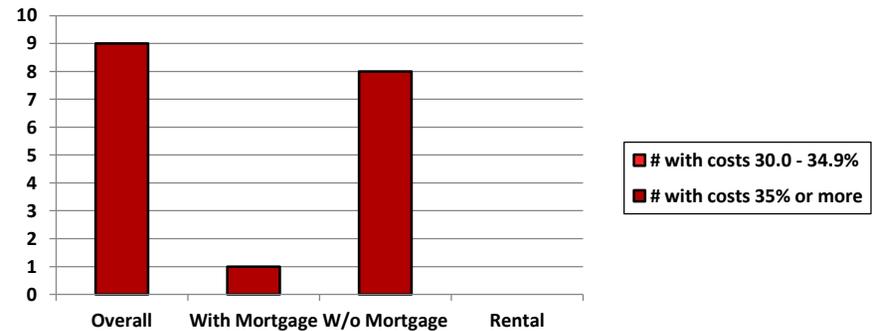


Figure H15: Number of Cost-Burdened Housing Units

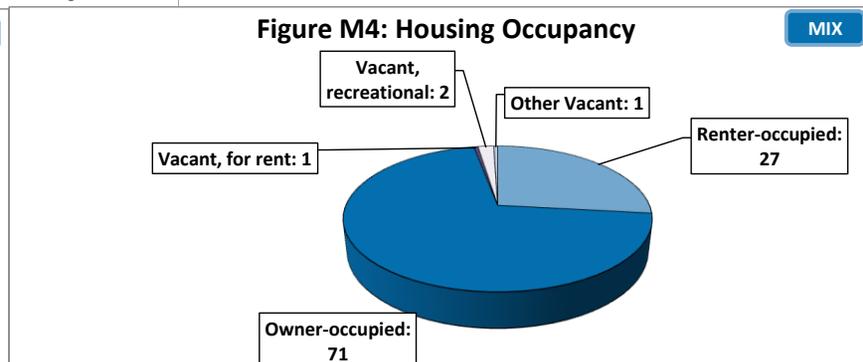
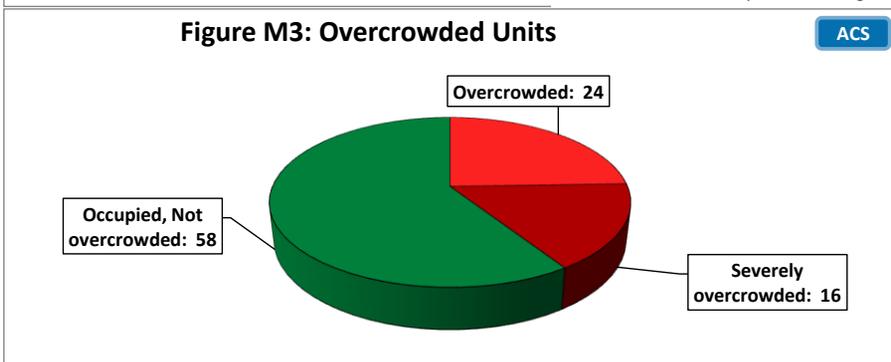
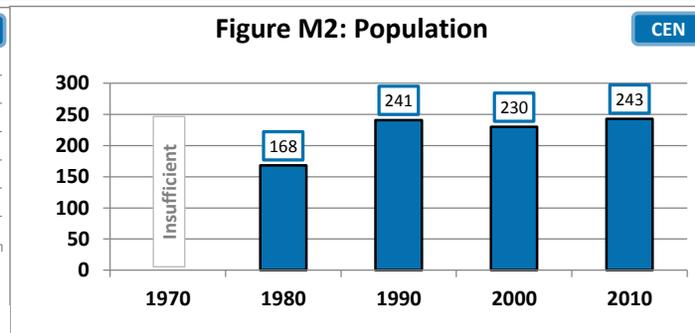
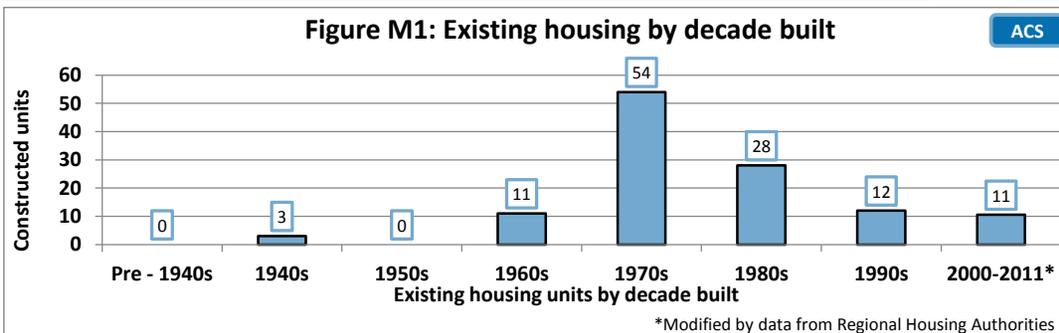


Community Profile for: Goodnews Bay city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (12,107 HDD)



Goodnews Bay 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 w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	63	2-star	58.4	749	\$ 5,553	149	210	\$8.09	12.3	24%
Retrofit units	63	4-star plus	85.0	734	\$ 3,429	80	114	\$5.01	4.3	0%
New construction	4	5-star	90.7	1,267	\$ 4,400	88	69	\$3.47	2.1	0%
Overall	130	3-star plus	76.3	760	\$ 4,183	104	145	\$5.99	6.9	8%

Goodnews Bay 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	63	9.8	16	13	NR	20	NR	NR	0.94	NR	0.81
Retrofit units	63	5.7	39	20	NR	30	NR	NR	0.18	NR	0.39
New construction	4	4.1	52	26	NR	45	NR	NR	0.19	NR	0.31
Overall	130	8.4	20	15	NR	23	NR	NR	0.70	NR	0.67

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

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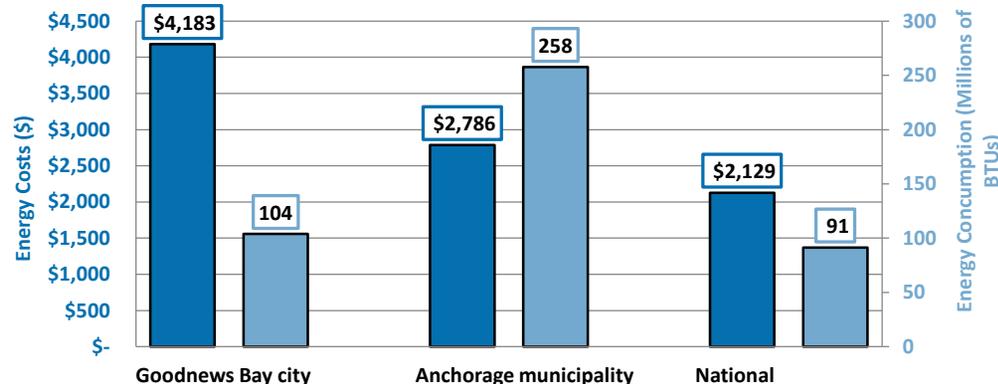
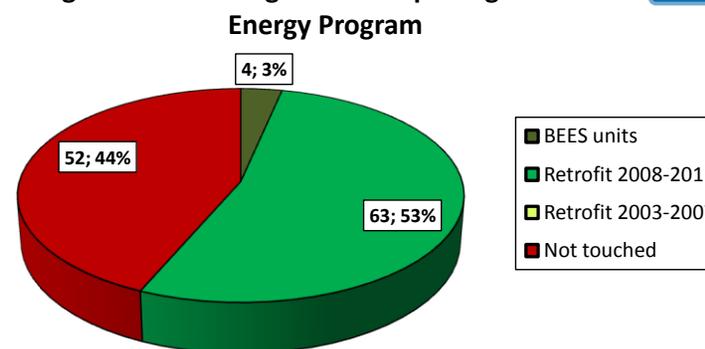


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Goodnews Bay city

Owner occupied House with Mortgage, Median Value
\$118,800

Owner-occupied House without a Mortgage, Median Value
\$112,500

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.47
Electricity with PCE (\$/kWh)	\$ 0.21
Electricity without PCE (\$/kWh)	\$ 0.56

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 21,875
Renter-occupied	\$ 17,083
Owner-occupied	\$ 28,750
w/ mortgage	\$ 45,625
w/o mortgage	\$ 17,125

Average Annual Energy Cost	
With PCE	\$4,183
Without PCE	\$6,059

Avg % Median Income spent on Energy	19.1%
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Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 456	\$ 5,472
Gross rent	\$ 667	\$ 8,004
Owner-occupied	\$ 432	\$ 5,184
Housing units w/ mortgage	\$ 500	\$ 6,000
Housing units w/out a mortgage	\$ 396	\$ 4,752

Housing Stock Estimates	Number of Units
All Housing	101
All Occupied Housing	98
All Vacant housing	3
Vacant Housing for Sale/Rent	1

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

ACS

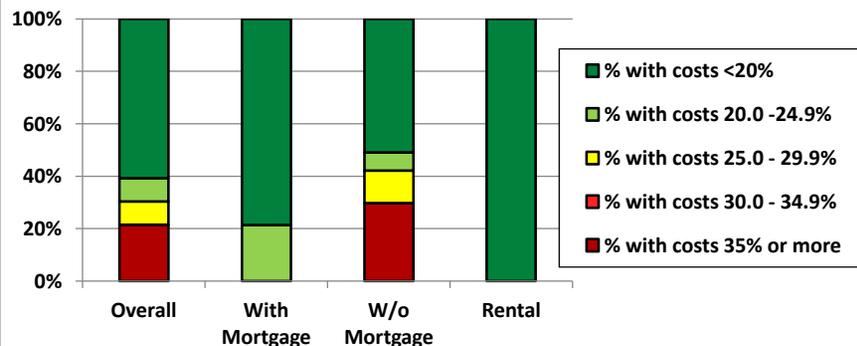


Figure M8: Number of Cost-Burdened Housing Units

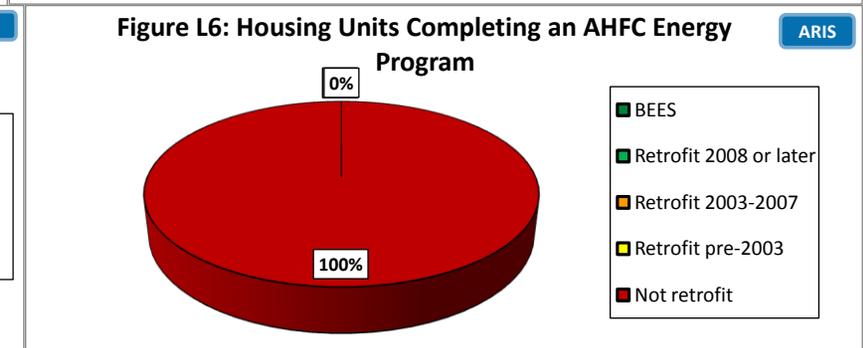
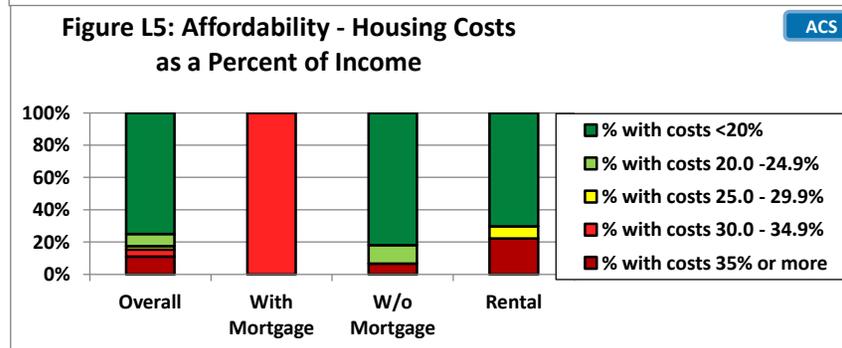
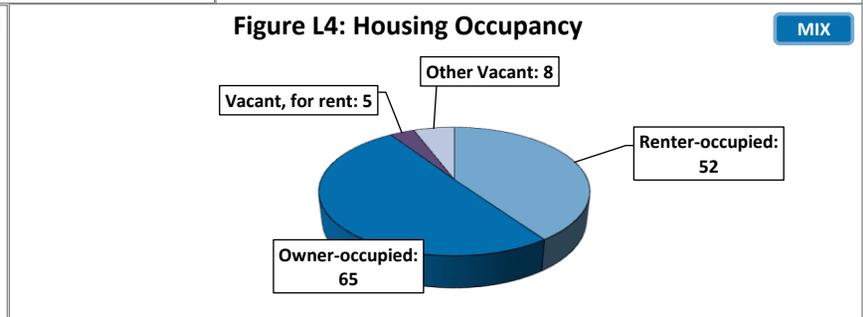
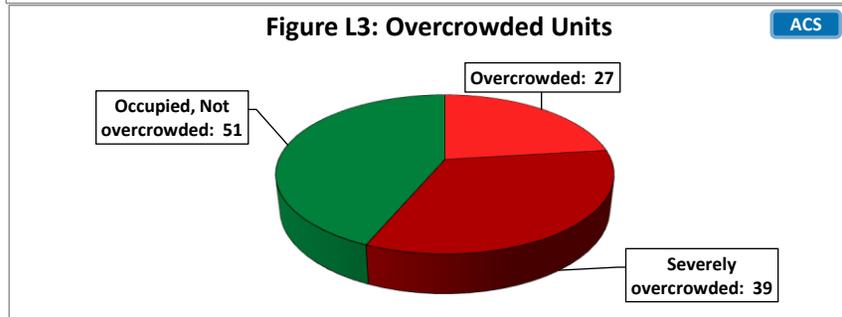
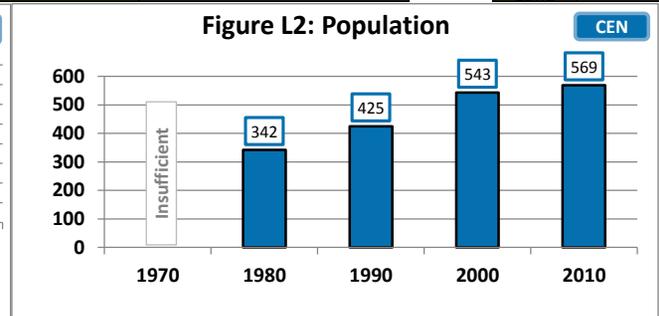
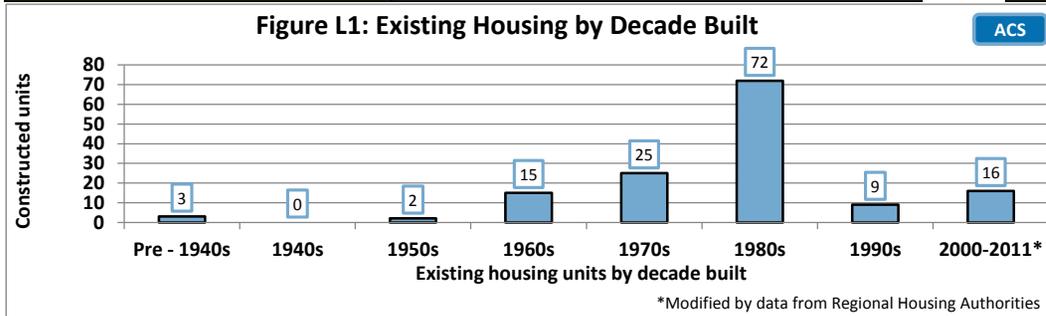
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Community Profile for: Kasigluk CDP

ANCSA Region: Calista

Climate Zone: 8



Owner-occupied House with Mortgage, Median Value
NR

Owner-occupied House without a Mortgage, Median Value
\$47,500

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.85
Electricity with PCE (\$/kWh)	\$ 0.21
Electricity without PCE (\$/kWh)	\$ 0.51

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 35,795
Renter-occupied	\$ 25,833
Owner-occupied	\$ 37,344
w/ mortgage	NR
w/o mortgage	\$ 40,750

Housing Stock Estimates	
Housing Stock Estimates	Number of Units
All Housing	129
All Occupied Housing	117
All Vacant housing	12

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 414	\$ 4,968
Gross rent	\$ 454	\$ 5,448
Owner-occupied	\$ 387	\$ 4,644
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 384	\$ 4,608

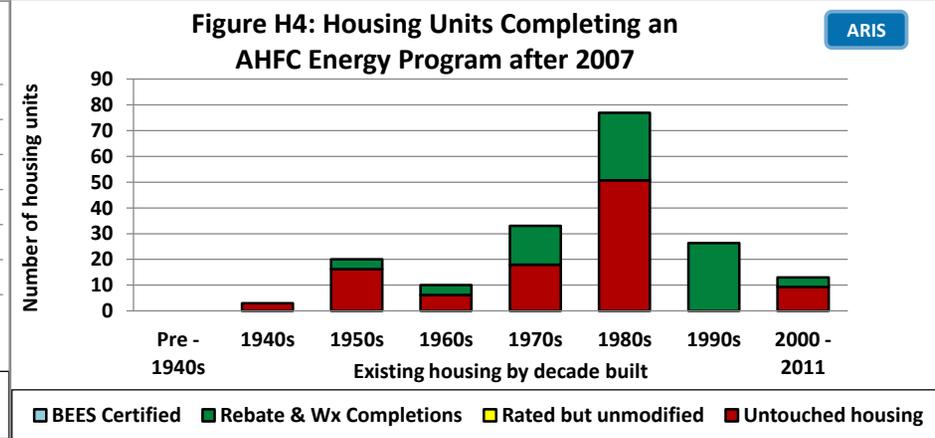
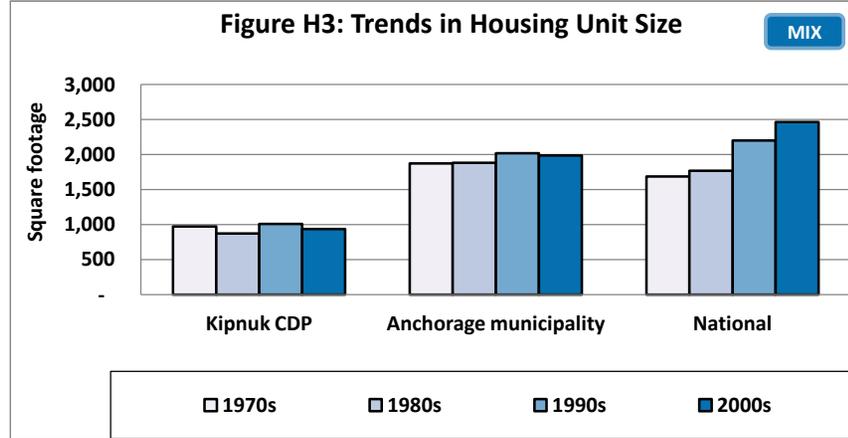
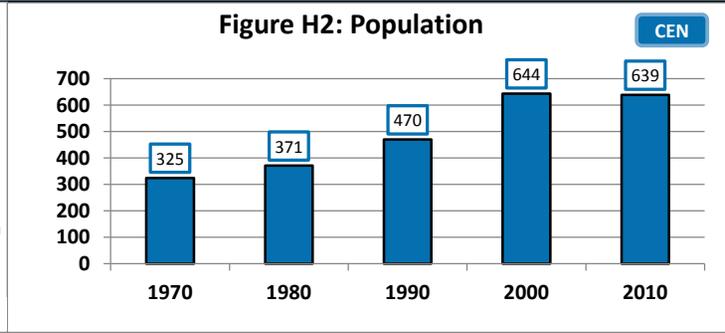
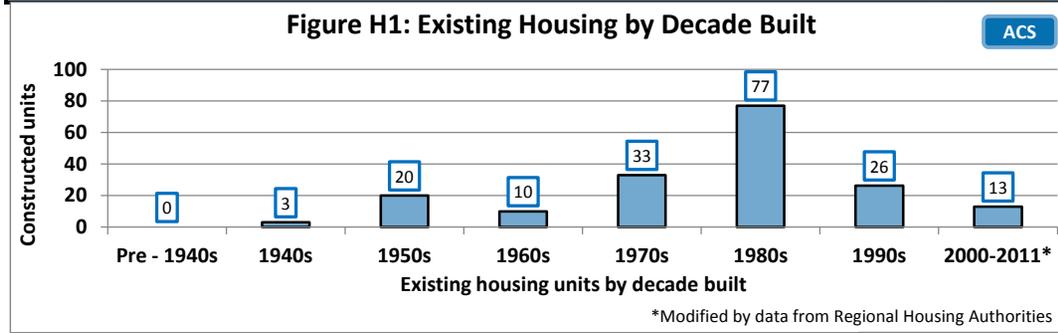
Community Profile for: Kipnuk CDP

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (12,990 HDD)

COMMUNITY - Kipnuk CDP



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	130	96%
Lack complete kitchen	112	82%

Avg Annual Energy Cost with PCE	\$5,135
Avg Annual Energy Cost without PCE	\$6,649

Weatherization Program Retrofits (funding increased in 2008)	
Date Range	Units
2008-2011	79
2003-2007	1
1990-2002	150

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	57,072	(gallons)
Nat Gas	-	(ccf)
Electricity	72,636	(kWh)
Wood	7	(cords)
Propane	-	(gallons)
Coal	-	(tons)

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$6.13
Electricity with PCE (\$/kWh)	\$0.33
Electricity cost without PCE (\$/kWh)	\$0.59

Housing Stock Estimates	Number of Units
All Housing	165
All Occupied Housing	136
All Vacant housing	29
Vacant Housing for Sale or Rent	4

OVERCROWDING & VENTILATION - Kipnuk CDP

Figure H5: Overcrowded Units

ACS

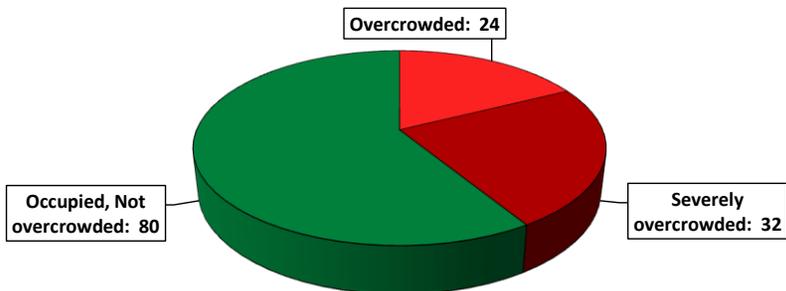


Figure H6: Housing Occupancy

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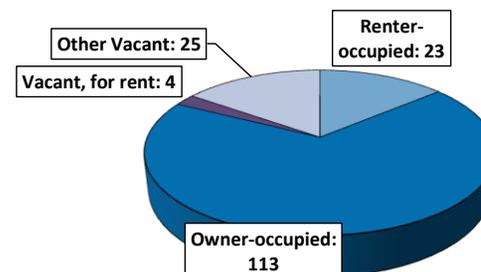


Figure H7: Average Air-Tightness of Current Homes by Decade Built

ARIS

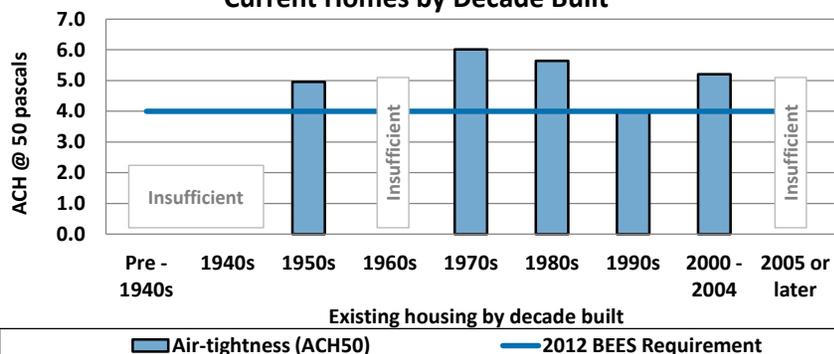


Figure H8: Existing Ventilation Type by Decade Built

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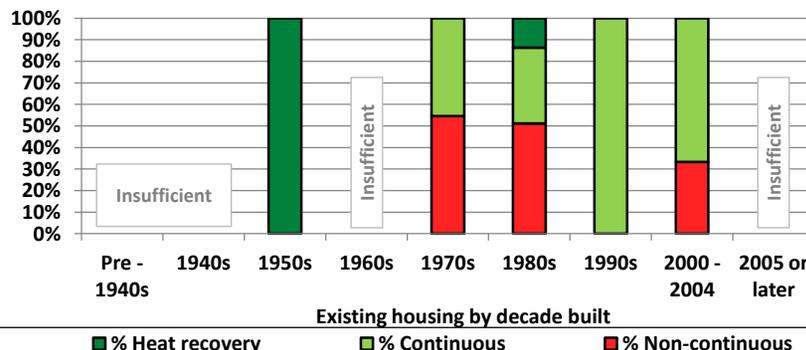


Figure H9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

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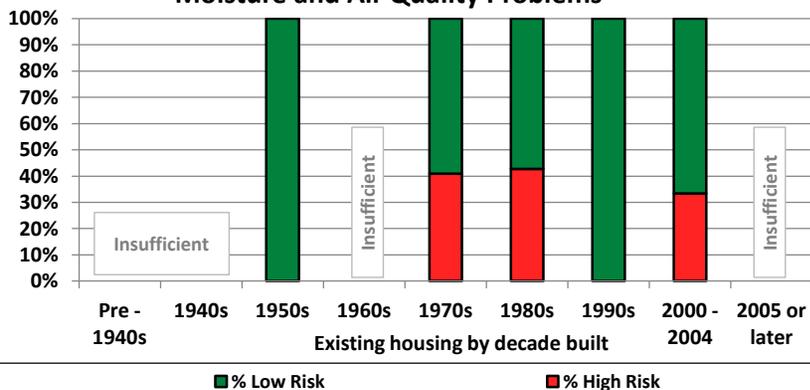
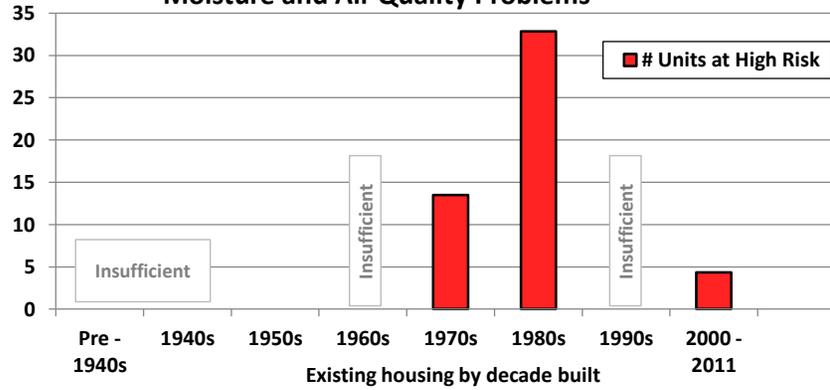


Figure H10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Kipnuk CDP												
Current Kipnuk 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	79	3-star plus	73.8	927	\$ 5,135	80	56	1	23	86	\$ 5.48	4.8
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	8	4-star	79.2	1,200	\$ 6,093	96	73	0	23	80	\$ 5.08	4.7
1960- 69	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1970- 79	30	3-star plus	75.7	972	\$ 5,048	81	59	0	22	84	\$ 5.22	4.8
1980- 89	57	3-star plus	75.6	873	\$ 5,291	81	56	2	23	93	\$ 6.05	5.1
1990- 99	52	4-star plus	86.5	1,008	\$ 4,057	60	38	0	22	59	\$ 4.04	2.9
2000- 2004	8	4-star	78.6	936	\$ 5,067	79	58	0	21	84	\$ 5.41	4.8
2005 or later	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

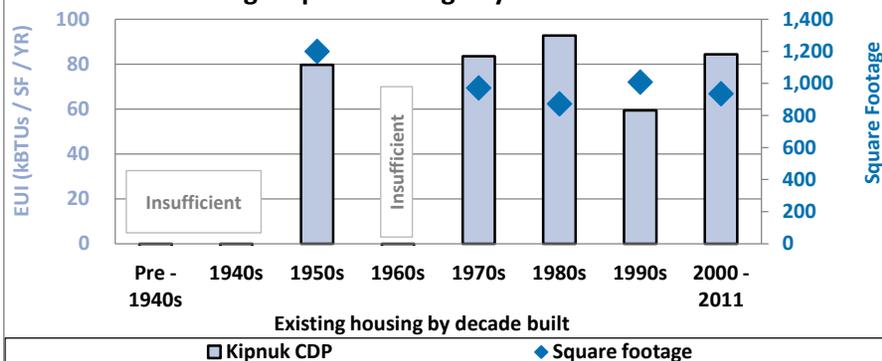
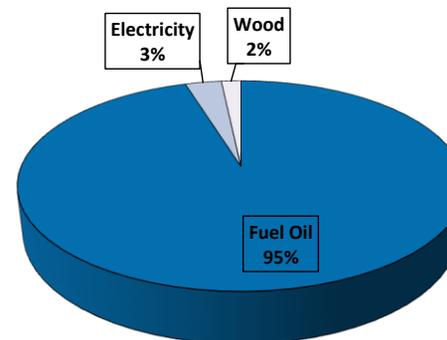


Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type

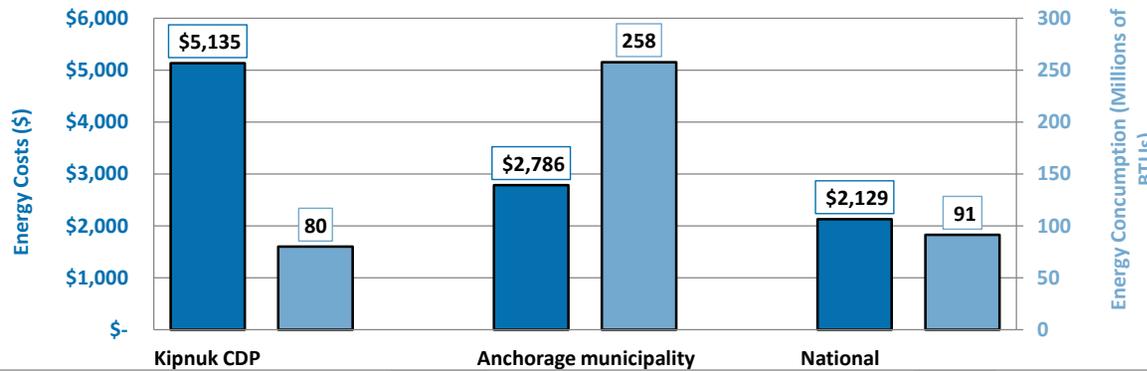


Current Kipnuk CDP Housing Envelope Characteristics By Decade Built											
Current Residential Units by Year Built	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	79	5.7	30	18	NR	32	NR	NR	0.39	NR	0.49
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	8	5.0	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1970- 79	30	6.0	38	20	NR	32	NR	NR	0.46	NR	0.54
1980- 89	57	5.6	33	17	NR	35	NR	NR	0.34	NR	0.45
1990- 99	52	4.0	40	22	NR	32	NR	NR	0.18	NR	0.39
2000- 2004	8	5.2	NR	NR	NR	NR	NR	NR	NR	NR	NR
2005 or later	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

AFFORDABILITY - Kipnuk CDP

Figure H13: Average Annual Home Energy Costs and Use



Housing Information	Avg Household Size (# of people)
All-occupied	4.1
Owner-occupied	4.2
renter-occupied	3.2

Owner-occupied House with Mortgage, Median Value	\$255,000
Owner-occupied House without a Mortgage, Median Value	\$67,500

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 36,563
Renter-occupied	\$ 35,625
Owner-occupied	\$ 36,875
w/ mortgage	\$ 56,750
w/o mortgage	\$ 35,000

	Median Housing Costs	
	Monthly	Annual
All-occupied	\$ 417	\$ 5,004
Gross rent	\$ 908	\$ 10,896
Owner-occupied	\$ 407	\$ 4,884
Housing units w/ mortgage	\$ 390	\$ 4,680
Housing units w/out a mortgage	\$ 409	\$ 4,908

Avg % of Median Income Spent on Energy	14.0%
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Figure H14: Affordability - Housing Costs as a Percent of Income

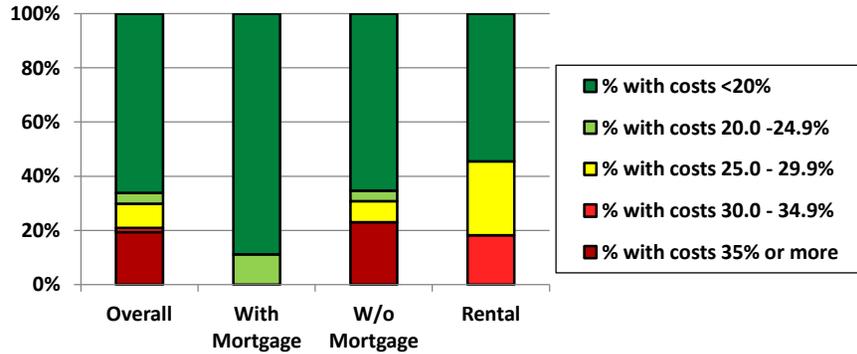
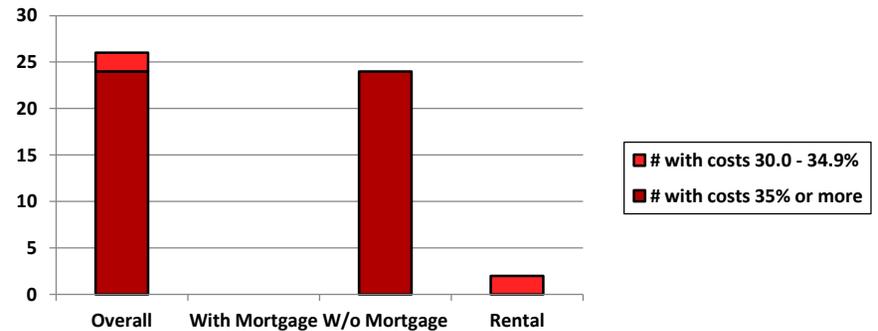


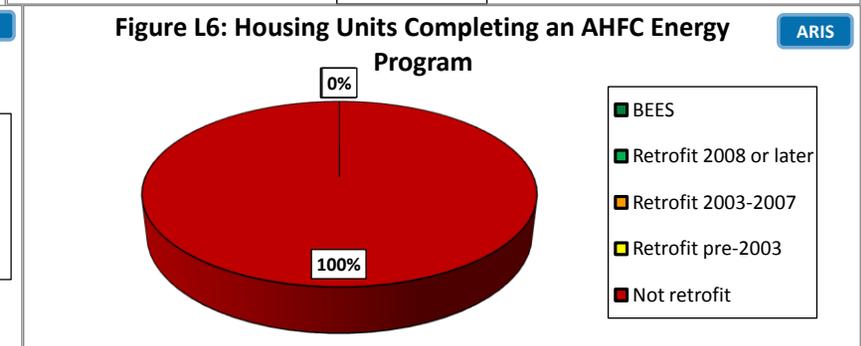
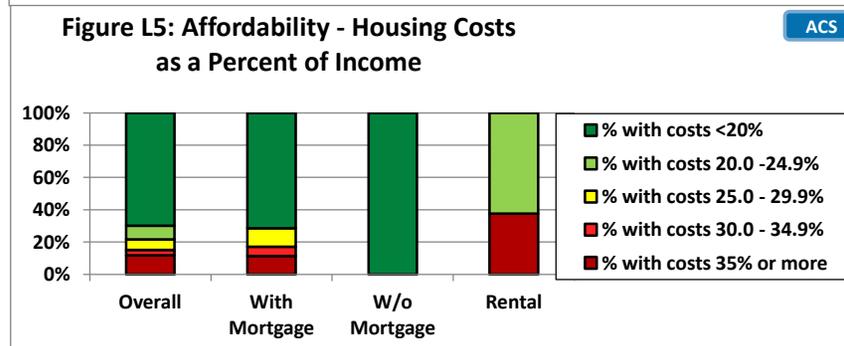
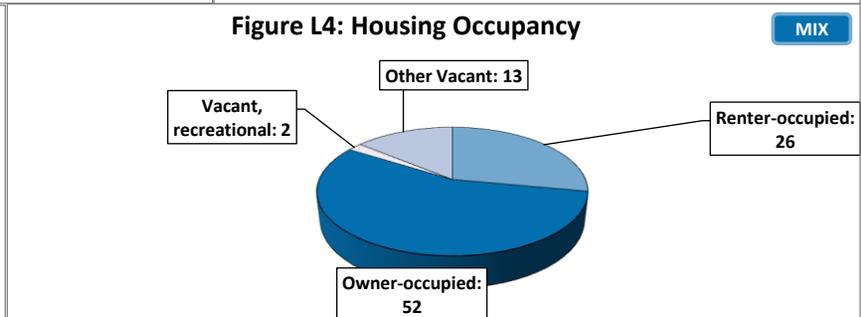
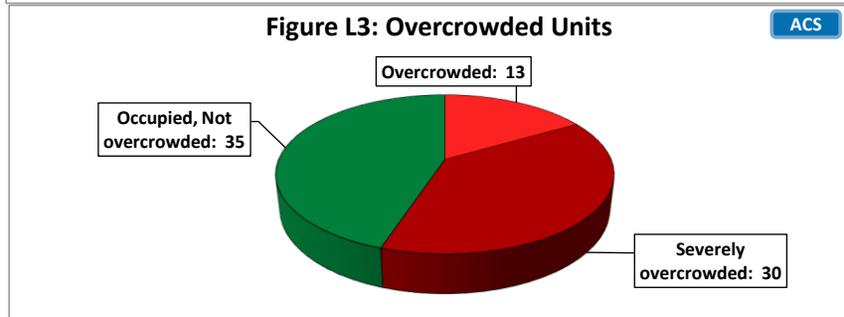
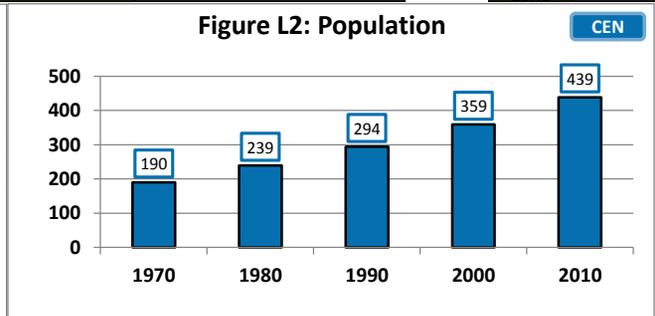
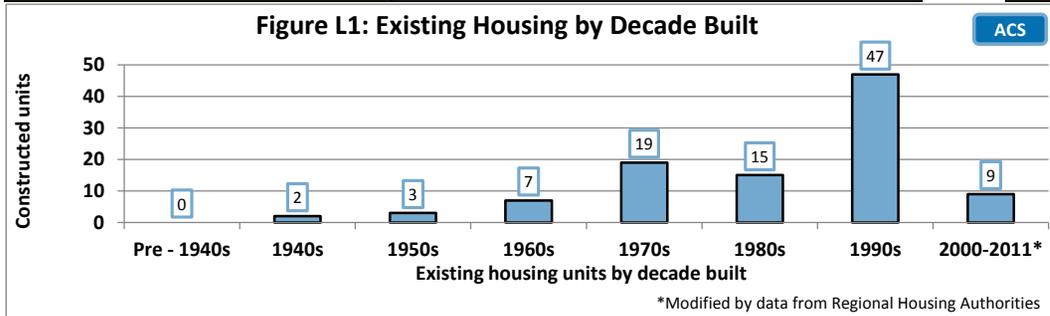
Figure H15: Number of Cost-Burdened Housing Units



Community Profile for: Kongiganak CDP

ANCSA Region: Calista

Climate Zone: 8



Owner-occupied House with Mortgage, Median Value
\$116,300

Owner-occupied House without a Mortgage, Median Value
\$22,500

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.38
Electricity with PCE (\$/kWh)	No PCE
Electricity without PCE (\$/kWh)	\$ 1.00

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 32,500
Renter-occupied	\$ 18,750
Owner-occupied	\$ 40,000
w/ mortgage	\$ 49,583
w/o mortgage	\$ 35,417

Housing Stock Estimates	
Housing Stock Estimates	Number of Units
All Housing	93
All Occupied Housing	78
All Vacant housing	15

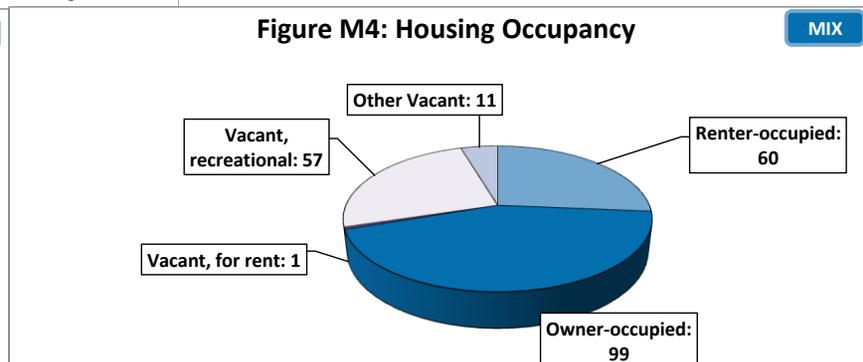
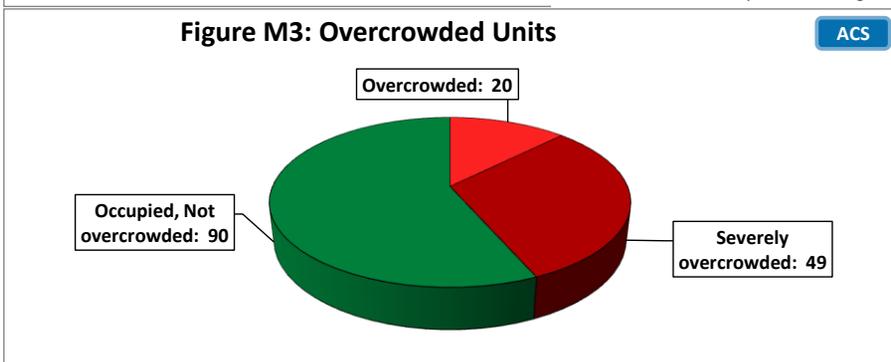
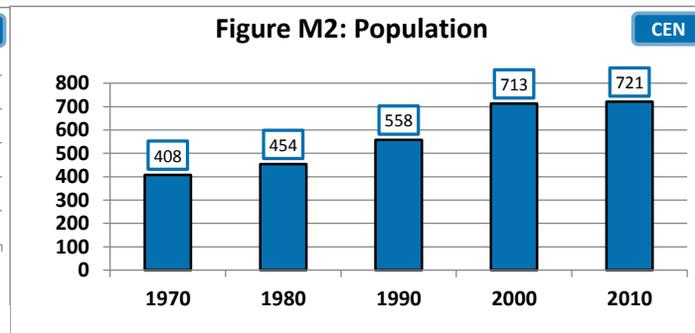
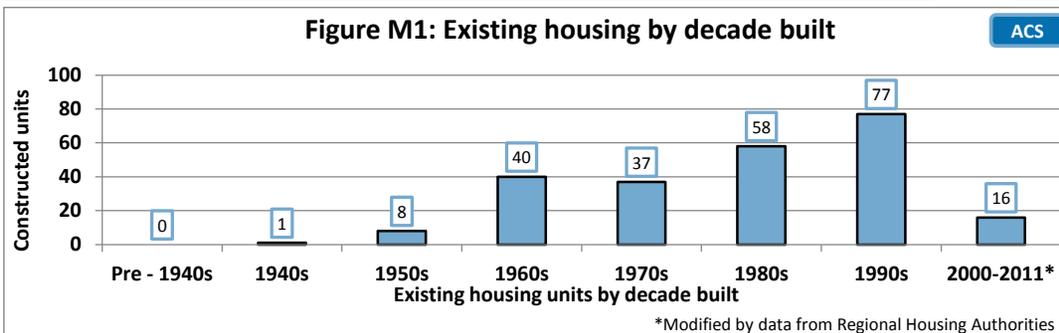
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 538	\$ 6,456
Gross rent	\$ 540	\$ 6,480
Owner-occupied	\$ 520	\$ 6,240
Housing units w/ mortgage	\$ 585	\$ 7,020
Housing units w/out a mortgage	\$ 428	\$ 5,136

Community Profile for: Kwethluk city

ANCSA Region Calista

Regional Housing Authority AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days) Zone 8 (13,106 HDD)



Kwethluk 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 w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	55	1-star plus	44.2	672	\$ 5,421	161	233	\$8.22	15.5	25%
Retrofit units	55	4-star plus	83.1	694	\$ 2,573	54	82	\$3.94	4.0	76%
New construction	14	5-star	90.6	1,077	\$ 5,097	96	84	\$4.46	3.1	0%
Overall	124	2-star	56.5	702	\$ 4,714	131	187	\$6.96	12.0	36%

Kwethluk 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	55	11.5	15	13	NR	15	NR	NR	0.70	NR	0.80
Retrofit units	55	5.5	36	22	NR	30	NR	NR	0.20	NR	0.40
New construction	14	3.1	43	23	NR	40	NR	NR	0.18	NR	0.32
Overall	124	10.4	17	14	NR	16	NR	NR	0.62	NR	0.73

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

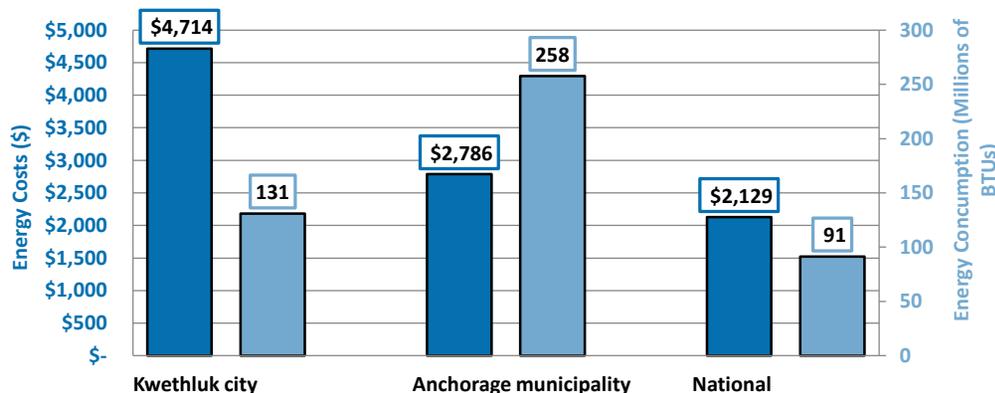
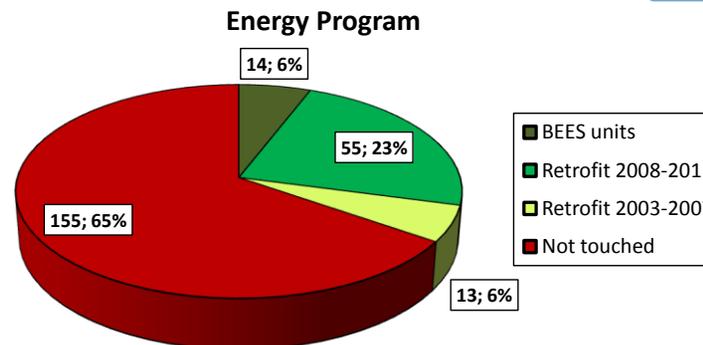


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Kwethluk city

Owner occupied House with Mortgage, Median Value
\$108,200

Owner-occupied House without a Mortgage, Median Value
\$55,000

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.18
Electricity with PCE (\$/kWh)	\$ 0.25
Electricity without PCE (\$/kWh)	\$ 0.52

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 47,083
Renter-occupied	\$ 33,750
Owner-occupied	\$ 53,594
w/ mortgage	\$ 54,821
w/o mortgage	\$ 42,500

Average Annual Energy Cost	
With PCE	\$4,714
Without PCE	\$6,174

Avg % Median Income spent on Energy	10.0%
-------------------------------------	-------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 416	\$ 4,992
Gross rent	\$ 620	\$ 7,440
Owner-occupied	\$ 363	\$ 4,356
Housing units w/ mortgage	\$ 625	\$ 7,500
Housing units w/out a mortgage	\$ 289	\$ 3,468

Housing Stock Estimates	Number of Units
All Housing	228
All Occupied Housing	159
All Vacant housing	69
Vacant Housing for Sale/Rent	1

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

ACS

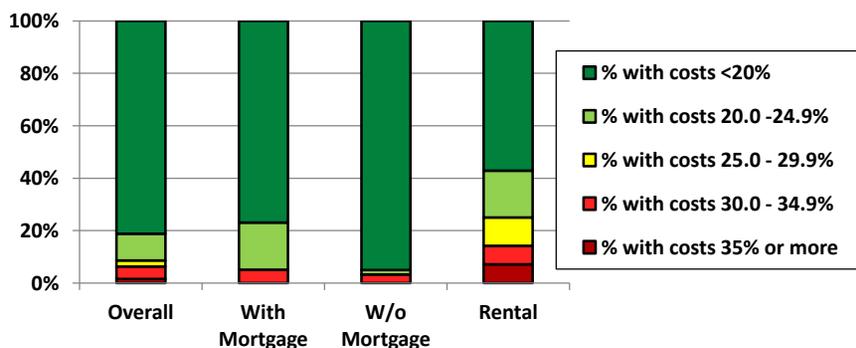


Figure M8: Number of Cost-Burdened Housing Units

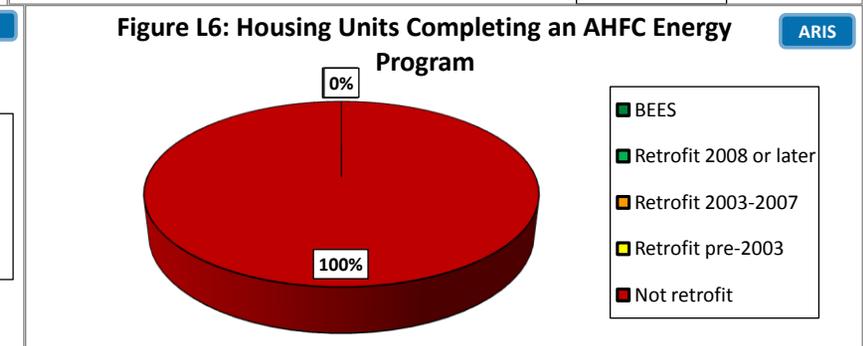
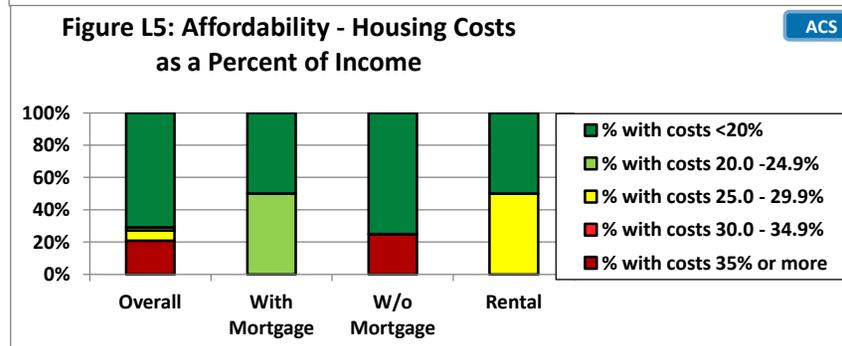
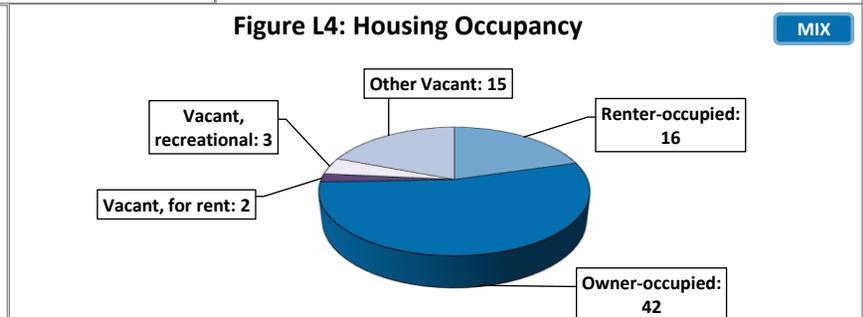
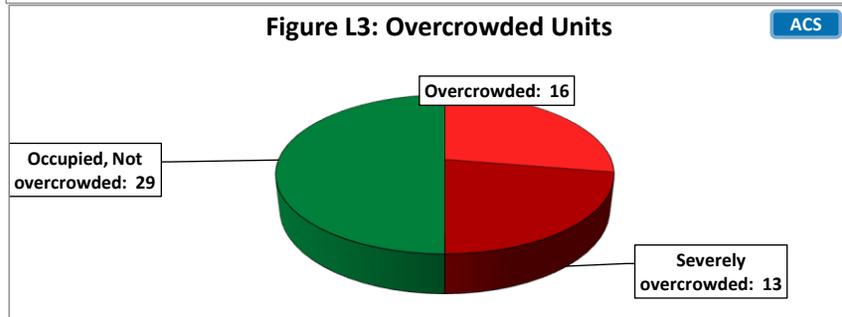
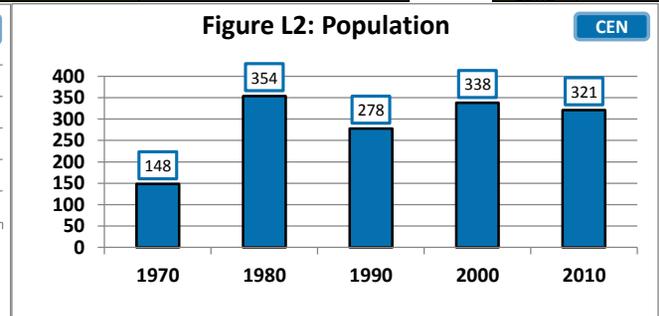
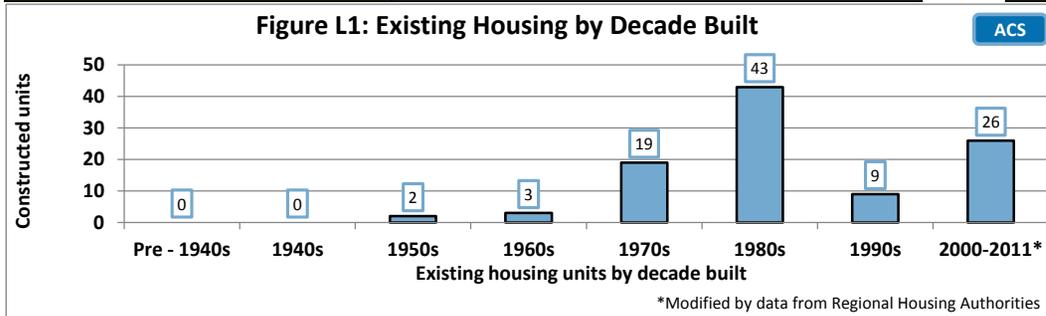
ACS



Community Profile for: Kwigillingok CDP

ANCSA Region: Calista

Climate Zone: 8



Owner-occupied House with Mortgage, Median Value
\$90,000

Owner-occupied House without a Mortgage, Median Value
\$70,000

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.45
Electricity with PCE (\$/kWh)	\$ 0.28
Electricity without PCE (\$/kWh)	\$ 0.61

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 41,250
Renter-occupied	\$ 44,167
Owner-occupied	\$ 36,875
w/ mortgage	\$ 43,750
w/o mortgage	\$ 36,250

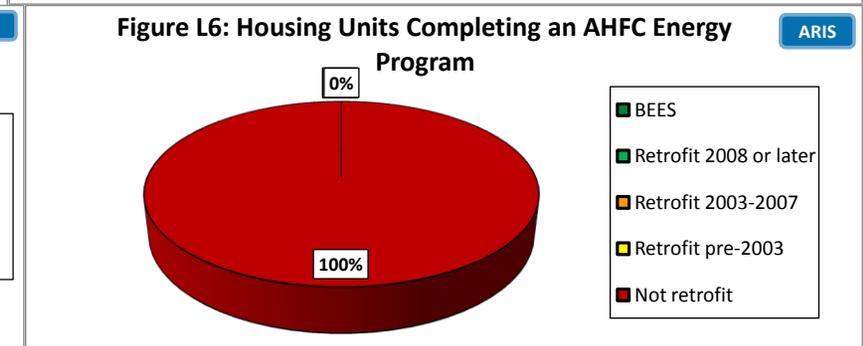
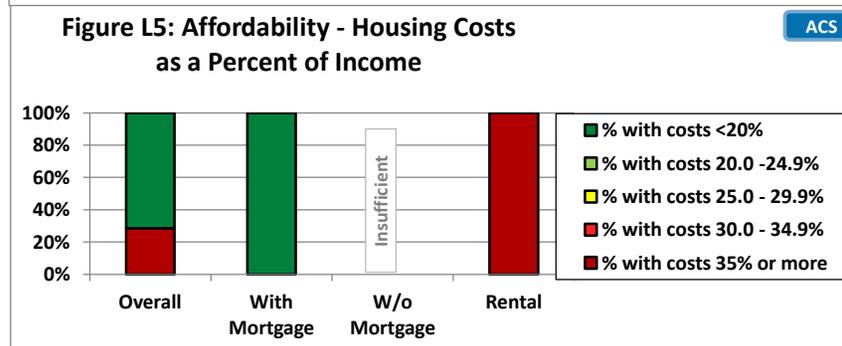
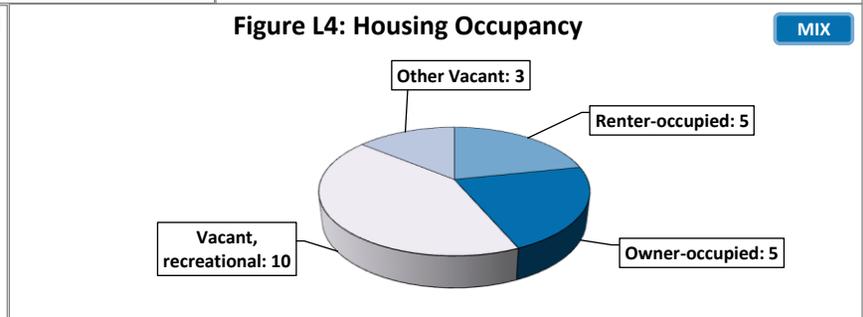
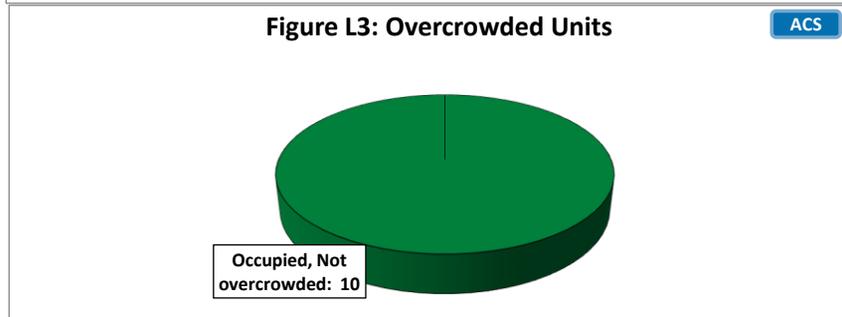
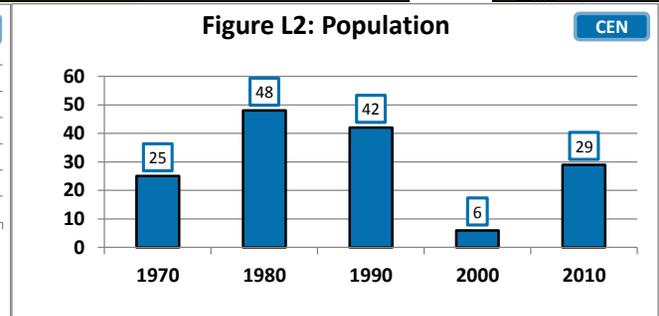
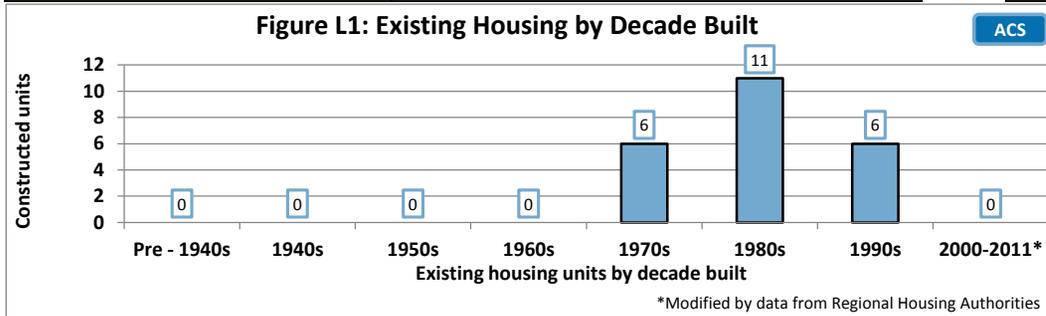
Housing Stock Estimates	
Housing Stock Estimates	Number of Units
All Housing	78
All Occupied Housing	58
All Vacant housing	20

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 380	\$ 4,560
Gross rent	\$ 425	\$ 5,100
Owner-occupied	\$ 350	\$ 4,200
Housing units w/ mortgage	\$ 650	\$ 7,800
Housing units w/out a mortgage	\$ 364	\$ 4,368

Community Profile for: Lime Village CDP

ANCSA Region: Calista

Climate Zone: 8



Owner-occupied House with Mortgage, Median Value
NR

Owner-occupied House without a Mortgage, Median Value
NR

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 7.61
Electricity with PCE (\$/kWh)	\$ 0.93
Electricity without PCE (\$/kWh)	\$ 1.52

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 72,500
Renter-occupied	\$ 2,500
Owner-occupied	NR
w/ mortgage	NR
w/o mortgage	NR

Housing Stock Estimates	Number of Units
All Housing	23
All Occupied Housing	10
All Vacant housing	13

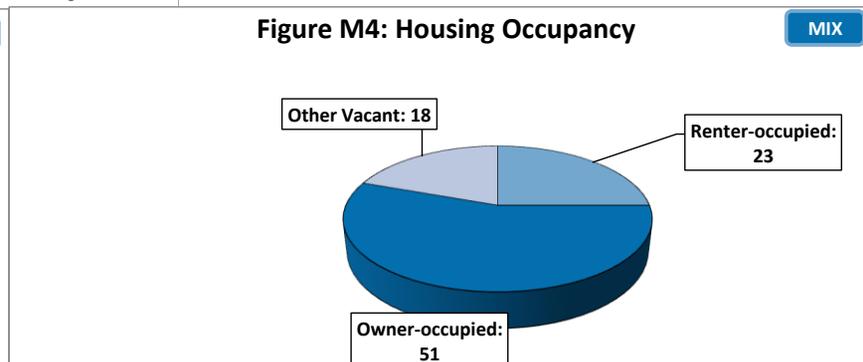
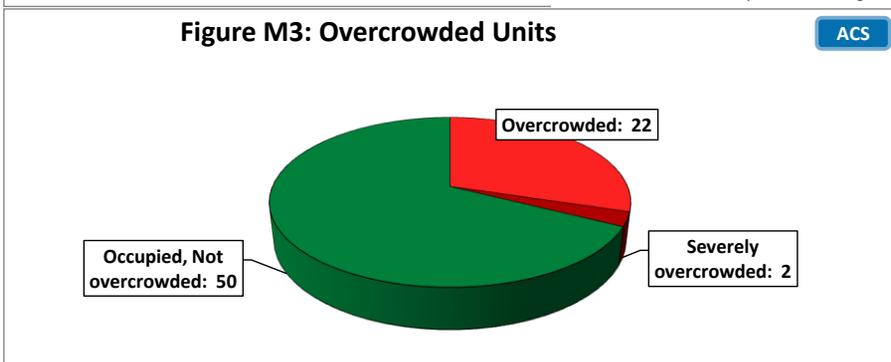
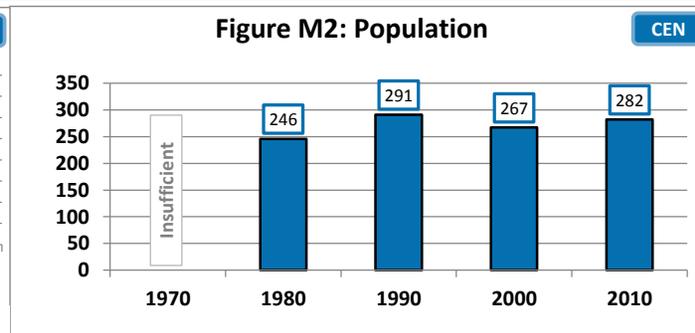
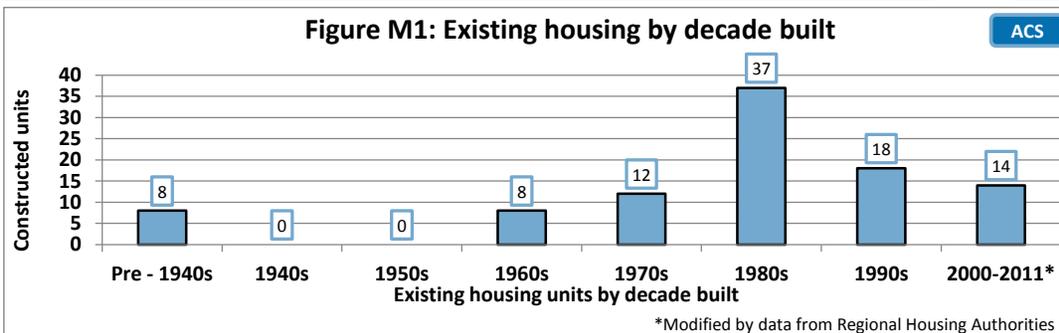
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 385	\$ 4,620
Gross rent	NR	NR
Owner-occupied	NR	NR
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	NR	NR

Community Profile for: Lower Kalskag city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,382 HDD)



Lower Kalskag 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 w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	45	2-star plus	65.9	916	\$ 5,983	164	195	\$6.97	10.4	47%
Retrofit units	45	4-star plus	86.2	916	\$ 4,173	88	96	\$4.58	3.1	0%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	90	3-star plus	75.8	916	\$ 5,098	127	146	\$5.80	6.8	24%

Lower Kalskag 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	45	12.5	31	17	NR	24	NR	NR	0.91	NR	0.69
Retrofit units	45	5.1	40	23	NR	35	NR	NR	0.16	NR	0.33
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	90	11.3	32	18	NR	25	NR	NR	0.78	NR	0.63

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

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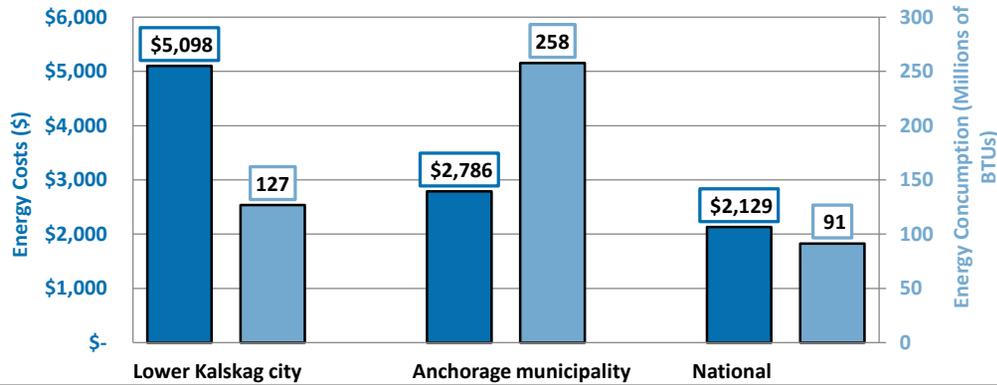
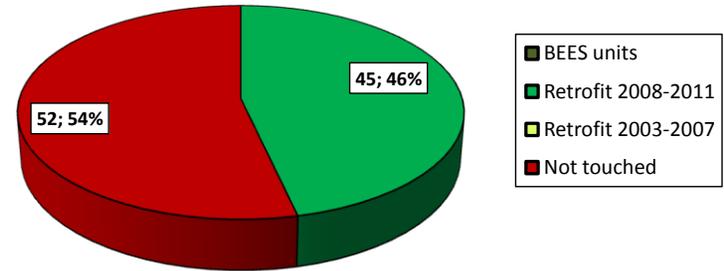


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Lower Kalskag city

Owner occupied House with Mortgage, Median Value
\$137,500
Owner-occupied House without a Mortgage, Median Value
\$168,800

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 44,643
Renter-occupied	\$ 49,750
Owner-occupied	\$ 30,417
w/ mortgage	\$ 44,375
w/o mortgage	\$ 23,906

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 543	\$ 6,516
Gross rent	\$ 675	\$ 8,100
Owner-occupied	\$ 537	\$ 6,444
Housing units w/ mortgage	\$ 586	\$ 7,032
Housing units w/out a mortgage	\$ 493	\$ 5,916

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.50
Electricity with PCE (\$/kWh)	\$ 0.21
Electricity without PCE (\$/kWh)	\$ 0.58

Average Annual Energy Cost	
With PCE	\$5,098
Without PCE	\$6,943

Housing Stock Estimates	Number of Units
All Housing	92
All Occupied Housing	74
All Vacant housing	18
Vacant Housing for Sale/Rent	0

Avg % Median Income spent on Energy	11.4%
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Figure M7: Affordability - Housing Costs as a Percent of Income

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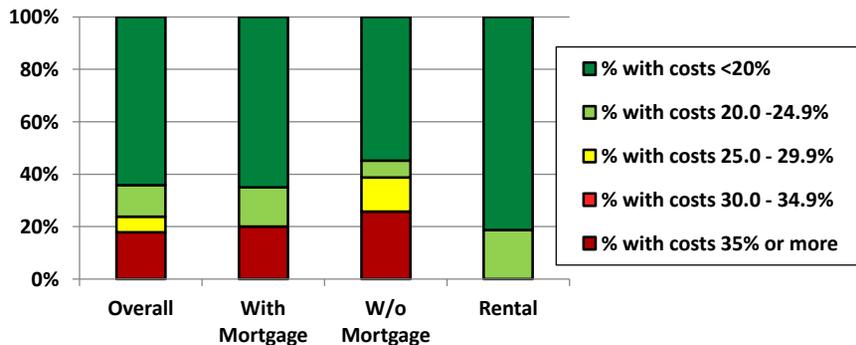
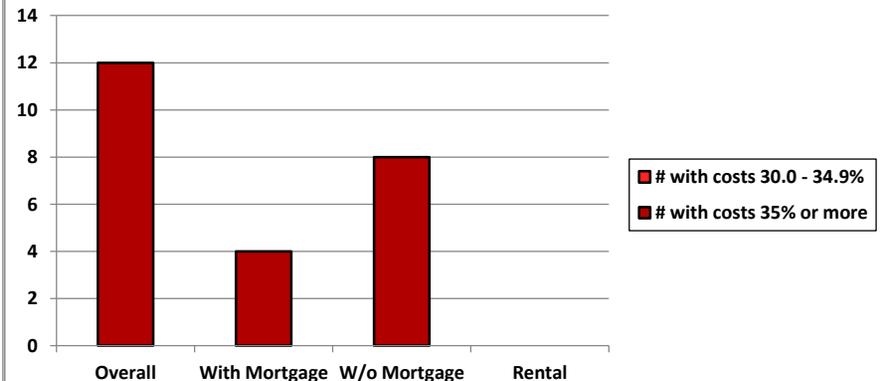


Figure M8: Number of Cost-Burdened Housing Units

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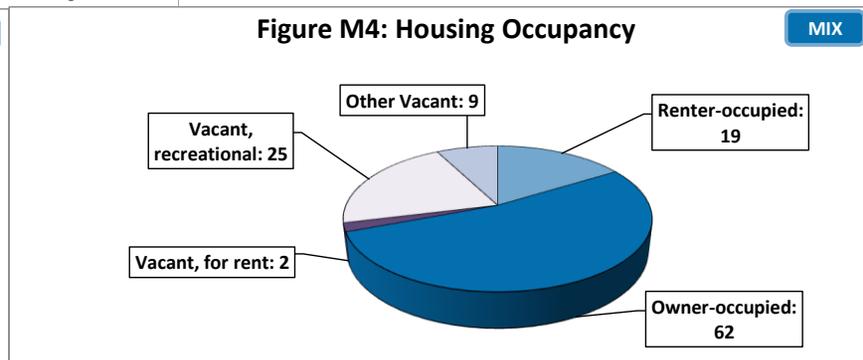
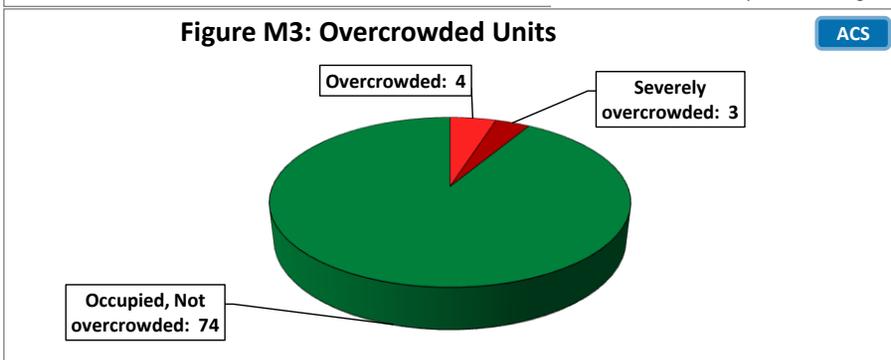
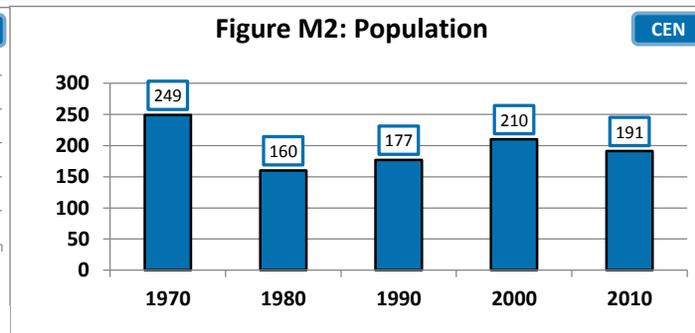
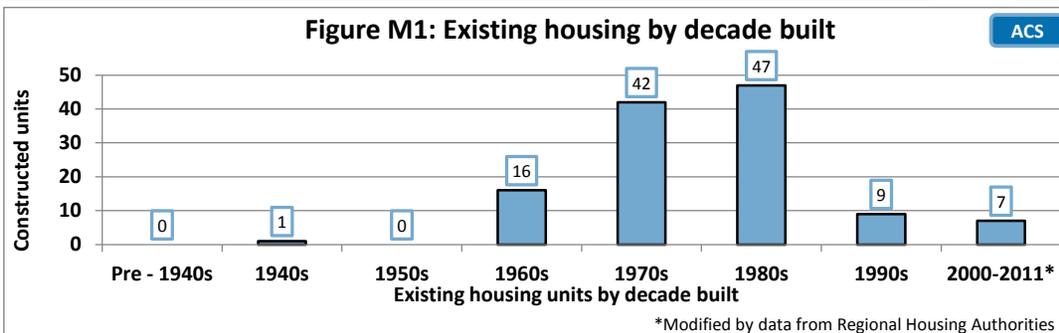


Community Profile for: Mekoryuk city

ANCSA Region Calista

Regional Housing Authority AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days) Zone 8 (13,575 HDD)



Mekoryuk 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 w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	19	2-star plus	65.9	1,021	\$ 7,873	138	136	\$7.78	7.2	21%
Retrofit units	20	4-star	79.5	1,136	\$ 5,947	102	90	\$5.26	4.2	95%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	39	3-star	68.2	1,040	\$ 7,544	132	129	\$7.35	6.6	34%

Mekoryuk 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	19	7.4	51	19	NR	40	NR	NR	0.44	NR	0.88
Retrofit units	20	4.3	51	23	NR	63	NR	NR	0.40	NR	0.38
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	39	6.9	51	20	NR	43	NR	NR	0.44	NR	0.80

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

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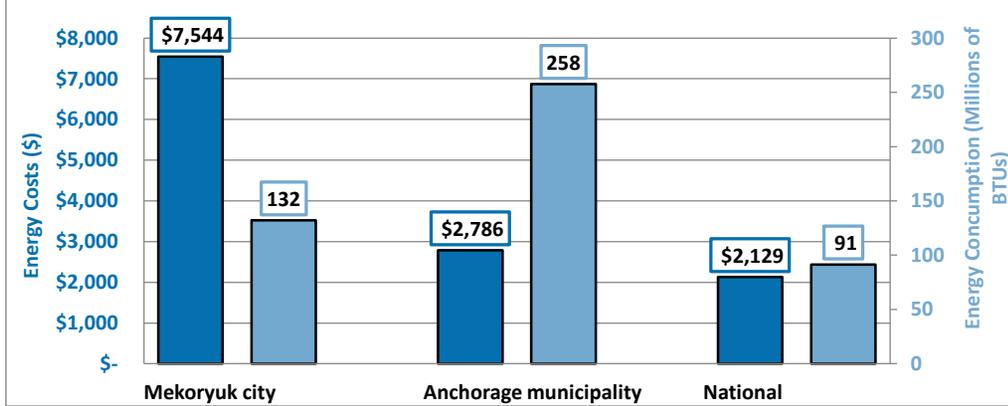
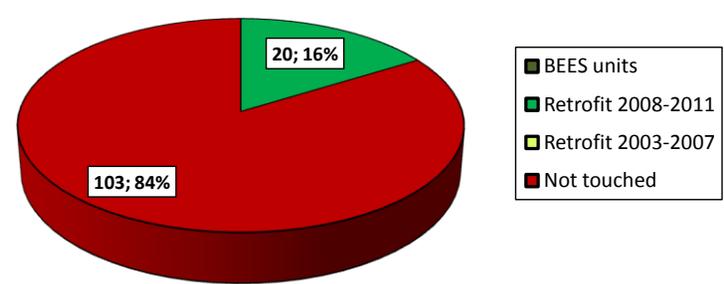


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Mekoryuk city

Owner occupied House with Mortgage, Median Value	\$146,400
Owner-occupied House without a Mortgage, Median Value	\$250,000

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 26,250
Renter-occupied	\$ 30,417
Owner-occupied	\$ 25,833
w/ mortgage	\$ 42,500
w/o mortgage	\$ 15,000

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 444	\$ 5,328
Gross rent	NR	NR
Owner-occupied	\$ 470	\$ 5,640
Housing units w/ mortgage	\$ 625	\$ 7,500
Housing units w/out a mortgage	\$ 370	\$ 4,440

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.47
Electricity with PCE (\$/kWh)	\$ 0.21
Electricity without PCE (\$/kWh)	\$ 0.56

Average Annual Energy Cost	
With PCE	\$7,544
Without PCE	\$9,657

Housing Stock Estimates	Number of Units
All Housing	117
All Occupied Housing	81
All Vacant housing	36
Vacant Housing for Sale/Rent	2

Avg % Median Income spent on Energy	28.7%
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Figure M7: Affordability - Housing Costs as a Percent of Income

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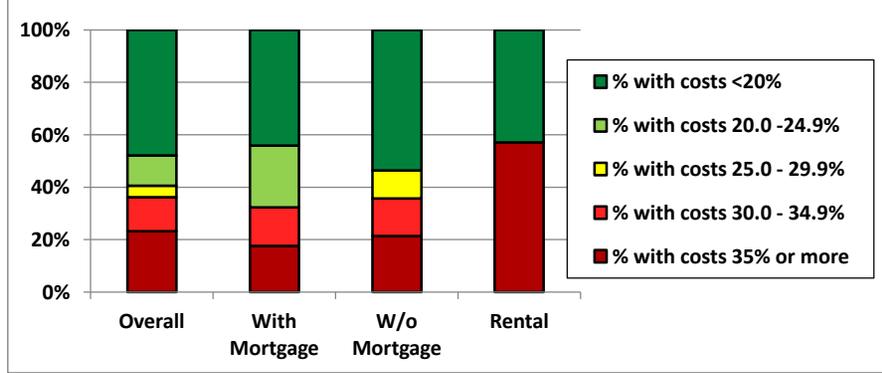
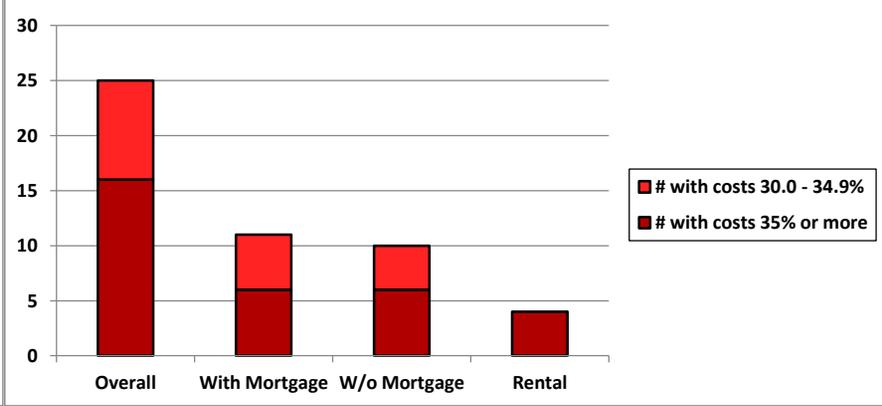


Figure M8: Number of Cost-Burdened Housing Units

ACS



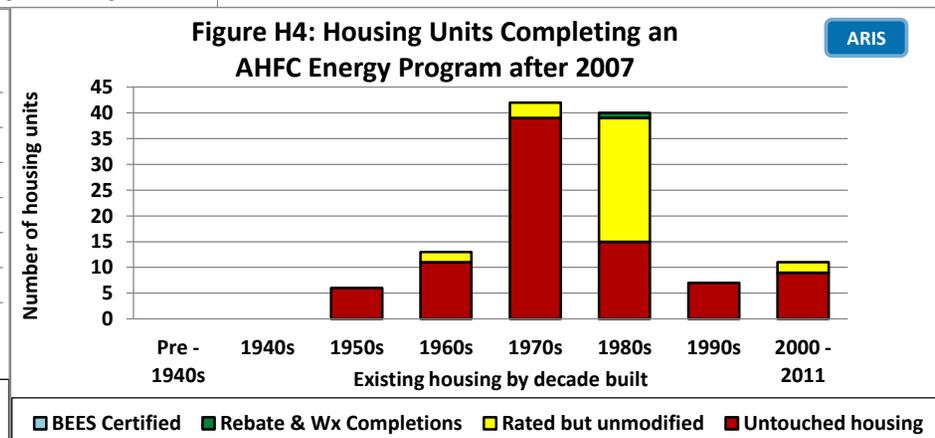
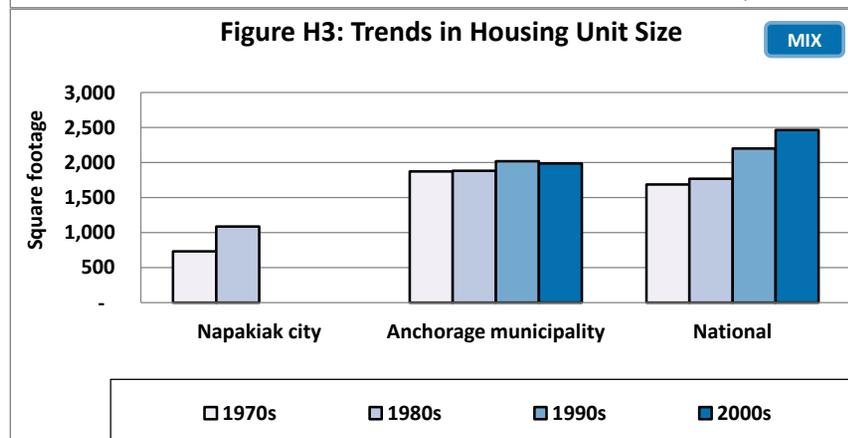
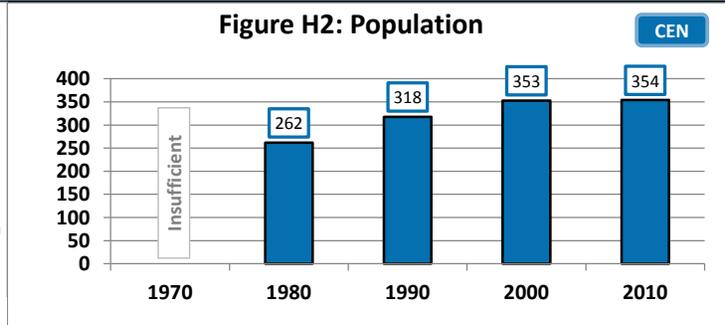
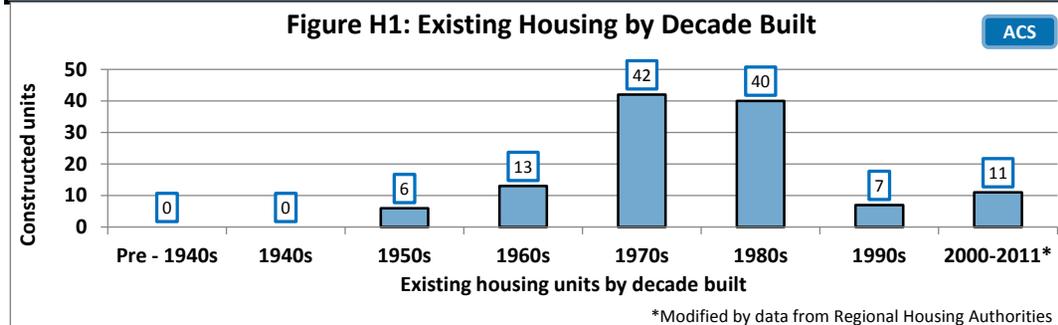
Community Profile for: Napakiak city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,106 HDD)

COMMUNITY - Napakiak city



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	47	50%
Lack complete kitchen	22	23%

Avg Annual Energy Cost with PCE	\$8,168
Avg Annual Energy Cost without PCE	\$11,646

Weatherization Program Retrofits (funding increased in 2008)	
Date Range	Units
2008-2011	1
2003-2007	-
1990-2002	45

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	42,661	(gallons)
Nat Gas	-	(ccf)
Electricity	45,701	(kWh)
Wood	245	(cords)
Propane	-	(gallons)
Coal	-	(tons)

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$6.60
Electricity with PCE (\$/kWh)	\$0.25
Electricity cost without PCE (\$/kWh)	\$0.89

Housing Stock Estimates	Number of Units
All Housing	108
All Occupied Housing	94
All Vacant housing	14
Vacant Housing for Sale or Rent	6

OVERCROWDING & VENTILATION - Napakiak city

Figure H5: Overcrowded Units

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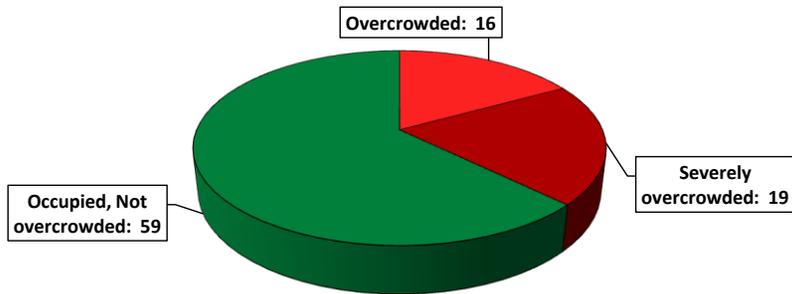


Figure H6: Housing Occupancy

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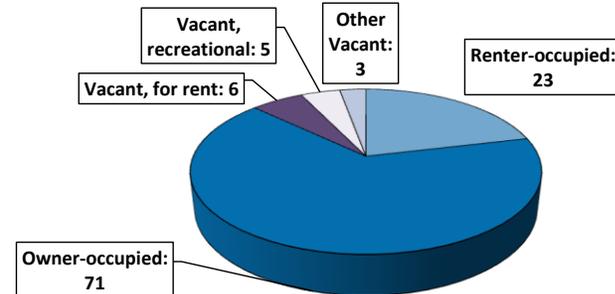


Figure H7: Average Air-Tightness of Current Homes by Decade Built

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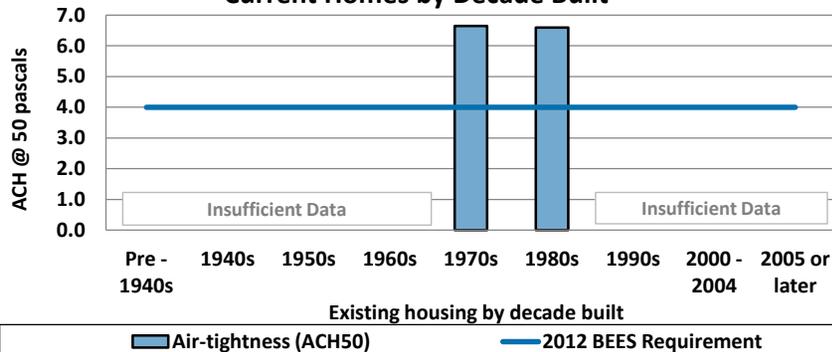


Figure H8: Existing Ventilation Type by Decade Built

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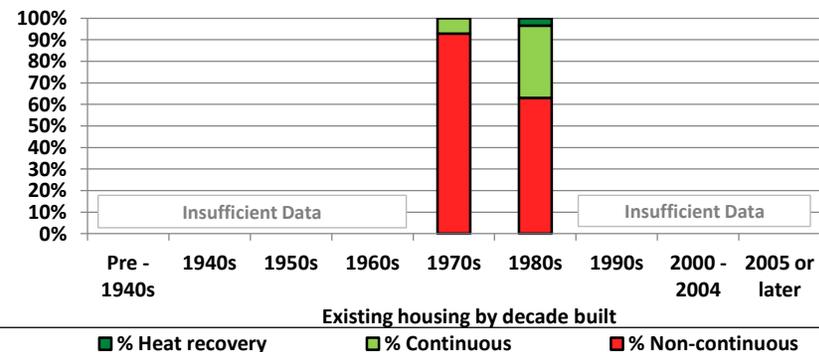


Figure H9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

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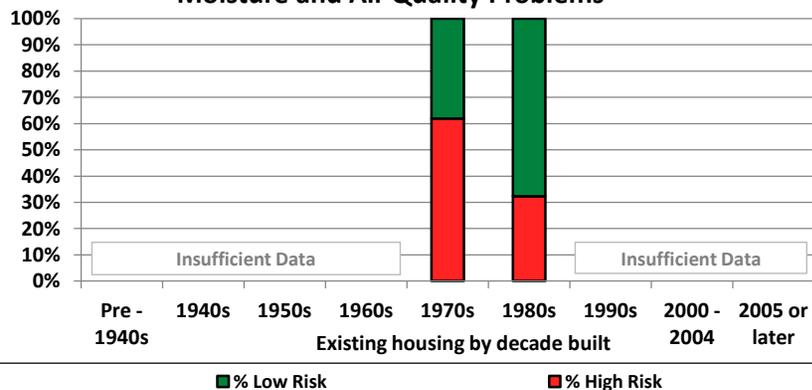
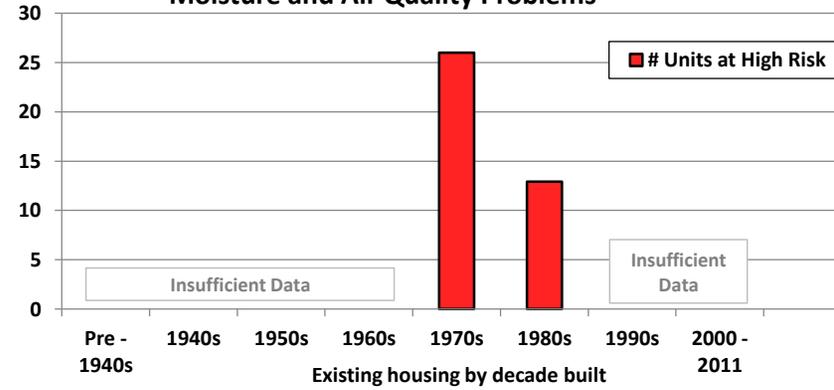


Figure H10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Napakiak city

Current Napakiak city 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	32	2-star	59.0	834	\$ 8,168	141	105	13	23	159	\$ 9.91	8.9
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
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	6	2-star plus	60.0	733	\$ 7,120	145	113	11	21	194	\$ 10.88	11.5
1980- 89	38	3-star	68.2	1,084	\$ 11,016	165	119	23	23	153	\$ 10.20	8.6
1990- 99	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2000- 2004	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2005 or later	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

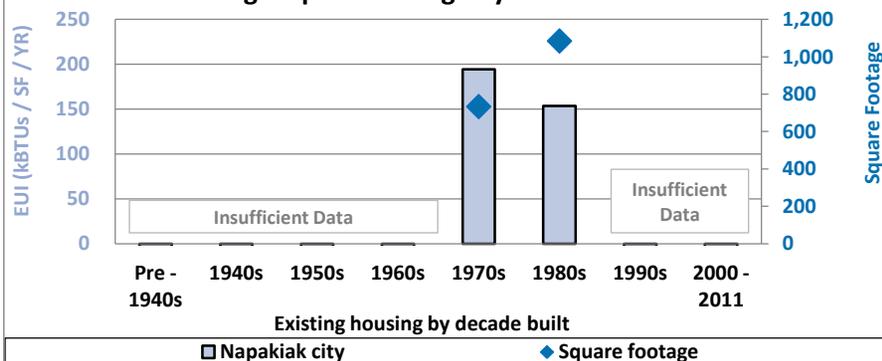
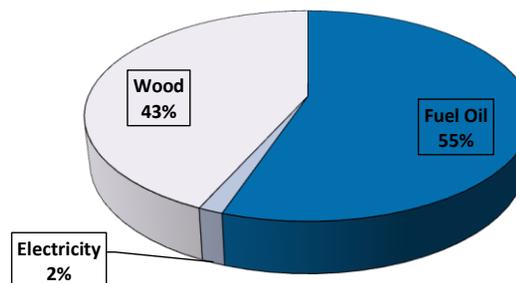


Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type



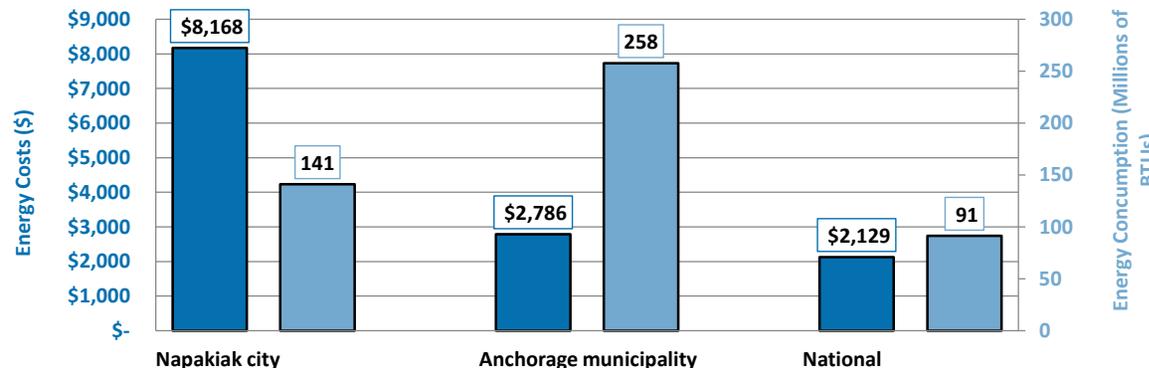
Current Napakiak city Housing Envelope Characteristics By Decade Built

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	32	6.7	22	19	NR	24	NR	NR	0.42	NR	0.56
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
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	6	6.6	11	14	NR	19	NR	NR	0.40	NR	0.71
1980- 89	38	6.6	29	22	NR	27	NR	NR	0.41	NR	0.55
1990- 99	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2000- 2004	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2005 or later	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

AFFORDABILITY - Napakiak city

Figure H13: Average Annual Home Energy Costs and Use



Housing Information	Avg Household Size (# of people)
All-occupied	3.8
Owner-occupied	3.6
renter-occupied	4.5

Owner-occupied House with Mortgage, Median Value
\$134,200

Owner-occupied House without a Mortgage, Median Value
\$207,100

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 34,063
Renter-occupied	\$ 34,583
Owner-occupied	\$ 33,750
w/ mortgage	\$ 36,875
w/o mortgage	\$ 22,500

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 439	\$ 5,268
Gross rent	\$ 433	\$ 5,196
Owner-occupied	\$ 481	\$ 5,772
Housing units w/ mortgage	\$ 596	\$ 7,152
Housing units w/out a mortgage	\$ 360	\$ 4,320

Avg % of Median Income Spent on Energy	24.0%
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Figure H14: Affordability - Housing Costs as a Percent of Income

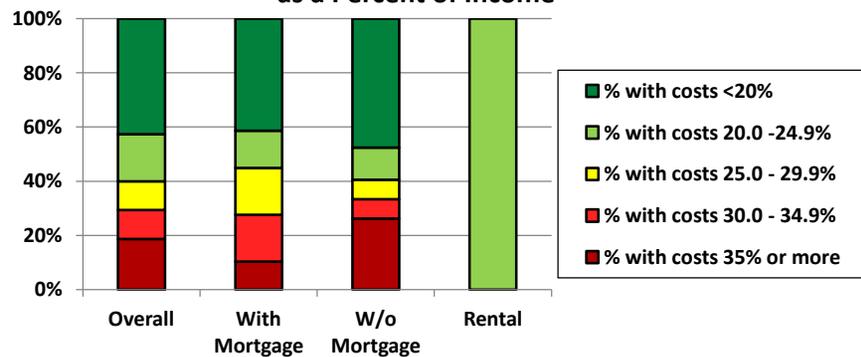
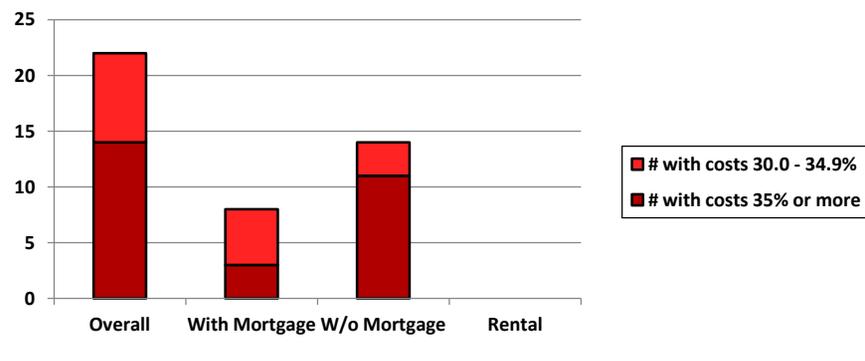


Figure H15: Number of Cost-Burdened Housing Units

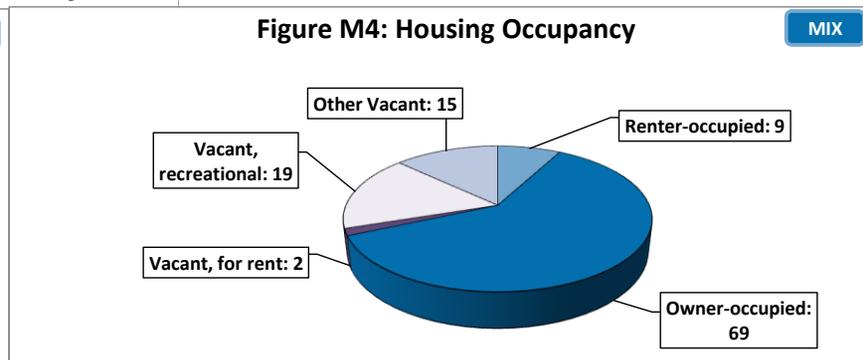
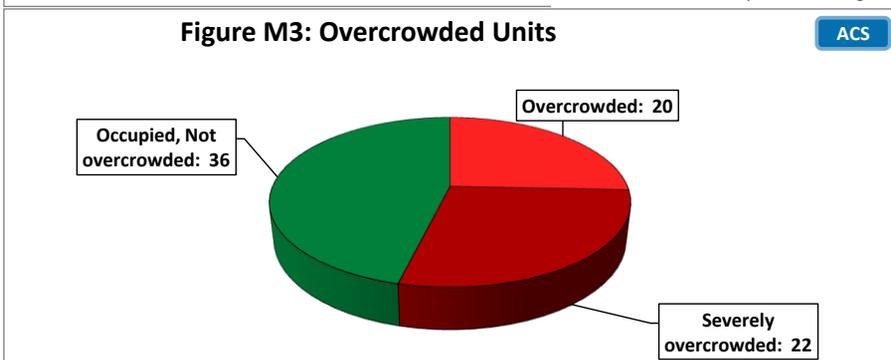
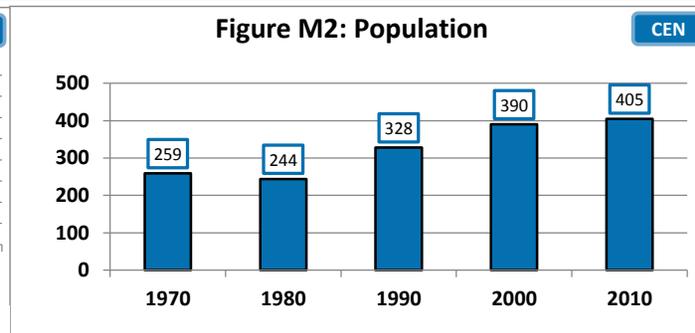
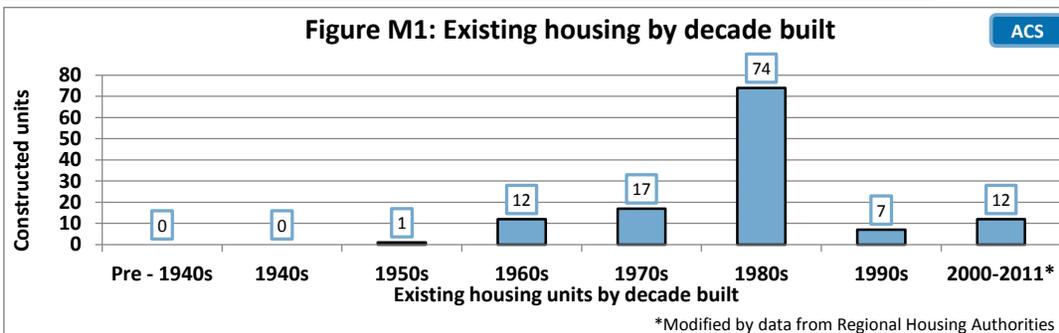


Community Profile for: Napaskiak city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,106 HDD)



Napaskiak 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	3-star	70.0	988	\$ 7,712	132	133	\$7.68	7.0	36%
Retrofit units	19	3-star plus	76.1	1,016	\$ 3,941	92	91	\$3.92	5.8	67%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	33	3-star	71.0	993	\$ 7,084	126	126	\$7.06	6.8	41%

Napaskiak 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	7.6	36	18	NR	35	NR	NR	0.43	NR	0.63
Retrofit units	19	7.3	79	19	NR	36	NR	NR	0.46	NR	0.51
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	33	7.6	37	18	NR	35	NR	NR	0.44	NR	0.62

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

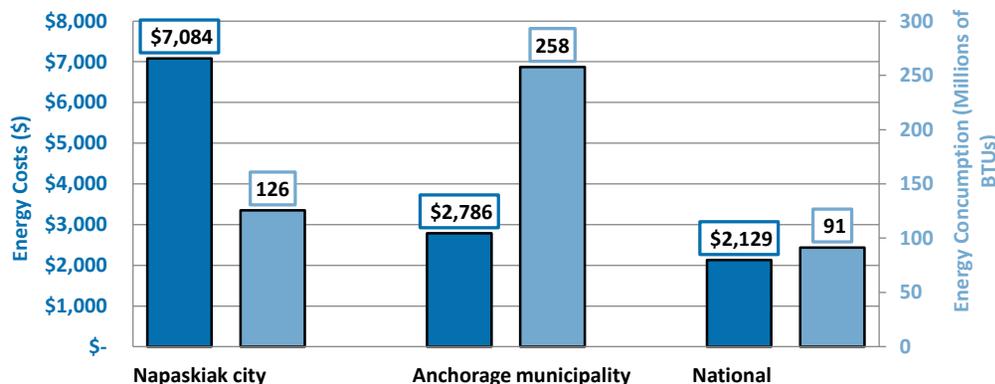
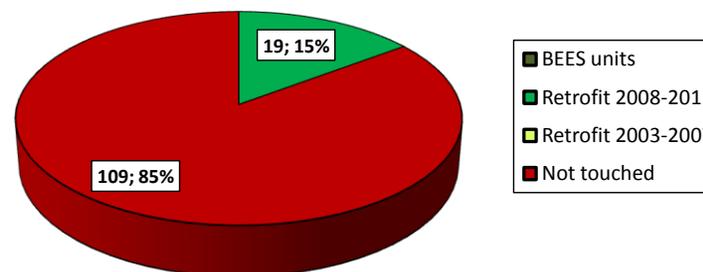


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Napaskiak city

Owner occupied House with Mortgage, Median Value
\$107,800

Owner-occupied House without a Mortgage, Median Value
\$80,000

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.13
Electricity with PCE (\$/kWh)	\$ 0.17
Electricity without PCE (\$/kWh)	\$ 0.60

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 60,313
Renter-occupied	\$ 22,188
Owner-occupied	\$ 60,469
w/ mortgage	\$ 61,719
w/o mortgage	\$ 46,250

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$9,395

Avg % Median Income spent on Energy	15.6%
-------------------------------------	-------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 518	\$ 6,216
Gross rent	\$ 700	\$ 8,400
Owner-occupied	\$ 450	\$ 5,400
Housing units w/ mortgage	\$ 581	\$ 6,972
Housing units w/out a mortgage	\$ 357	\$ 4,284

Housing Stock Estimates	Number of Units
All Housing	114
All Occupied Housing	78
All Vacant housing	36
Vacant Housing for Sale/Rent	2

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

ACS

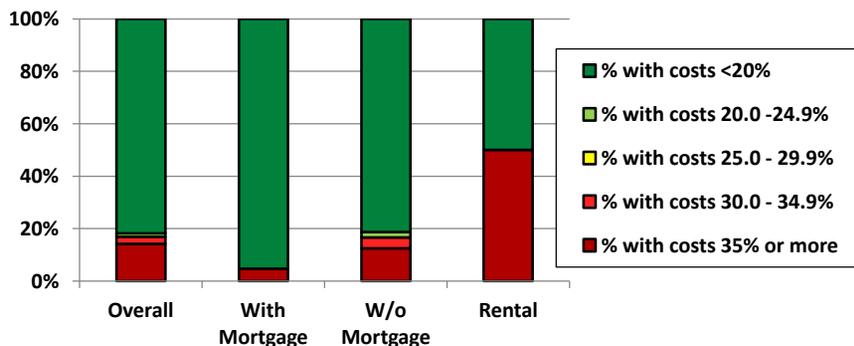


Figure M8: Number of Cost-Burdened Housing Units

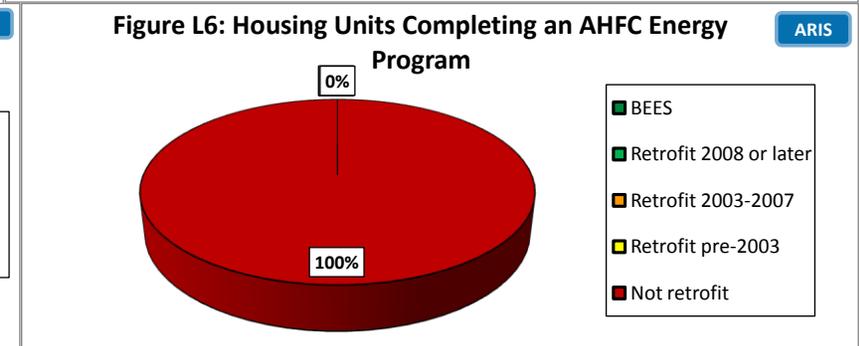
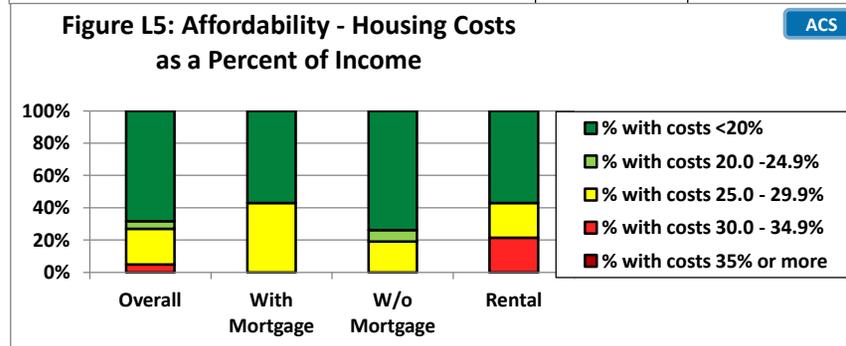
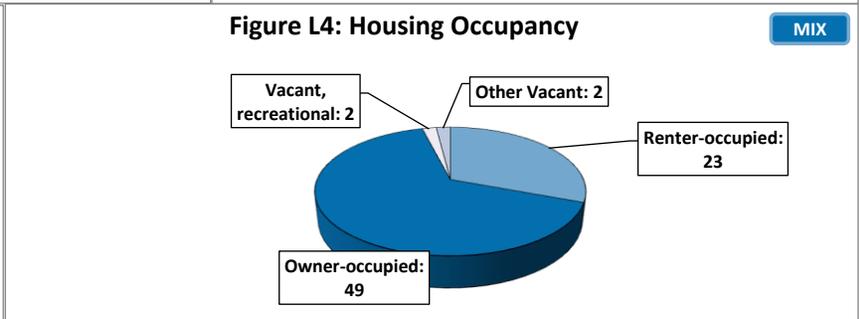
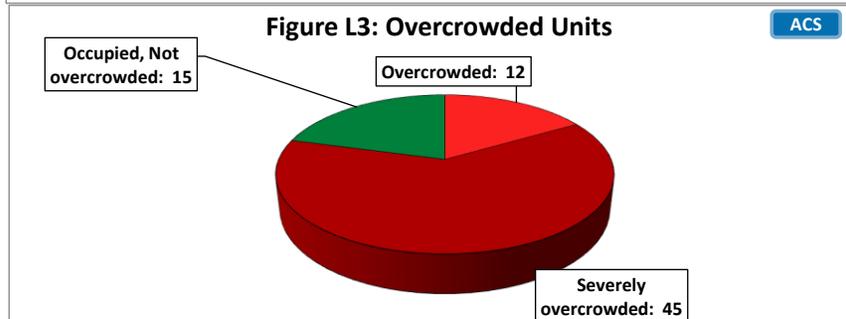
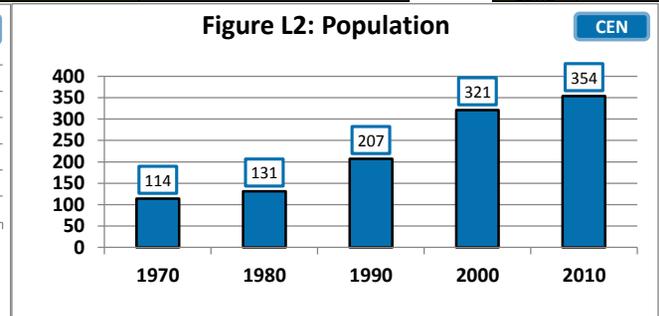
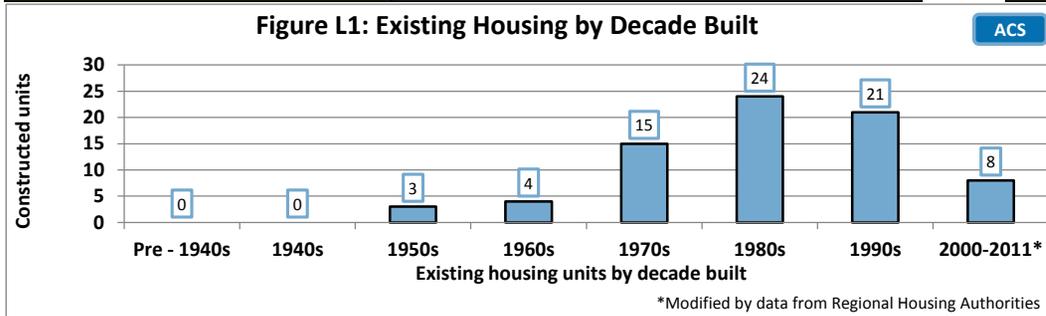
ACS



Community Profile for: Newtok CDP

ANCSA Region: Calista

Climate Zone: 8



Owner-occupied House with Mortgage, Median Value
\$206,300

Owner-occupied House without a Mortgage, Median Value
\$131,300

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	No Data
Electricity with PCE (\$/kWh)	No PCE
Electricity without PCE (\$/kWh)	\$ 1.00

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 40,000
Renter-occupied	\$ 14,792
Owner-occupied	\$ 42,188
w/ mortgage	\$ 42,813
w/o mortgage	\$ 41,875

Housing Stock Estimates	
Housing Units	Number of Units
All Housing	75
All Occupied Housing	72
All Vacant housing	3

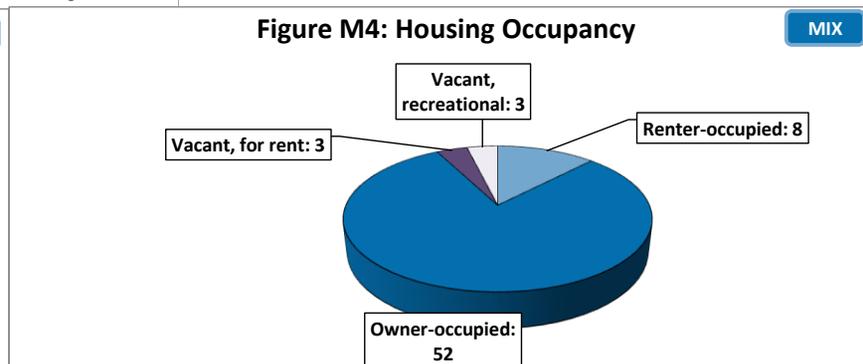
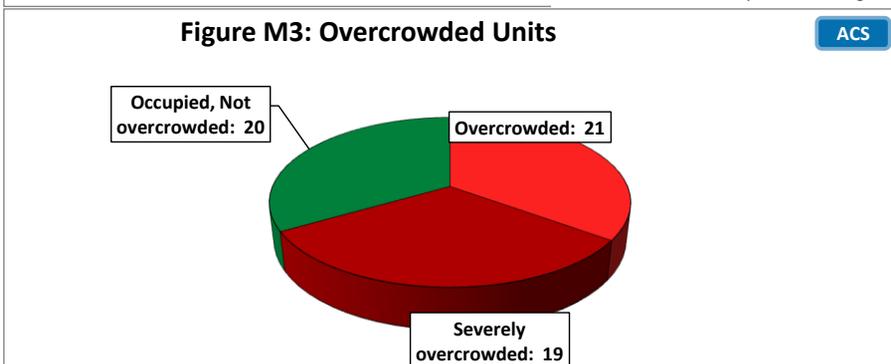
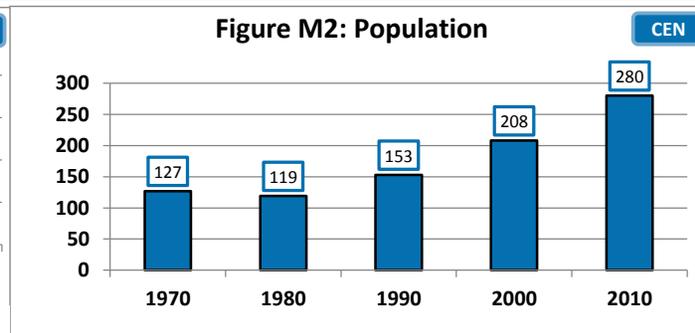
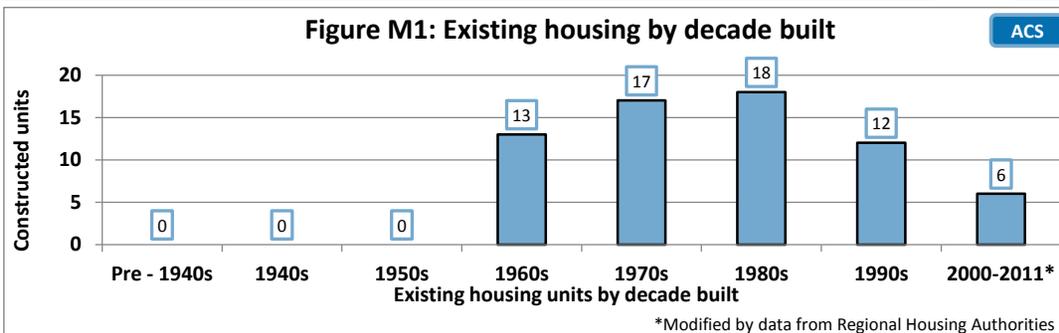
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 448	\$ 5,376
Gross rent	\$ 756	\$ 9,072
Owner-occupied	\$ 479	\$ 5,748
Housing units w/ mortgage	\$ 488	\$ 5,856
Housing units w/out a mortgage	\$ 475	\$ 5,700

Community Profile for: Nightmute city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,048 HDD)



Nightmute 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 w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	28	2-star	56.5	793	\$ 4,109	100	137	\$5.60	8.7	39%
Retrofit units	27	4-star	79.1	801	\$ 2,741	60	79	\$3.56	4.3	22%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	55	2-star plus	65.9	796	\$ 3,541	83	113	\$4.75	6.9	32%

Nightmute 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	28	8.8	17	14	NR	22	NR	NR	0.35	NR	0.63
Retrofit units	27	6.4	36	20	NR	31	NR	NR	0.21	NR	0.39
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	55	7.8	22	16	NR	25	NR	NR	0.29	NR	0.53

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

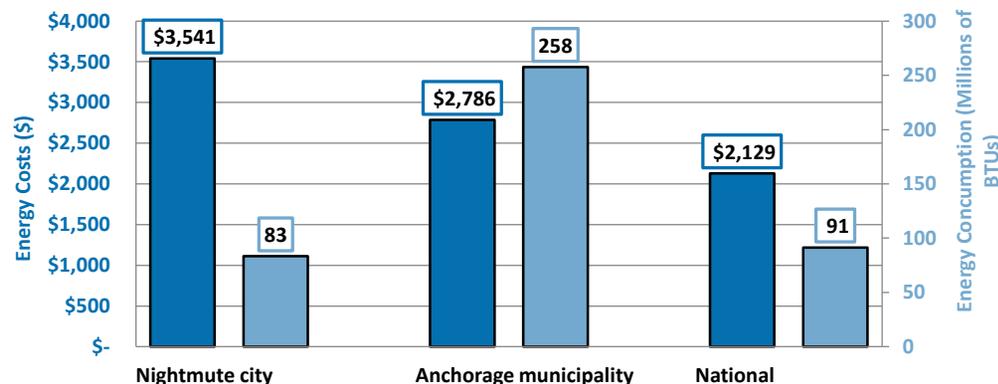
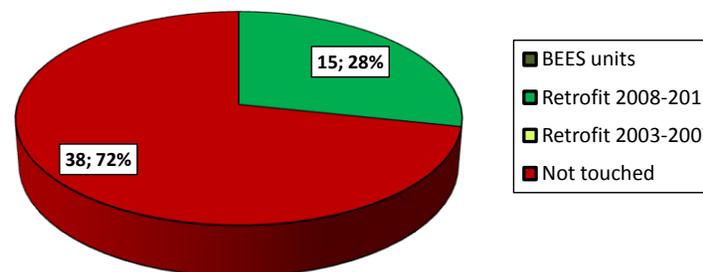


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Nightmute city

Owner occupied House with Mortgage, Median Value
\$147,500

Owner-occupied House without a Mortgage, Median Value
\$202,300

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.19
Electricity with PCE (\$/kWh)	\$ 0.21
Electricity without PCE (\$/kWh)	\$ 0.51

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 51,250
Renter-occupied	\$ 56,875
Owner-occupied	\$ 42,500
w/ mortgage	\$ 39,688
w/o mortgage	\$ 45,417

Average Annual Energy Cost	
With PCE	\$3,541
Without PCE	\$5,048

Avg % Median Income spent on Energy	6.9%
-------------------------------------	------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 445	\$ 5,340
Gross rent	\$ 538	\$ 6,456
Owner-occupied	\$ 430	\$ 5,160
Housing units w/ mortgage	\$ 556	\$ 6,672
Housing units w/out a mortgage	\$ 342	\$ 4,104

Housing Stock Estimates	Number of Units
All Housing	65
All Occupied Housing	60
All Vacant housing	5
Vacant Housing for Sale/Rent	3

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

ACS

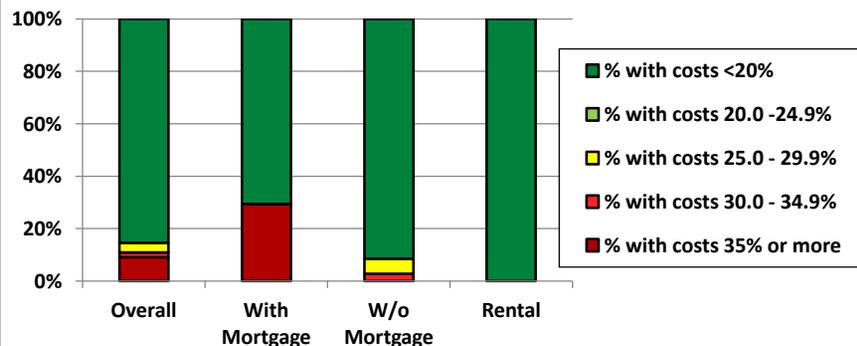


Figure M8: Number of Cost-Burdened Housing Units

ACS



Community Profile for: Nunapitchuk city

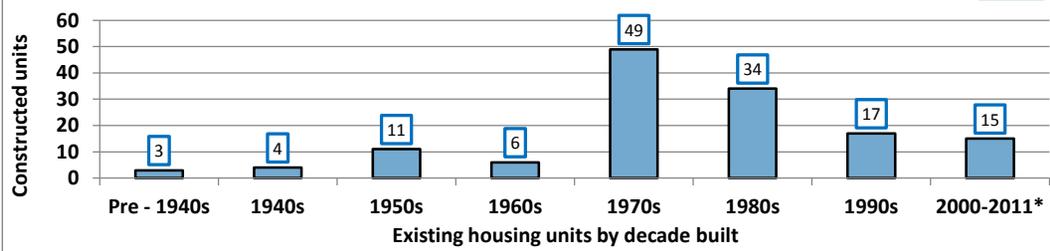
ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,106 HDD)

COMMUNITY - Nunapitchuk city

Figure H1: Existing Housing by Decade Built



*Modified by data from Regional Housing Authorities

Figure H2: Population

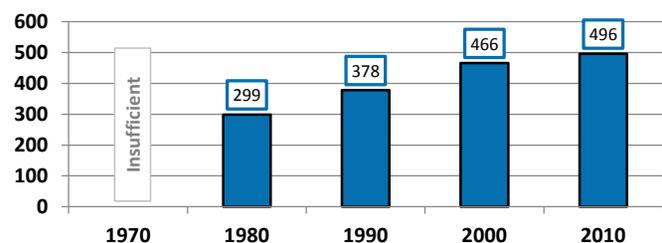


Figure H3: Trends in Housing Unit Size

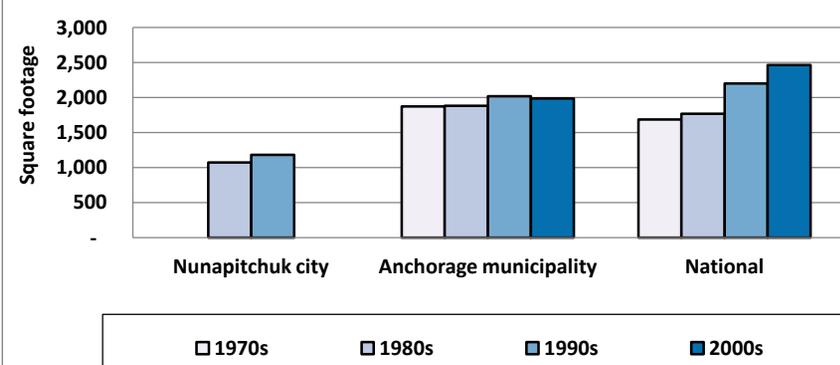
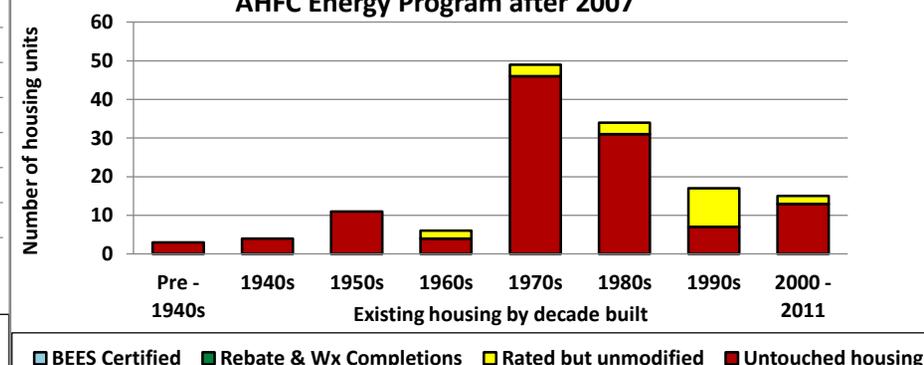


Figure H4: Housing Units Completing an AHFC Energy Program after 2007



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	24	23%
Lack complete kitchen	25	24%

Avg Annual Energy Cost with PCE	\$11,408
Avg Annual Energy Cost without PCE	\$13,235

Weatherization Program Retrofits (funding increased in 2008)	
Date Range	Units
2008-2011	0
2003-2007	1
1990-2002	4

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	79,847	(gallons)
Nat Gas	-	(ccf)
Electricity	48,936	(kWh)
Wood	191	(cords)
Propane	-	(gallons)
Coal	-	(tons)

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$7.06
Electricity with PCE (\$/kWh)	\$0.21
Electricity cost without PCE (\$/kWh)	\$0.51

Housing Stock Estimates	Number of Units
All Housing	127
All Occupied Housing	104
All Vacant housing	23
Vacant Housing for Sale or Rent	0

OVERCROWDING & VENTILATION - Nunapitchuk city

Figure H5: Overcrowded Units

ACS

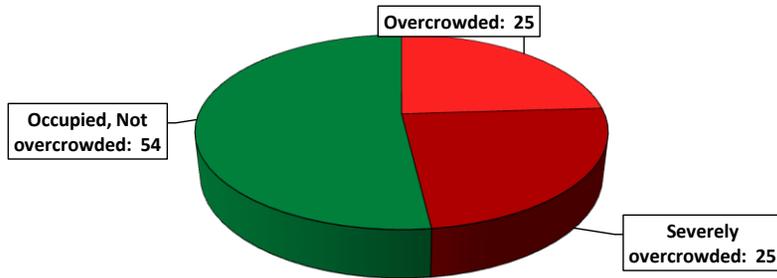


Figure H6: Housing Occupancy

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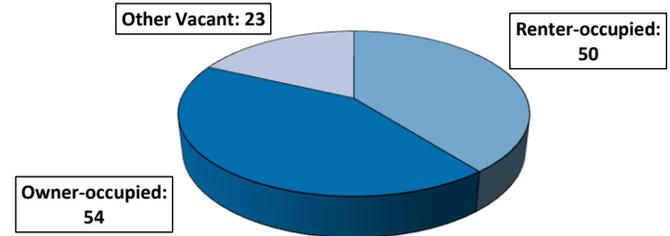


Figure H7: Average Air-Tightness of Current Homes by Decade Built

ARIS

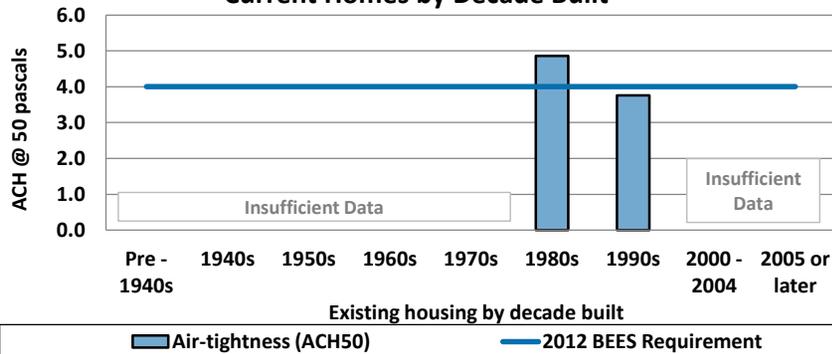


Figure H8: Existing Ventilation Type by Decade Built

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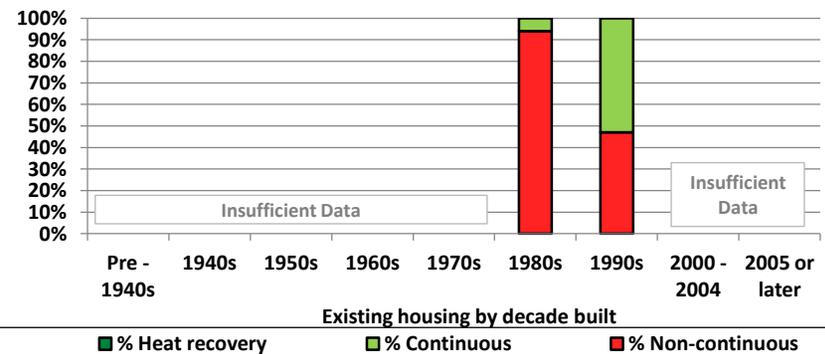


Figure H9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS

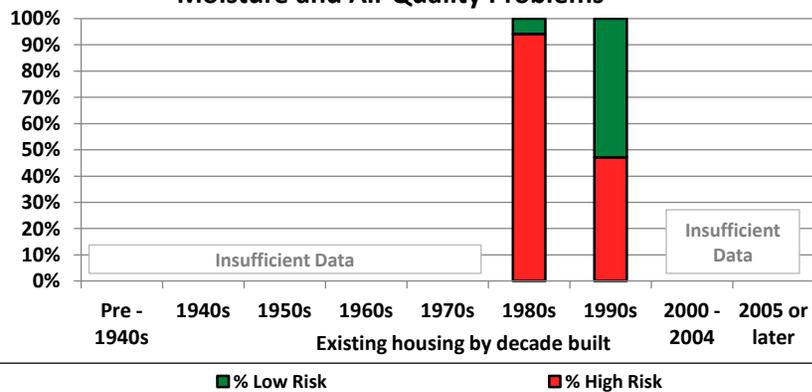
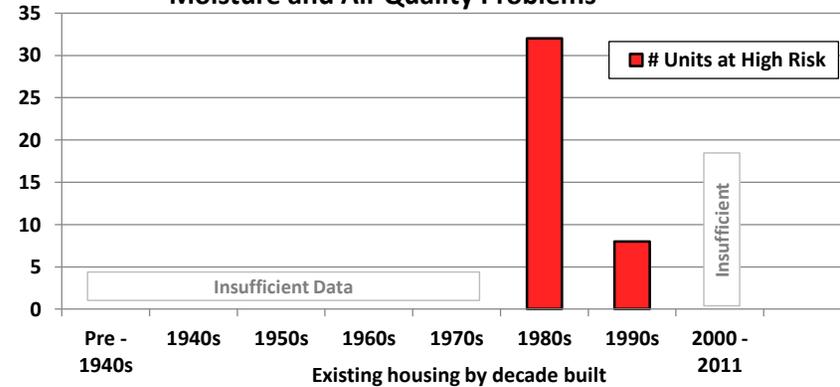


Figure H10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Nunapitchuk city												
Current Nunapitchuk city 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	20	1-star	37.9	830	\$ 11,408	189	133	34	22	205	\$ 12.62	11.2
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
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	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1980- 89	5	2-star	51.5	1,071	\$ 10,737	200	154	26	20	186	\$ 10.18	11.0
1990- 99	19	2-star	55.6	1,182	\$ 11,880	181	122	32	27	155	\$ 10.23	8.0
2000- 2004	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2005 or later	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

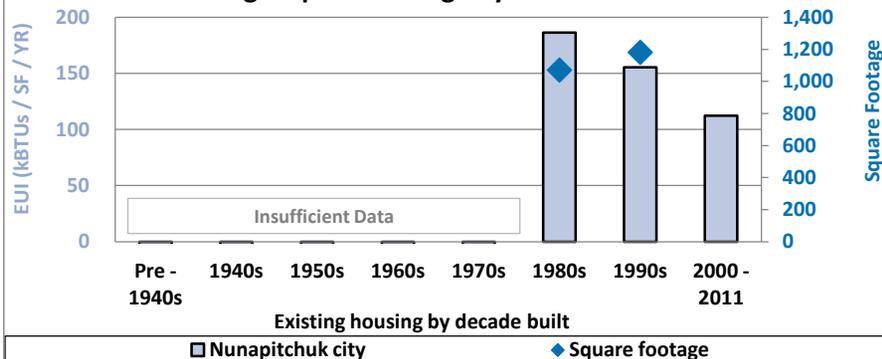
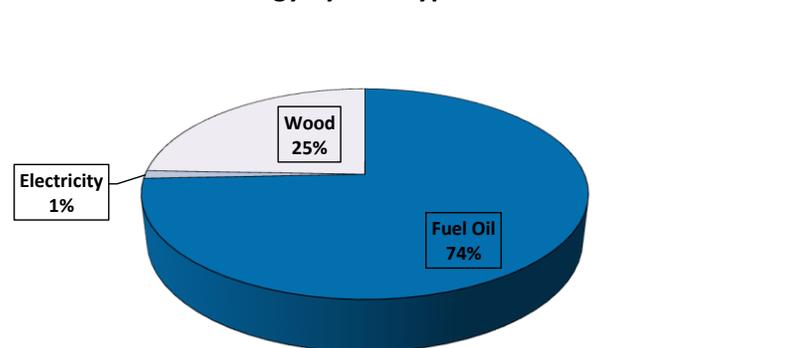


Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type

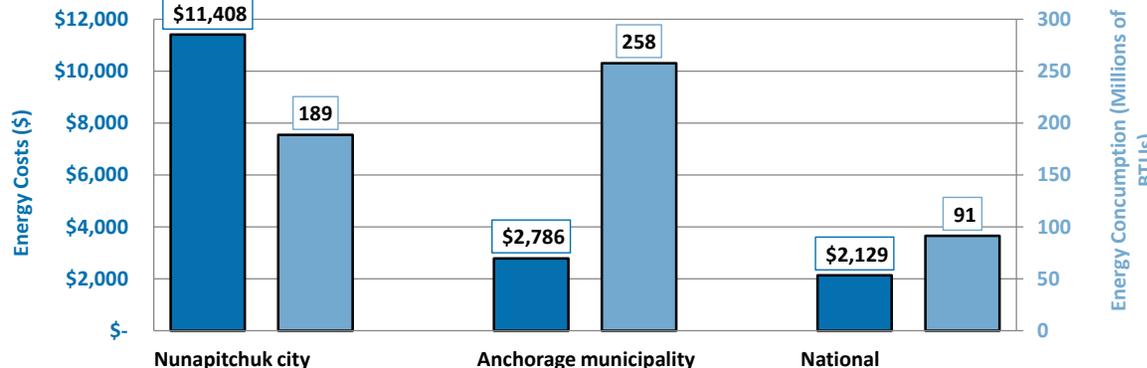


Current Nunapitchuk city Housing Envelope Characteristics By Decade Built											
Current Residential Units by Year Built	Number of Records	ACH 50	Ceiling R	Above Grade Wall R	Below Grade Wall R	Above Grade Floor R	On Grade Floor R	Below Grade Floor R	Door U	Garage Door U	Window U
OVERALL	20	5.2	19	15	NR	16	NR	NR	0.51	NR	0.70
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
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	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1980- 89	5	4.9	17	14	NR	16	NR	NR	0.49	NR	0.83
1990- 99	19	3.8	22	21	NR	20	NR	NR	0.54	NR	0.57
2000- 2004	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2005 or later	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

AFFORDABILITY - Nunapitchuk city

Figure H13: Average Annual Home Energy Costs and Use



Housing Information	Avg Household Size (# of people)
All-occupied	4.0
Owner-occupied	4.9
renter-occupied	3.0

Owner-occupied House with Mortgage, Median Value	\$77,500
Owner-occupied House without a Mortgage, Median Value	\$83,300

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 39,583
Renter-occupied	\$ 38,333
Owner-occupied	\$ 41,250
w/ mortgage	\$ 55,625
w/o mortgage	\$ 32,500

	Median Housing Costs	
	Monthly	Annual
All-occupied	\$ 483	\$ 5,796
Gross rent	\$ 625	\$ 7,500
Owner-occupied	\$ 417	\$ 5,004
Housing units w/ mortgage	\$ 700	\$ 8,400
Housing units w/out a mortgage	\$ 330	\$ 3,960

Avg % of Median Income Spent on Energy	28.8%
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Figure H14: Affordability - Housing Costs as a Percent of Income

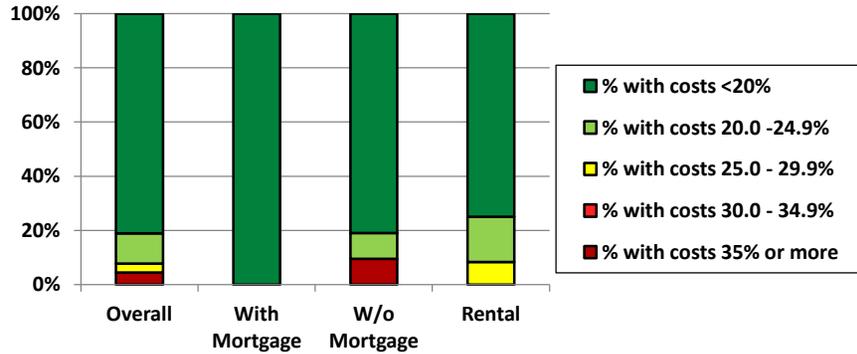
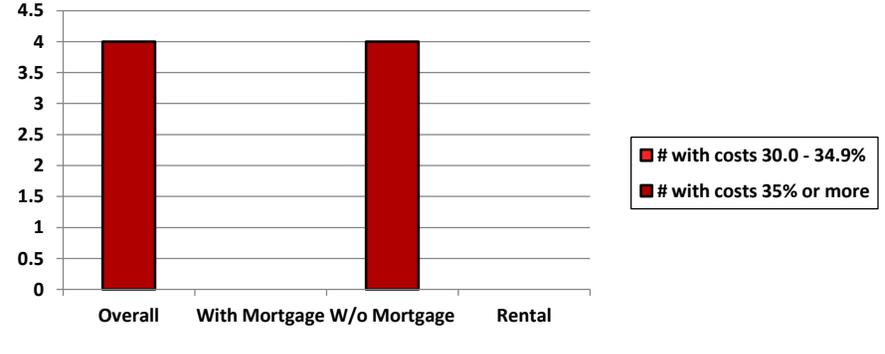


Figure H15: Number of Cost-Burdened Housing Units

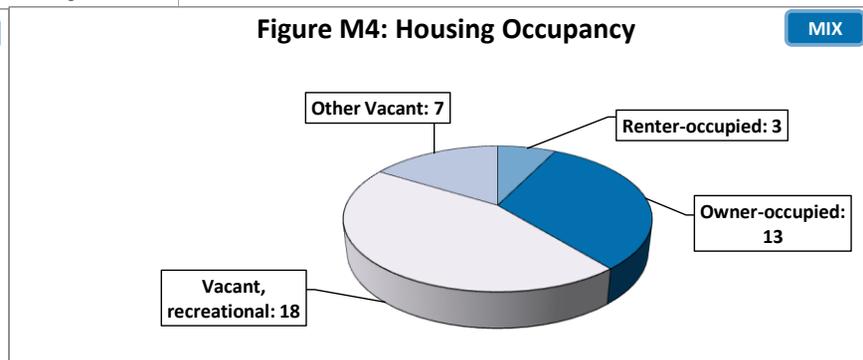
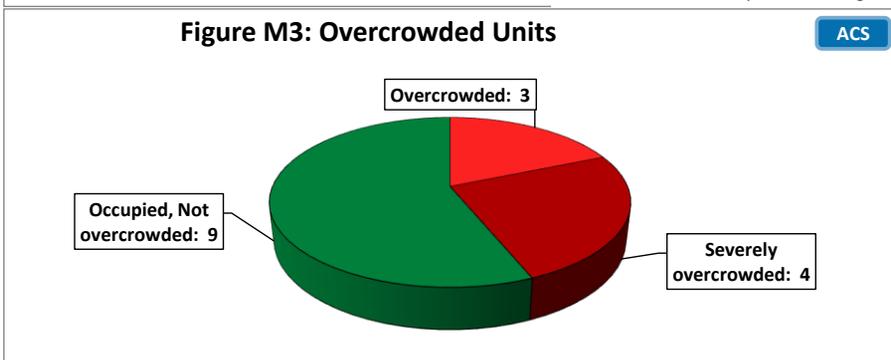
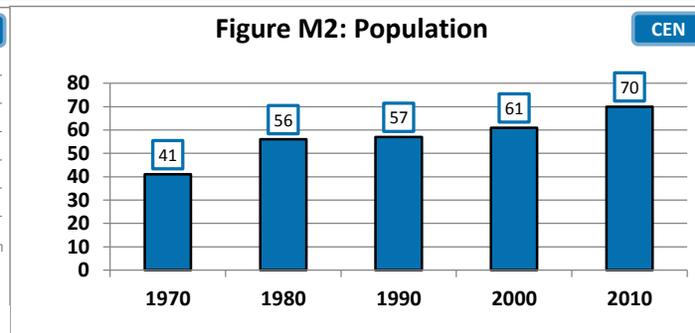
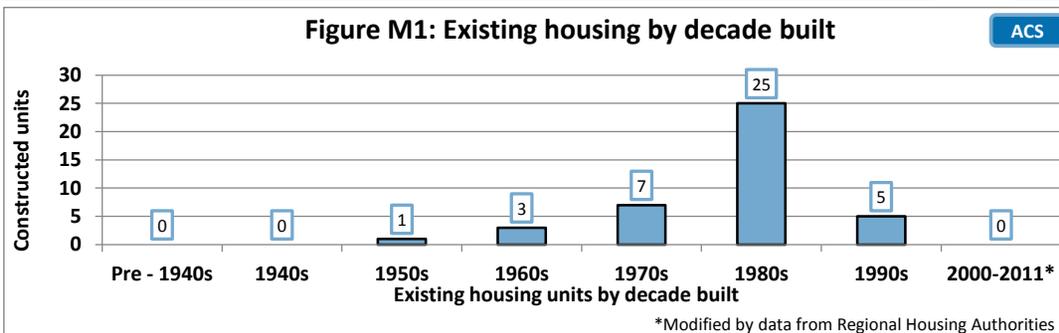


Community Profile for: Oscarville CDP

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,106 HDD)



Oscarville 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 w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	13	2-star plus	66.3	977	\$ 5,299	146	148	\$5.41	9.3	10%
Retrofit units	12	3-star plus	73.5	958	\$ 3,930	96	100	\$4.13	5.7	0%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR

Oscarville 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	13	7.9	34	20	NR	32	NR	NR	0.48	NR	0.57
Retrofit units	12	6.4	38	21	NR	34	NR	NR	0.19	NR	0.39
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

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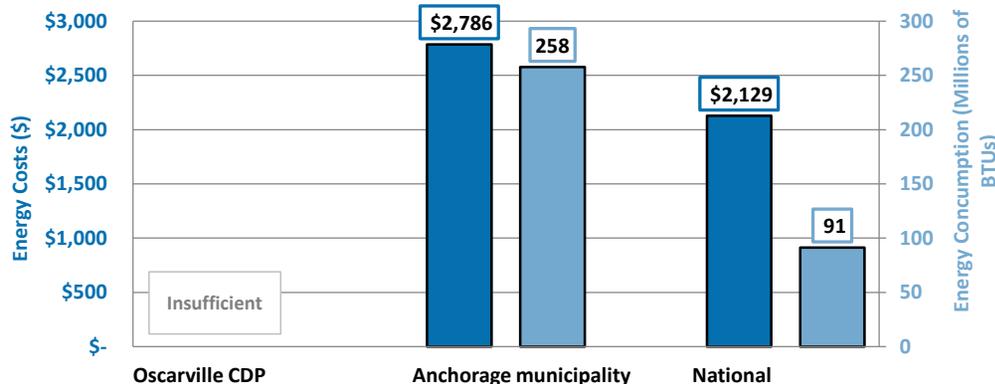
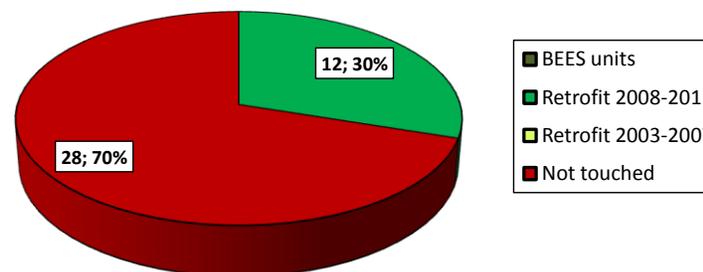


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Oscarville CDP

Owner occupied House with Mortgage, Median Value
\$76,700

Owner-occupied House without a Mortgage, Median Value
\$255,000

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.15
Electricity with PCE (\$/kWh)	\$ 0.14
Electricity without PCE (\$/kWh)	\$ 0.52

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 52,500
Renter-occupied	NR
Owner-occupied	\$ 39,688
w/ mortgage	\$ 31,667
w/o mortgage	\$ 80,250

Average Annual Energy Cost	
With PCE	NR
Without PCE	NR

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 369	\$ 4,428
Gross rent	NR	NR
Owner-occupied	\$ 338	\$ 4,056
Housing units w/ mortgage	\$ 933	\$ 11,196
Housing units w/out a mortgage	\$ 295	\$ 3,540

Housing Stock Estimates	Number of Units
All Housing	41
All Occupied Housing	16
All Vacant housing	25
Vacant Housing for Sale/Rent	0

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

ACS

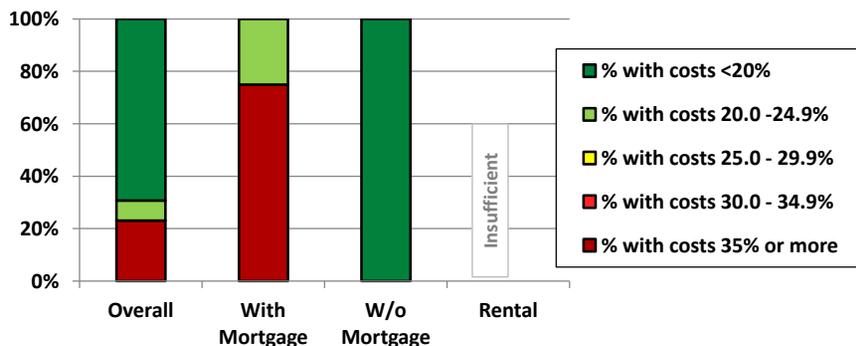


Figure M8: Number of Cost-Burdened Housing Units

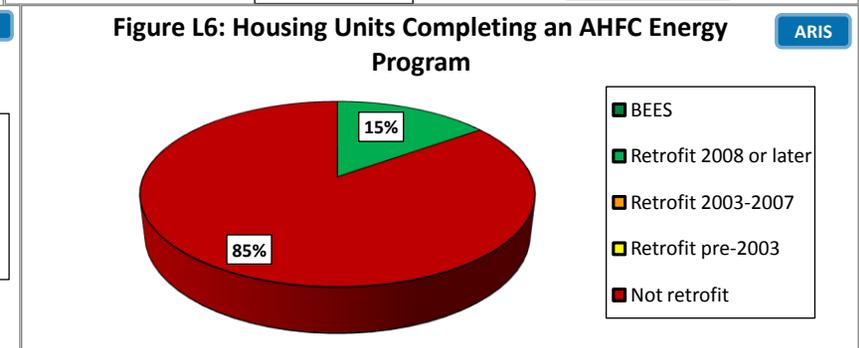
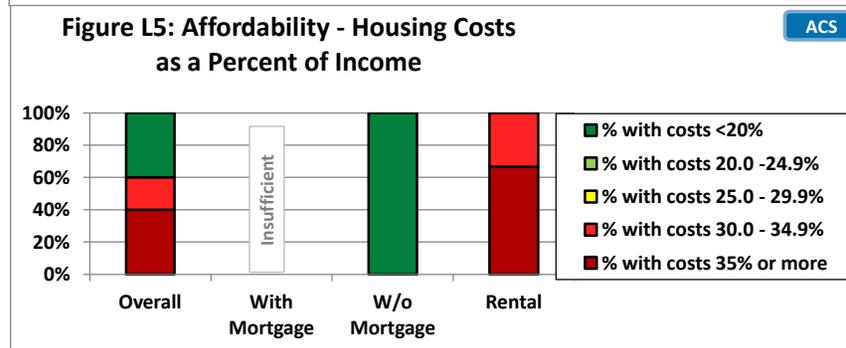
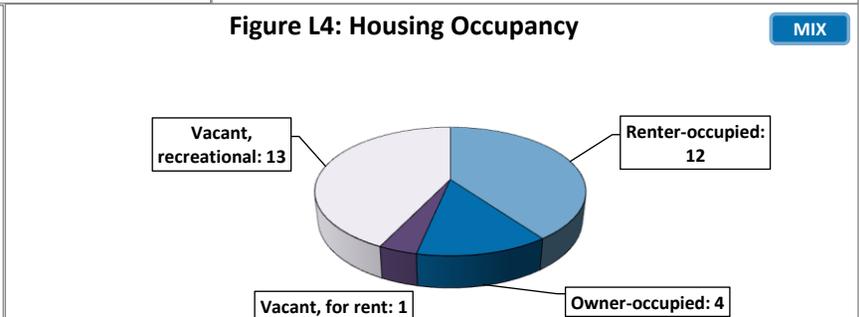
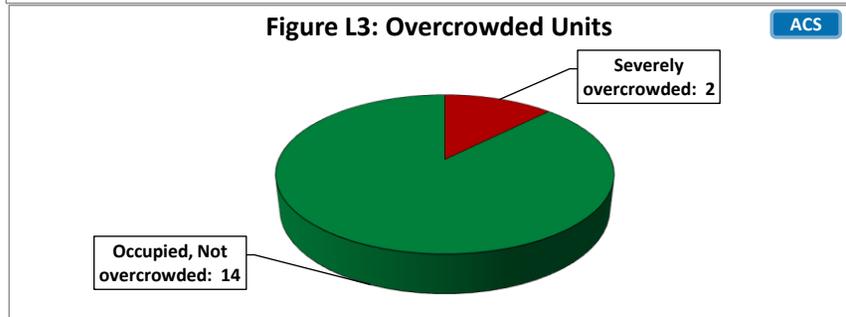
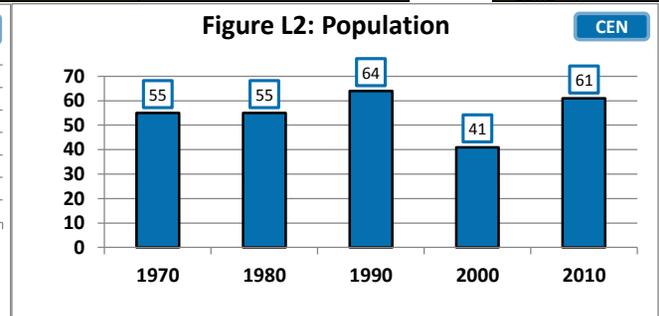
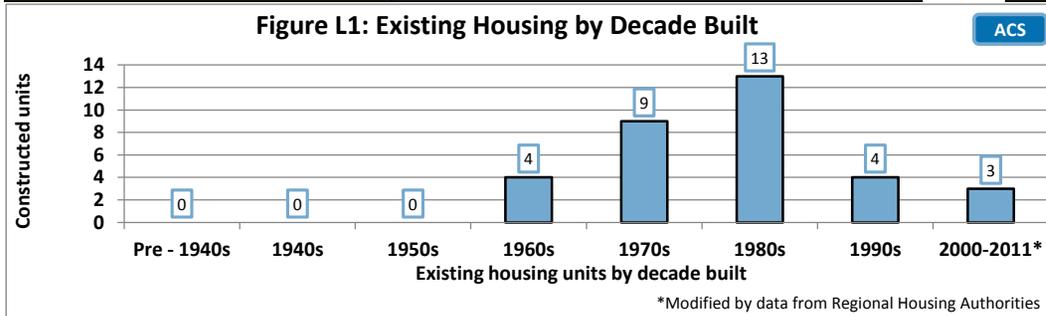
ACS



Community Profile for: Platinum City

ANCSA Region: Calista

Climate Zone: 8



Owner-occupied House with Mortgage, Median Value
NR

Owner-occupied House without a Mortgage, Median Value
NR

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 5.47
Electricity with PCE (\$/kWh)	\$ 0.14
Electricity without PCE (\$/kWh)	\$ 0.50

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 11,250
Renter-occupied	\$ 6,875
Owner-occupied	NR
w/ mortgage	NR
w/o mortgage	NR

Housing Stock Estimates	
Housing Stock Estimates	Number of Units
All Housing	30
All Occupied Housing	16
All Vacant housing	14

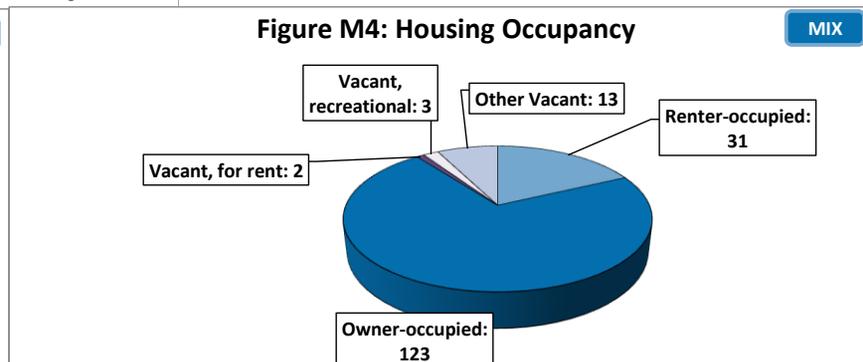
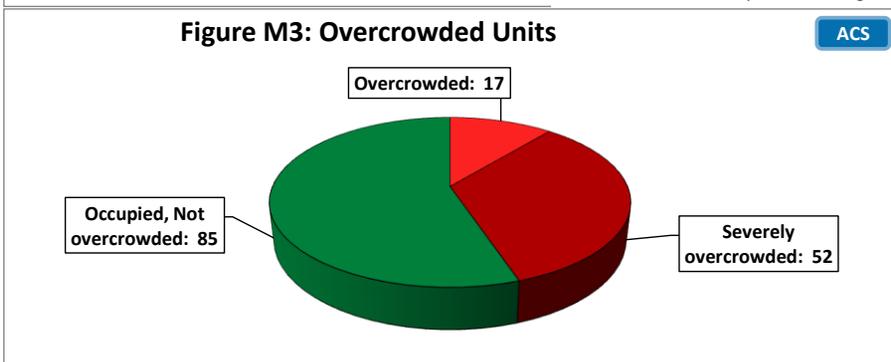
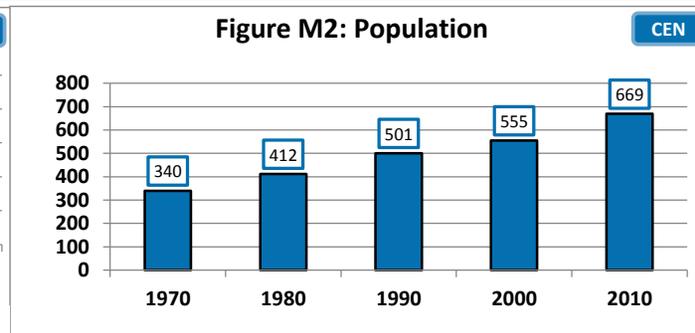
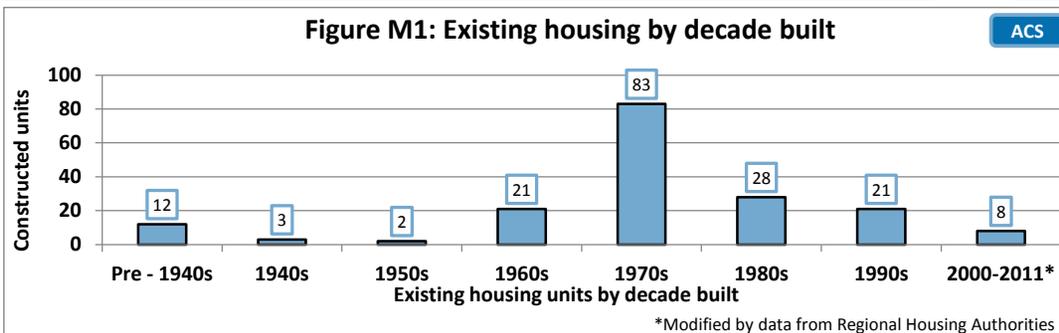
Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 425	\$ 5,100
Gross rent	\$ 713	\$ 8,556
Owner-occupied	NR	NR
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	NR	NR

Community Profile for: Quinhagak city

ANCSA Region Calista

Regional Housing Authority AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days) Zone 8 (12,107 HDD)



Quinhagak 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	9	3-star plus	75.0	885	\$ 4,548	85	99	\$5.29	5.0	67%
Retrofit units	11	3-star plus	77.5	935	\$ 5,223	89	99	\$5.80	4.5	11%
New construction	8	5-star plus	92.9	1,224	\$ 4,381	80	65	\$3.58	2.2	0%

Quinhagak 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	9	5.7	28	20	NR	28	NR	NR	0.40	NR	0.77
Retrofit units	11	4.9	40	21	NR	51	NR	NR	0.41	NR	0.78
New construction	8	2.4	37	29	NR	40	NR	NR	0.16	NR	0.26
		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

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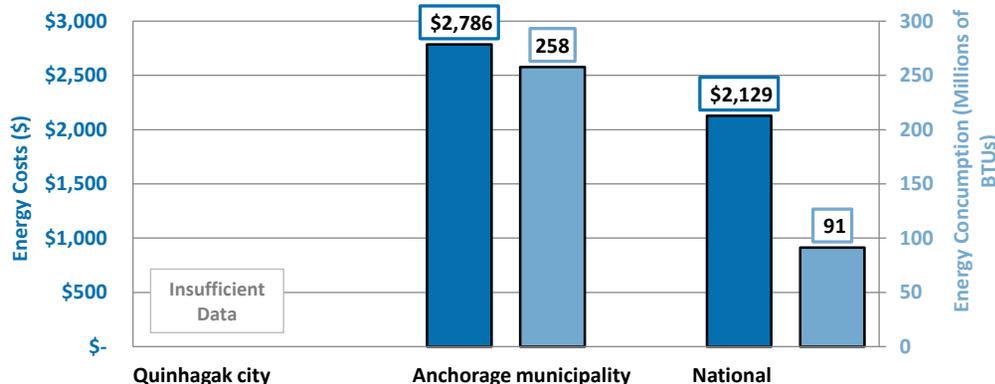
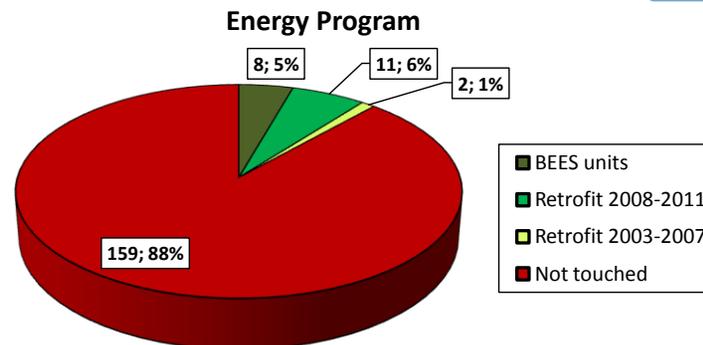


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Quinhagak city

Owner occupied House with Mortgage, Median Value
\$137,500

Owner-occupied House without a Mortgage, Median Value
\$52,500

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.18
Electricity with PCE (\$/kWh)	\$ 0.21
Electricity without PCE (\$/kWh)	\$ 0.55

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 31,429
Renter-occupied	\$ 35,417
Owner-occupied	\$ 31,250
w/ mortgage	\$ 46,250
w/o mortgage	\$ 30,714

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$6,421

Avg % Median Income spent on Energy	20.4%
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Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 364	\$ 4,368
Gross rent	\$ 468	\$ 5,616
Owner-occupied	\$ 361	\$ 4,332
Housing units w/ mortgage	\$ 463	\$ 5,556
Housing units w/out a mortgage	\$ 339	\$ 4,068

Housing Stock Estimates	Number of Units
All Housing	172
All Occupied Housing	154
All Vacant housing	18
Vacant Housing for Sale/Rent	2

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

ACS

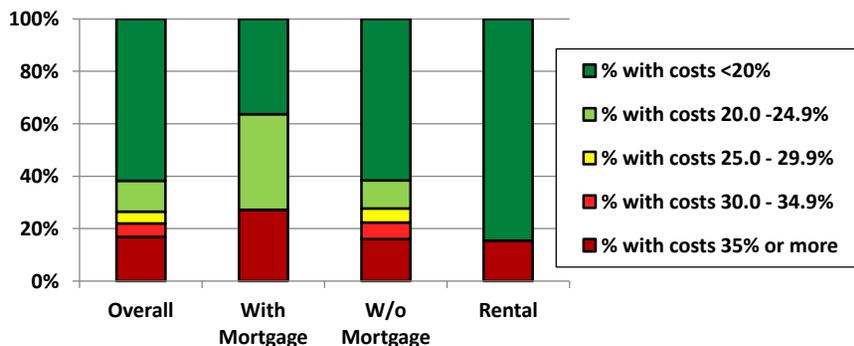
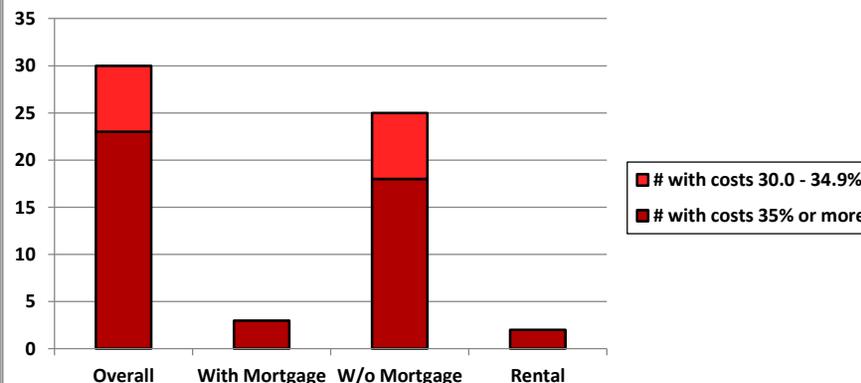
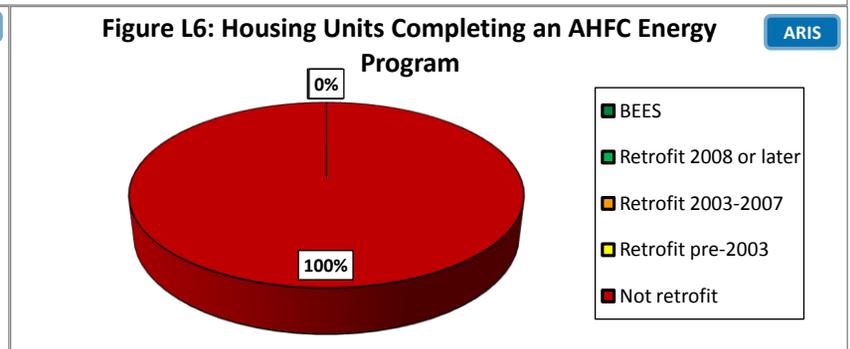
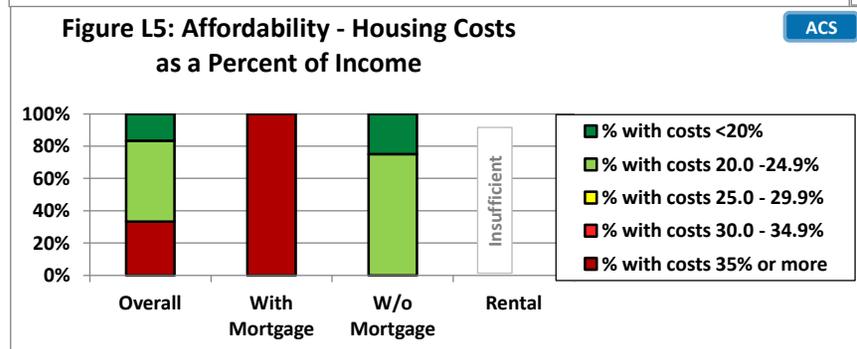
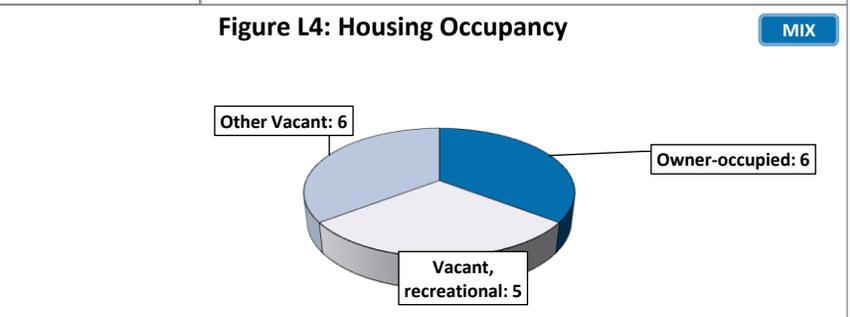
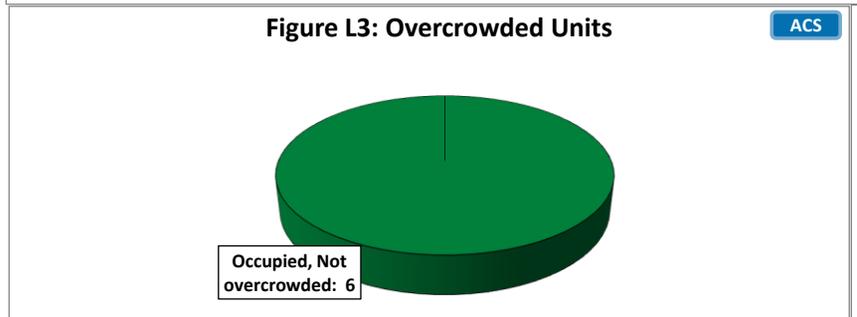
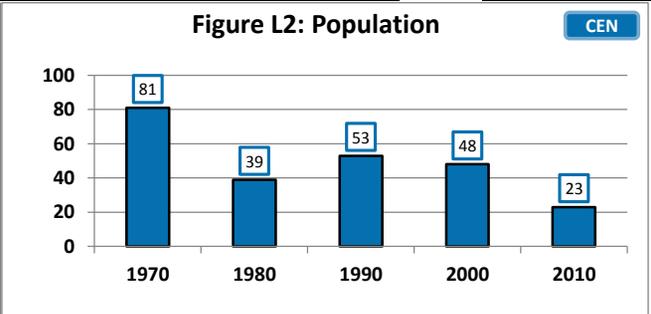
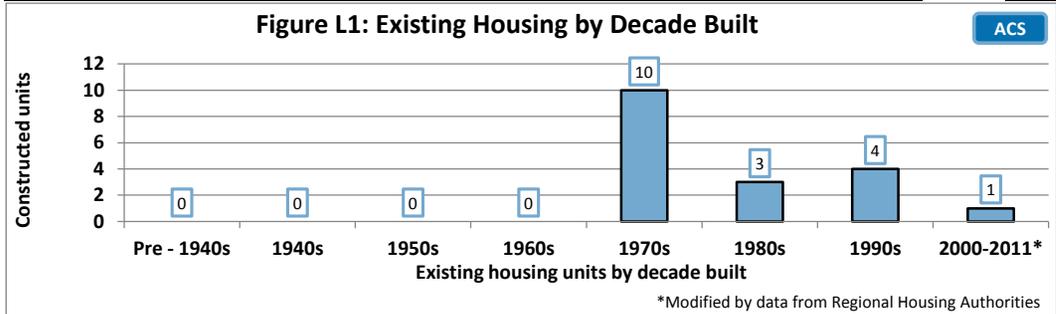


Figure M8: Number of Cost-Burdened Housing Units

ACS



Community Profile for: **Red Devil CDP** ANCSA Region: **Calista** Climate Zone: **8**



Owner-occupied House with Mortgage, Median Value
\$112,500

Owner-occupied House without a Mortgage, Median Value
\$38,300

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 28,333
Renter-occupied	NR
Owner-occupied w/ mortgage	NR
Owner-occupied w/o mortgage	\$ 29,167

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 467	\$ 5,604
Gross rent	NR	NR
Owner-occupied	\$ 460	\$ 5,520
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 467	\$ 5,604

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	No Data
Electricity with PCE (\$/kWh)	No PCE
Electricity without PCE (\$/kWh)	\$ 1.00

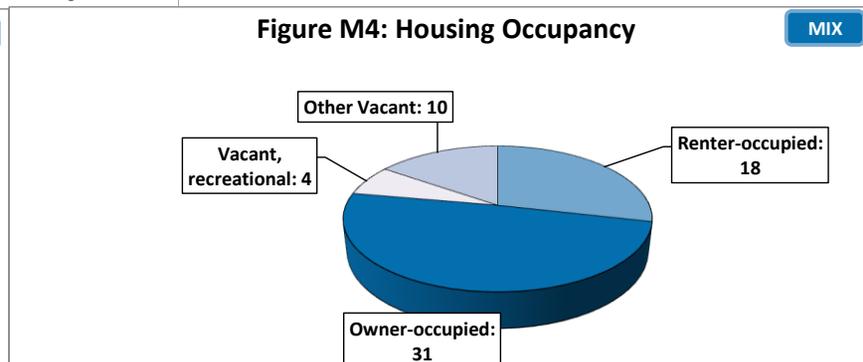
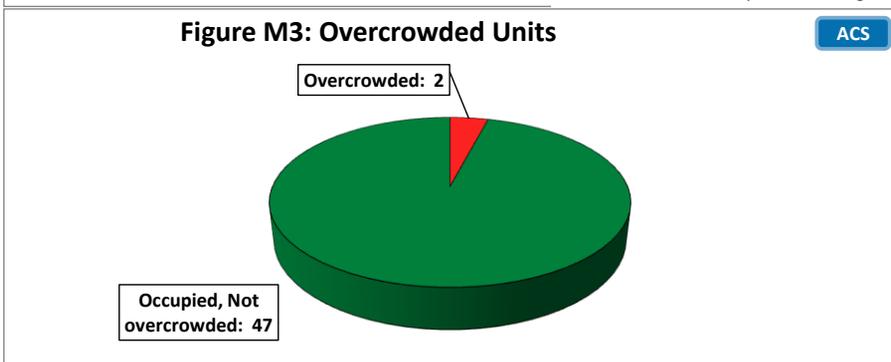
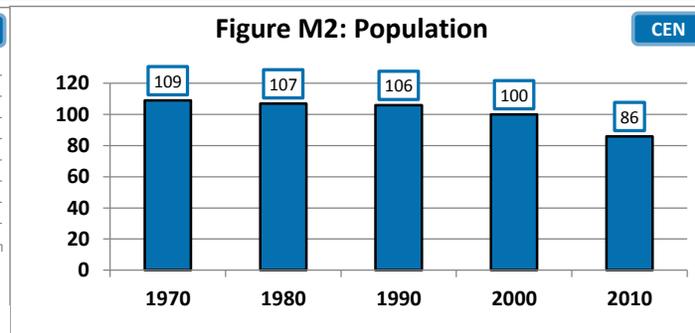
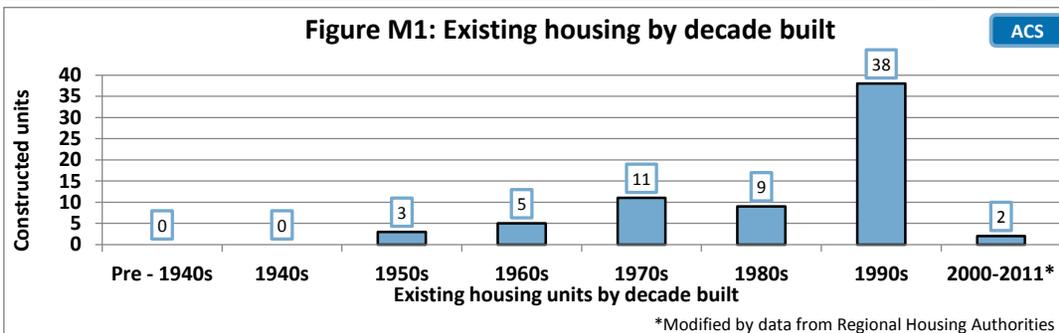
Housing Stock Estimates	Number of Units
All Housing	17
All Occupied Housing	6
All Vacant housing	11

Community Profile for: Sleetmute CDP

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,339 HDD)



Sleetmute 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	60.5	760	\$ 5,023	160	309	\$6.48	19.8	58%
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	12	2-star plus	60.5	760	\$ 5,023	160	309	\$6.48	19.8	58%

Sleetmute 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	11.9	22	13	NR	15	NR	NR	0.37	NR	0.63
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	12	11.9	22	13	NR	15	NR	NR	0.37	NR	0.63

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

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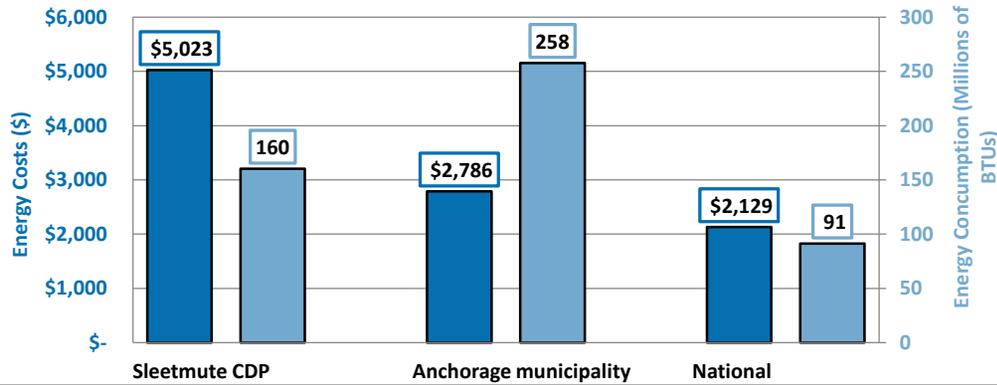
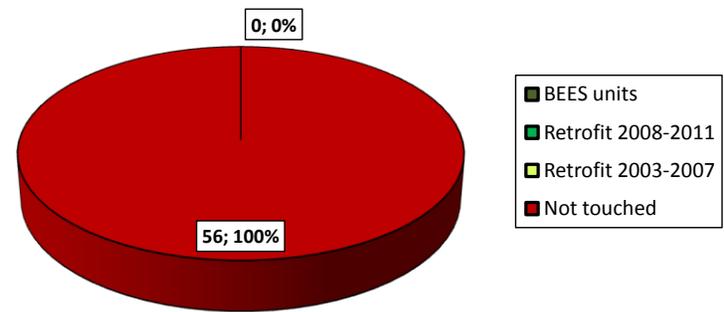


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Sleetmute CDP

Owner occupied House with Mortgage, Median Value
\$115,600
Owner-occupied House without a Mortgage, Median Value
\$118,800

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 24,750
Renter-occupied	\$ 12,083
Owner-occupied	\$ 42,708
w/ mortgage	\$ 24,000
w/o mortgage	\$ 44,375

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 392	\$ 4,704
Gross rent	\$ 725	\$ 8,700
Owner-occupied	\$ 372	\$ 4,464
Housing units w/ mortgage	\$ 560	\$ 6,720
Housing units w/out a mortgage	\$ 361	\$ 4,332

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 7.35
Electricity with PCE (\$/kWh)	\$ 0.18
Electricity without PCE (\$/kWh)	\$ 0.82

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$7,776

Housing Stock Estimates	Number of Units
All Housing	63
All Occupied Housing	49
All Vacant housing	14
Vacant Housing for Sale/Rent	0

Avg % Median Income spent on Energy	31.4%
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Figure M7: Affordability - Housing Costs as a Percent of Income

ACS

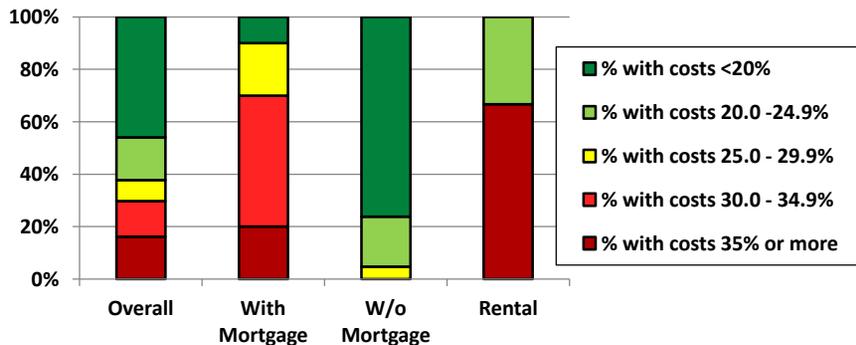
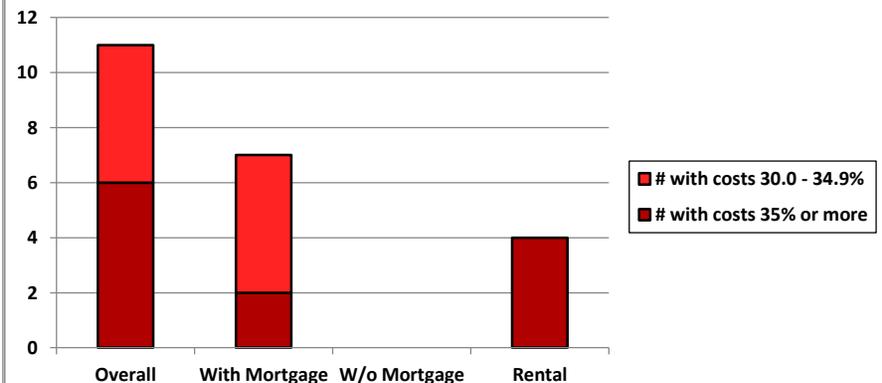


Figure M8: Number of Cost-Burdened Housing Units

ACS

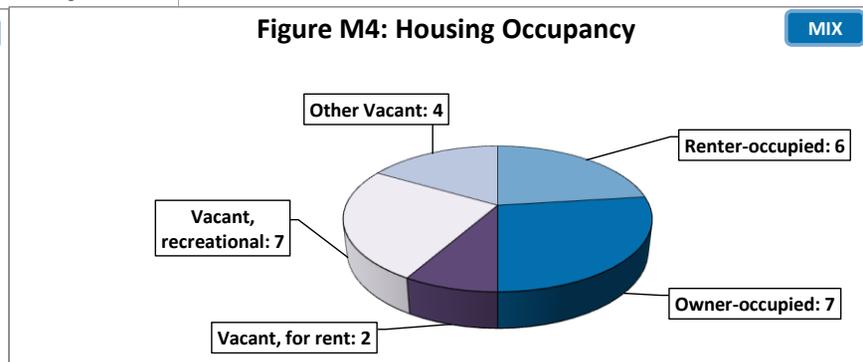
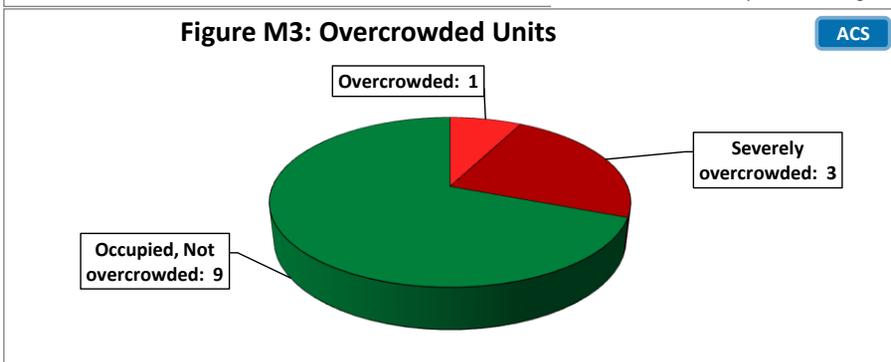
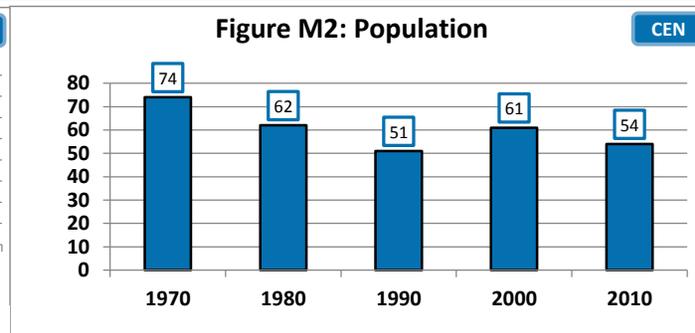
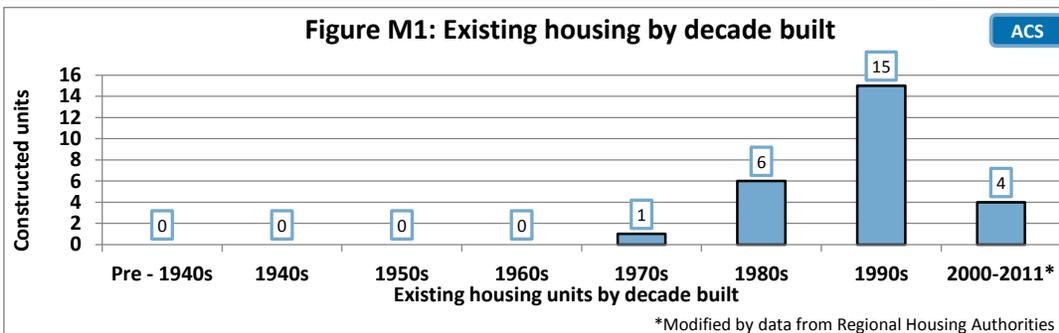


Community Profile for: Stony River CDP

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (12,633 HDD)



Stony River 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	2	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	4	2-star plus	62.9	1,100	\$ 6,064	172	166	\$5.55	10.0	0%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR

Stony River 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	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	4	4.5	40	16	NR	49	NR	NR	0.41	NR	0.51
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

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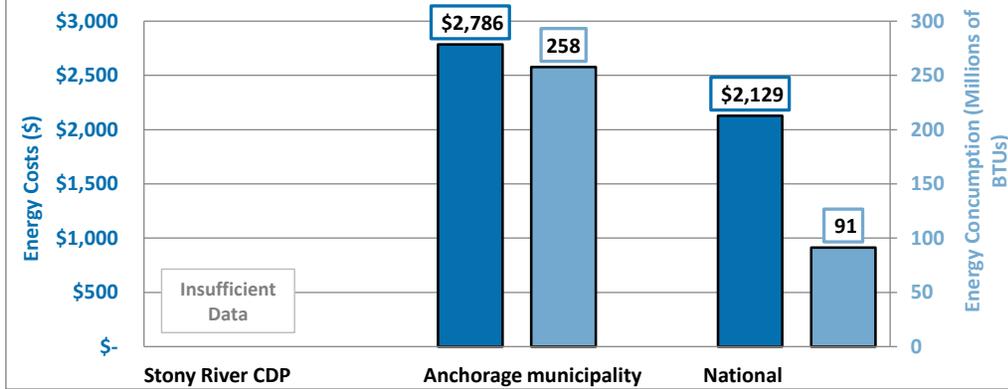
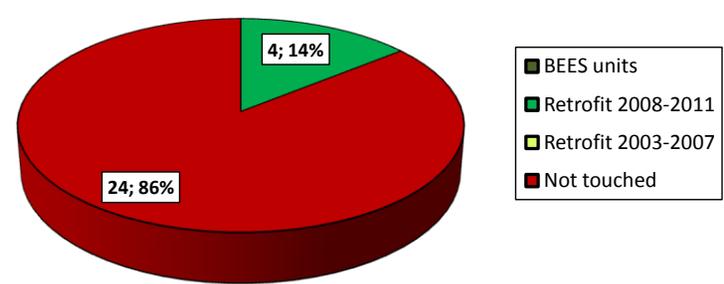


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Stony River CDP

Owner occupied House with Mortgage, Median Value
\$121,900

Owner-occupied House without a Mortgage, Median Value
NR

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 7.35
Electricity with PCE (\$/kWh)	\$ 0.18
Electricity without PCE (\$/kWh)	\$ 0.82

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 17,679
Renter-occupied	\$ 6,000
Owner-occupied	NR
w/ mortgage	NR
w/o mortgage	NR

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$9,712

Avg % Median Income spent on Energy	54.9%
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Median Housing Costs		
	Monthly	Annual
All-occupied	NR	NR
Gross rent	NR	NR
Owner-occupied	NR	NR
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	NR	NR

Housing Stock Estimates	Number of Units
All Housing	26
All Occupied Housing	13
All Vacant housing	13
Vacant Housing for Sale/Rent	2

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

ACS

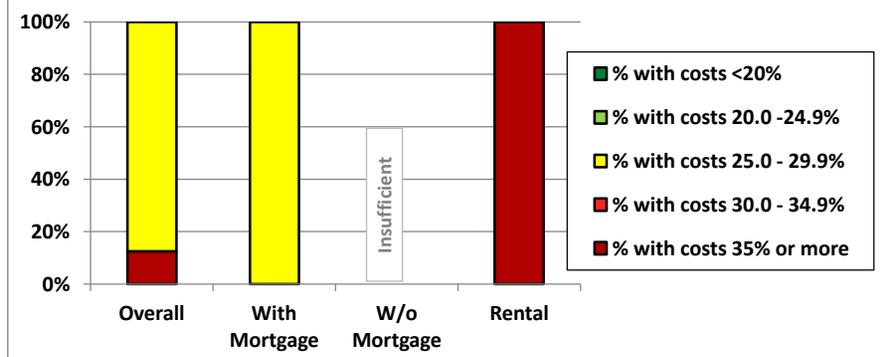
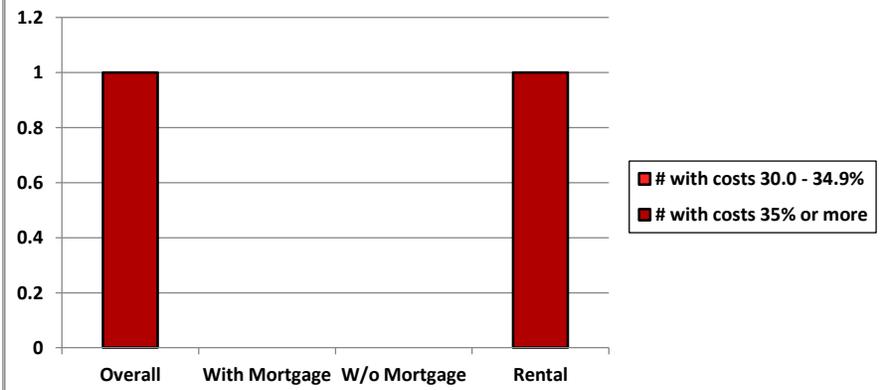


Figure M8: Number of Cost-Burdened Housing Units

ACS

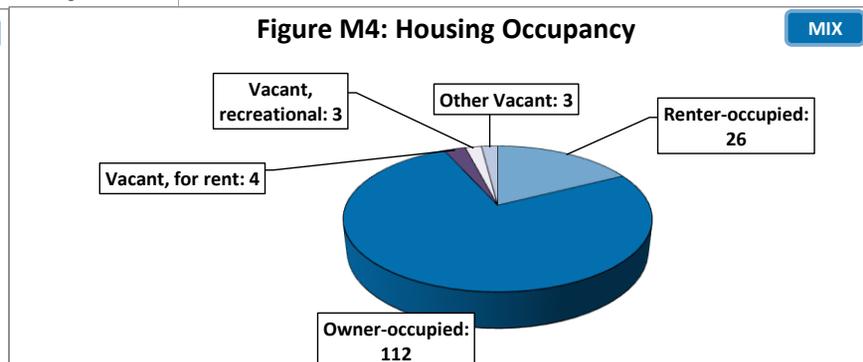
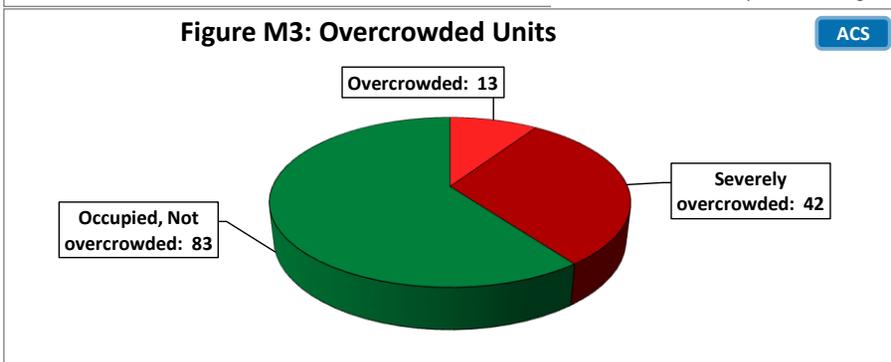
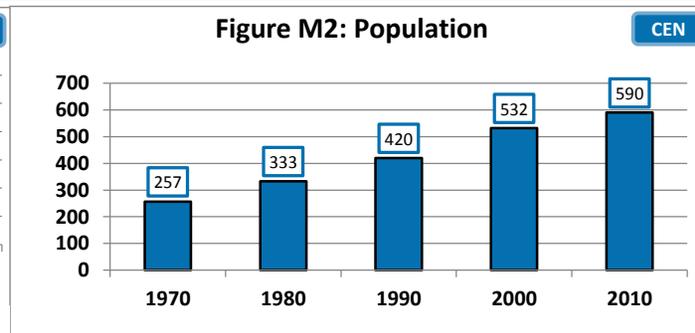
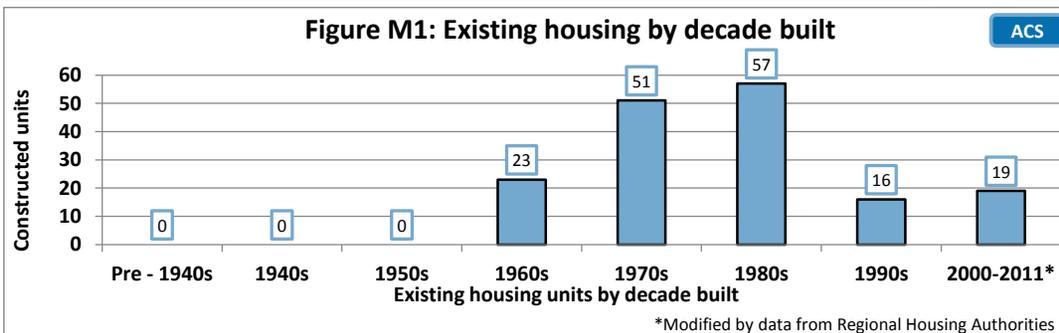


Community Profile for: Toksook Bay city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (12,990 HDD)



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	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	5	5-star	90.9	989	\$ 5,104	83	86	\$5.27	2.7	0%

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	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	5	4.4	57	25	NR	53	NR	NR	0.19	NR	0.31

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

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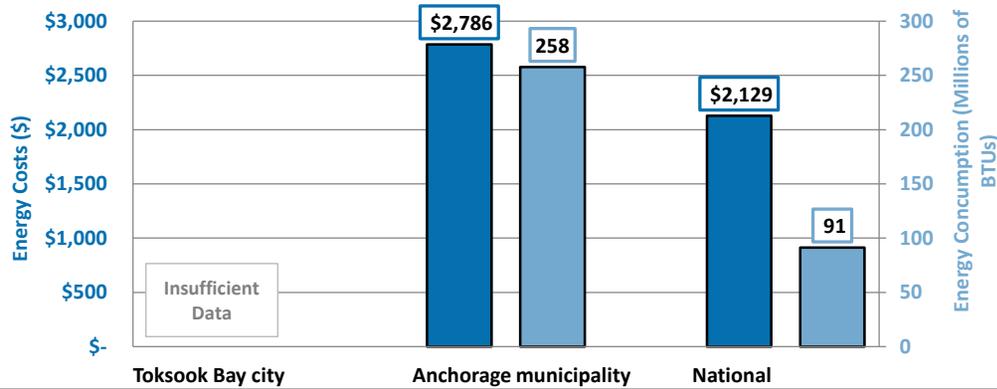
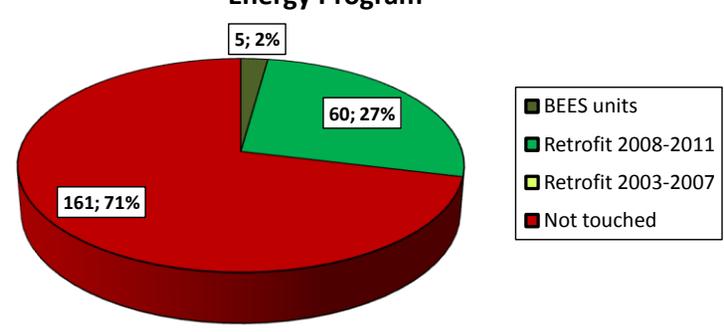


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Toksook Bay city

Owner occupied House with Mortgage, Median Value
\$125,000
Owner-occupied House without a Mortgage, Median Value
\$178,600

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 53,125
Renter-occupied	\$ 40,625
Owner-occupied	\$ 58,750
w/ mortgage	\$ 36,250
w/o mortgage	\$ 62,813

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 500	\$ 6,000
Gross rent	\$ 683	\$ 8,196
Owner-occupied	\$ 468	\$ 5,616
Housing units w/ mortgage	\$ 425	\$ 5,100
Housing units w/out a mortgage	\$ 480	\$ 5,760

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 7.45
Electricity with PCE (\$/kWh)	\$ 0.21
Electricity without PCE (\$/kWh)	\$ 0.51

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$214

Housing Stock Estimates	Number of Units
All Housing	148
All Occupied Housing	138
All Vacant housing	10
Vacant Housing for Sale/Rent	4

Avg % Median Income spent on Energy	0.4%
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Figure M7: Affordability - Housing Costs as a Percent of Income

ACS

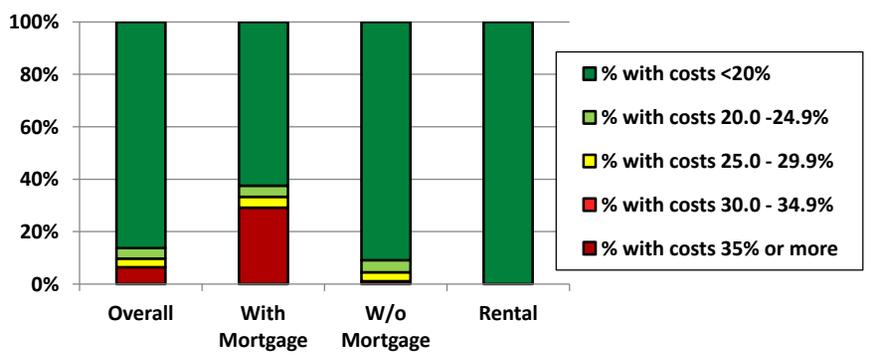
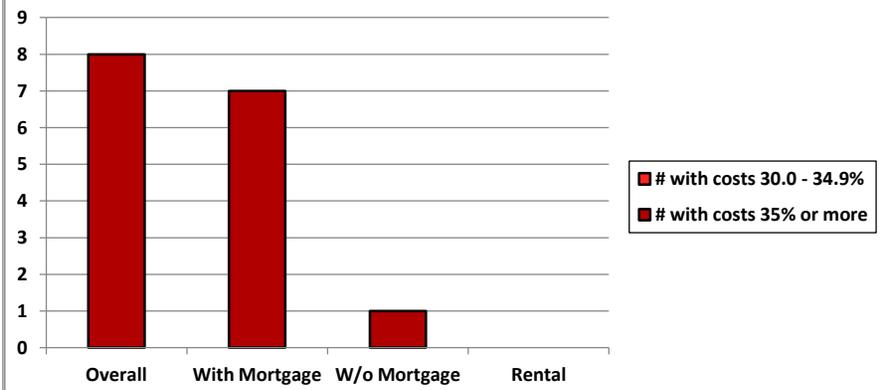


Figure M8: Number of Cost-Burdened Housing Units

ACS

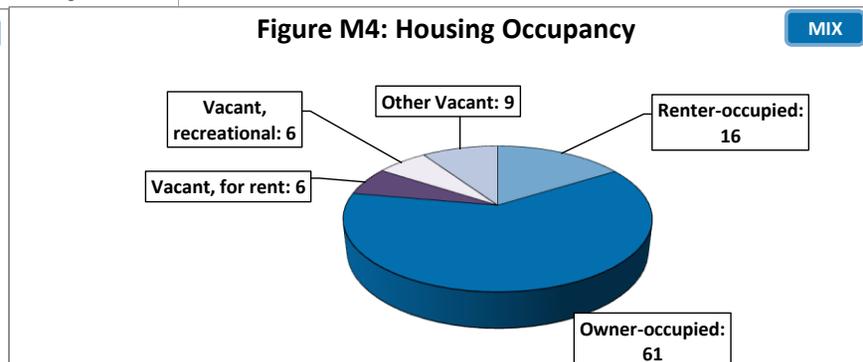
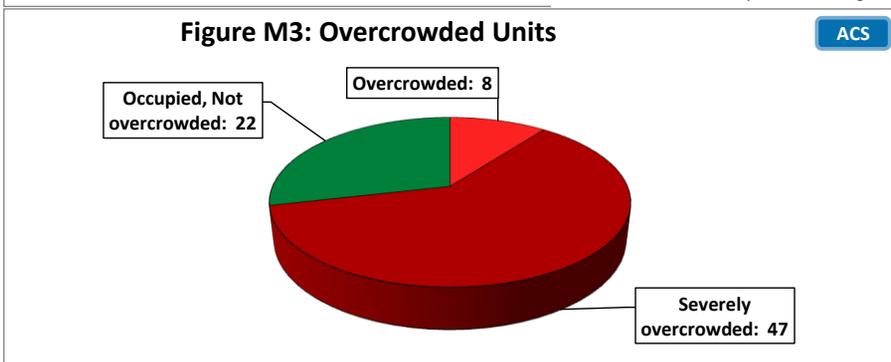
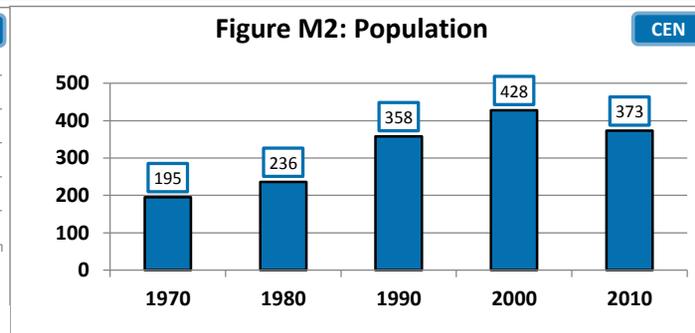
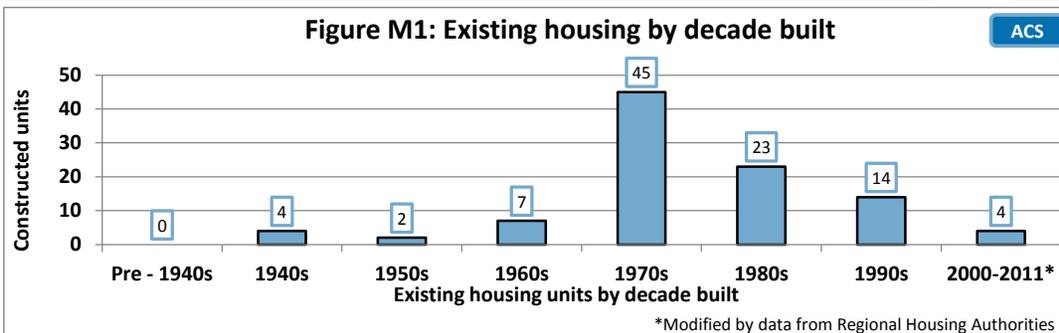


Community Profile for: Tuluksak CDP

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,106 HDD)



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	9	1-star plus	44.8	934	\$ 7,085	163	171	\$7.47	10.7	67%
Retrofit units	6	2-star	58.6	1,003	\$ 6,444	145	146	\$6.49	8.4	50%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR

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	9	10.0	24	18	NR	28	NR	NR	0.40	NR	0.94
Retrofit units	6	3.6	27	16	NR	30	NR	NR	0.40	NR	0.41
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

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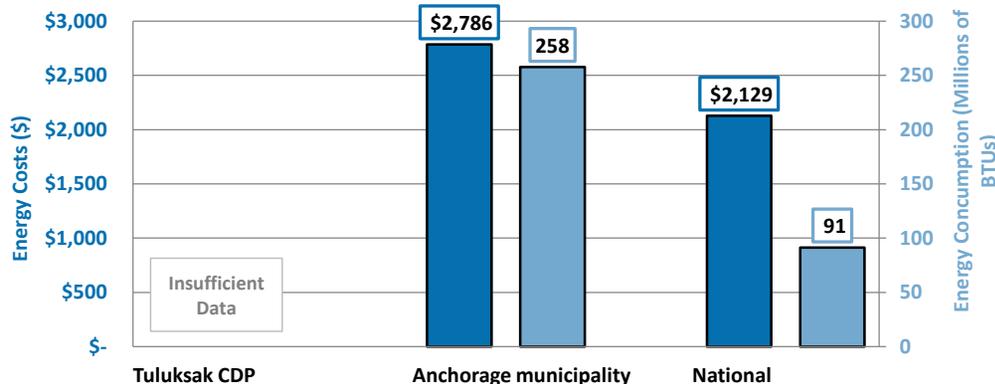
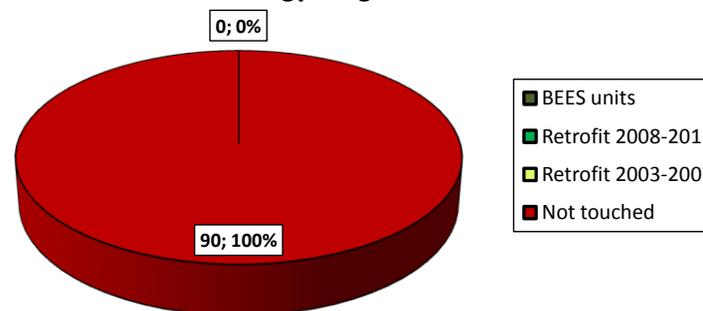


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Tuluksak CDP

Owner occupied House with Mortgage, Median Value
\$316,700

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 25,625
Renter-occupied	\$ 15,000
Owner-occupied	\$ 36,406
w/ mortgage	\$ 59,583
w/o mortgage	\$ 35,625

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 317	\$ 3,804
Gross rent	NR	NR
Owner-occupied	\$ 306	\$ 3,672
Housing units w/ mortgage	\$ 483	\$ 5,796
Housing units w/out a mortgage	\$ 286	\$ 3,432

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.50
Electricity with PCE (\$/kWh)	\$ 0.28
Electricity without PCE (\$/kWh)	\$ 0.60

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$8,742

Housing Stock Estimates	Number of Units
All Housing	99
All Occupied Housing	77
All Vacant housing	22
Vacant Housing for Sale/Rent	6

Avg % Median Income spent on Energy	34.1%
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Figure M7: Affordability - Housing Costs as a Percent of Income

ACS

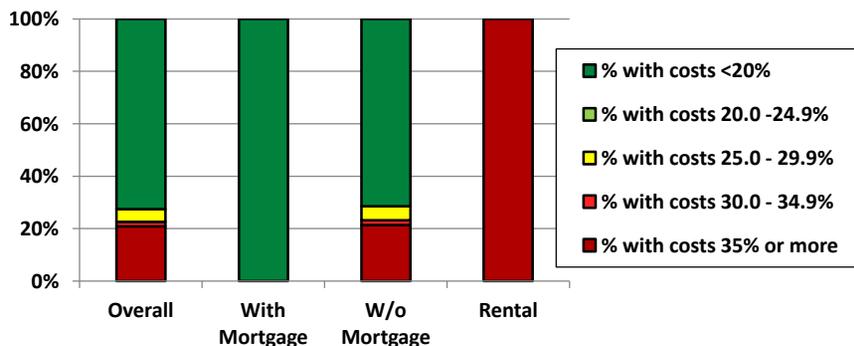
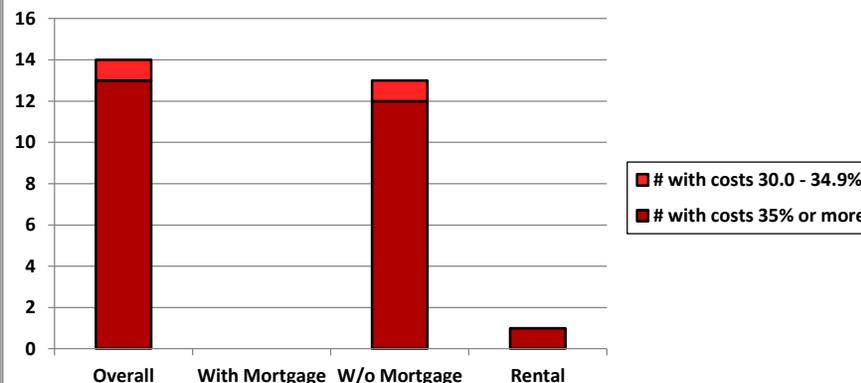


Figure M8: Number of Cost-Burdened Housing Units

ACS

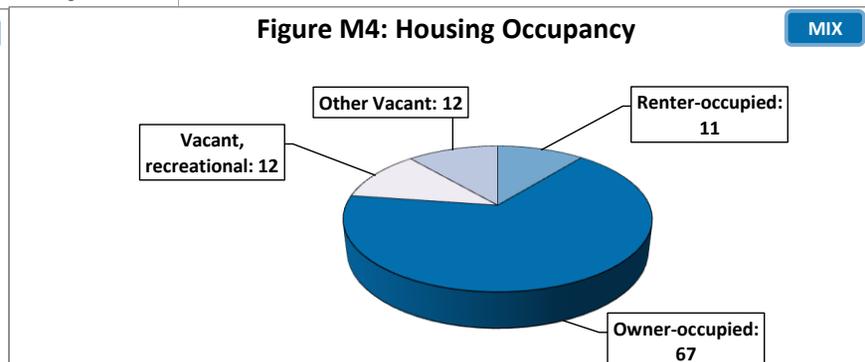
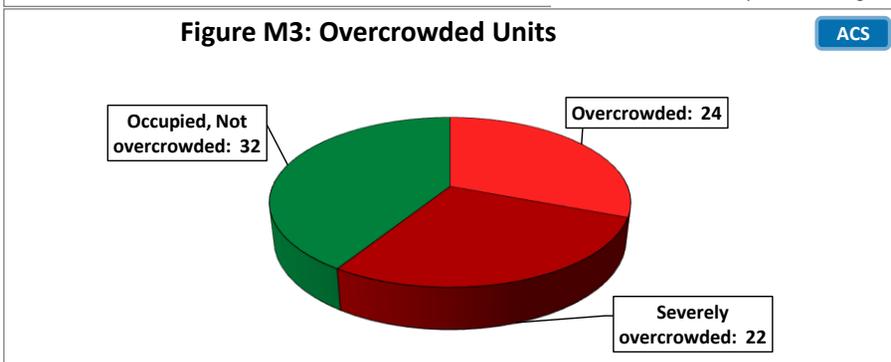
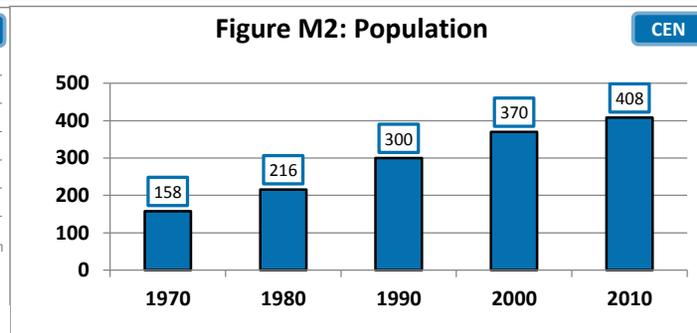
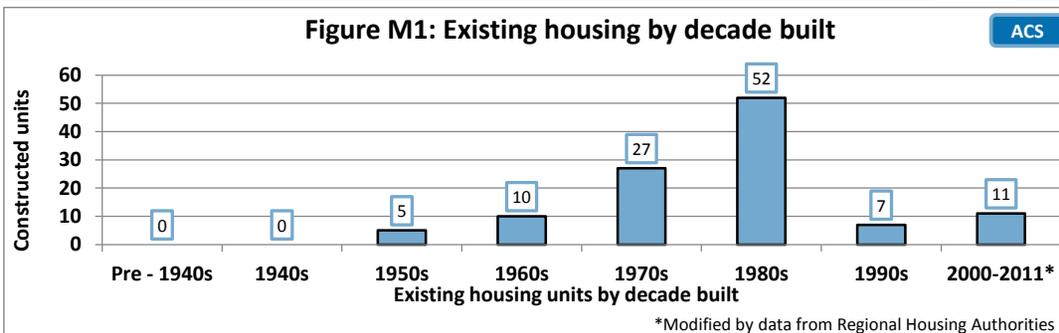


Community Profile for: Tuntutuliak CDP

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,106 HDD)



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	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	4	5-star	91.3	884	\$ 5,141	67	76	\$5.82	2.3	0%

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	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Retrofit units	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
New construction	4	2.9	40	28	NR	41	NR	NR	0.30	NR	0.38

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

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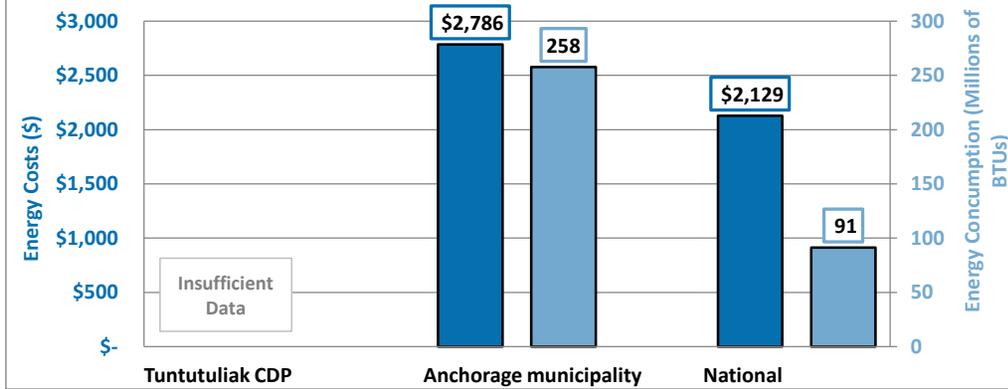
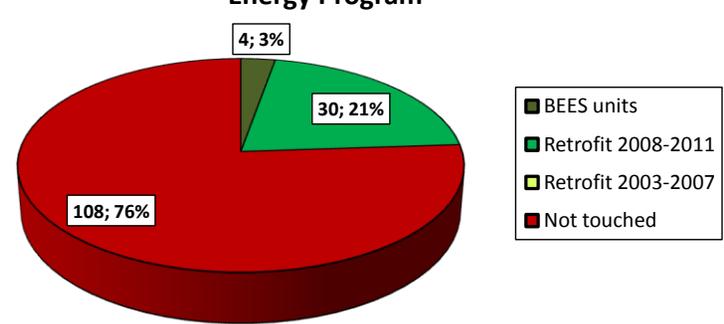


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Tuntutuliak CDP

Owner occupied House with Mortgage, Median Value
\$105,800

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 34,167
Renter-occupied	\$ 36,250
Owner-occupied	\$ 33,250
w/ mortgage	\$ 34,375
w/o mortgage	\$ 31,964

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 492	\$ 5,904
Gross rent	\$ 183	\$ 2,196
Owner-occupied	\$ 502	\$ 6,024
Housing units w/ mortgage	\$ 591	\$ 7,092
Housing units w/out a mortgage	\$ 394	\$ 4,728

Owner-occupied House without a Mortgage, Median Value	
\$32,500	

Average Annual Energy Cost	
With PCE	NO PCE
Without PCE	\$251

Housing Stock Estimates	Number of Units
All Housing	101
All Occupied Housing	78
All Vacant housing	23
Vacant Housing for Sale/Rent	0

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.80
Electricity with PCE (\$/kWh)	\$ 0.42
Electricity without PCE (\$/kWh)	\$ 0.65

Avg % Median Income spent on Energy	0.7%
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Figure M7: Affordability - Housing Costs as a Percent of Income

ACS

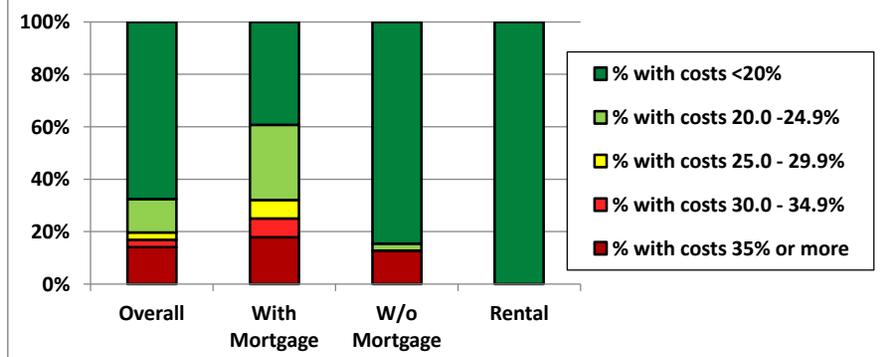
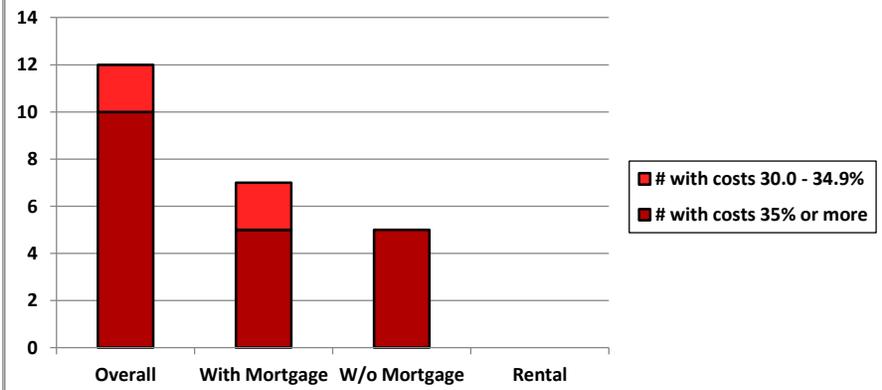


Figure M8: Number of Cost-Burdened Housing Units

ACS

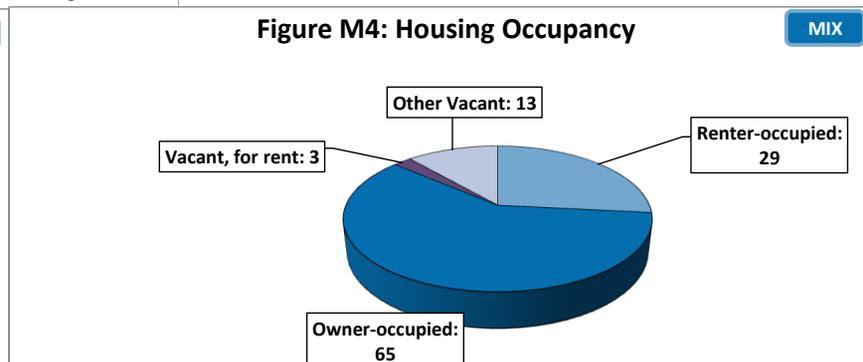
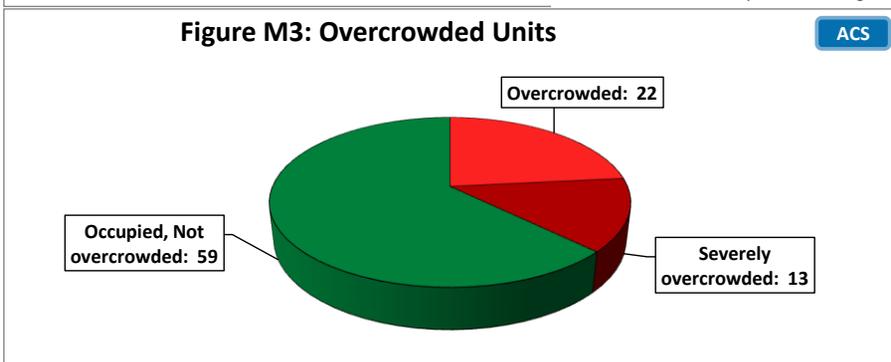
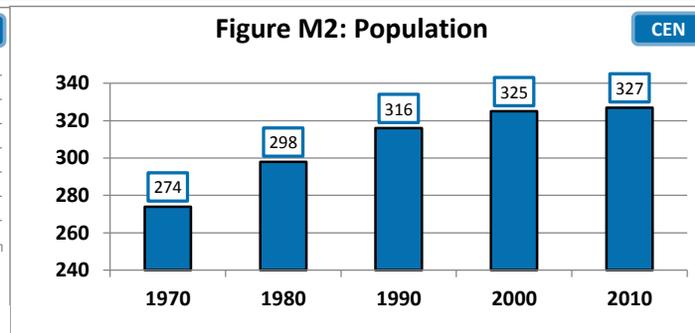
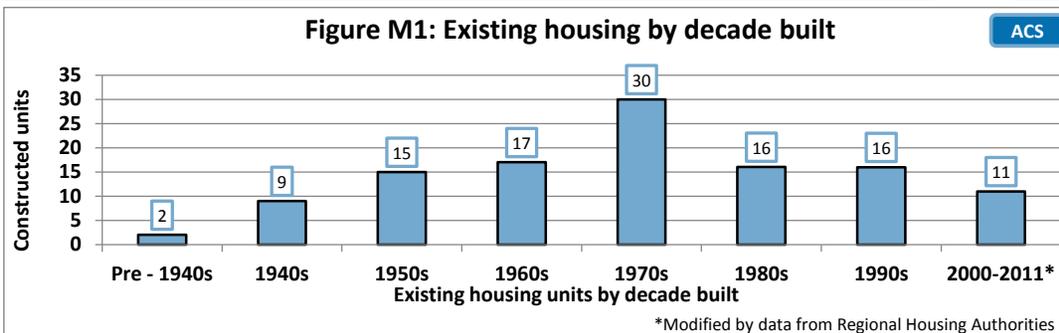


Community Profile for: Tununak CDP

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,106 HDD)



Tununak 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 w/ PCE	Avg. Ann Energy Use (million BTUs)	Avg. EUI (kBtus/SF)	Avg. ECI	Avg. Home Heating Index	% Tight Homes, No Ventilation
Pre-retrofit units	58	1-star plus	45.4	758	\$ 6,322	141	193	\$8.90	12.4	19%
Retrofit units	58	4-star	81.5	768	\$ 3,225	57	77	\$4.40	3.6	0%
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	116	2-star plus	64.6	763	\$ 4,674	96	131	\$6.50	7.7	9%

Tununak 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	58	9.5	14	14	NR	15	NR	NR	0.73	NR	0.66
Retrofit units	58	5.8	39	20	NR	30	NR	NR	0.19	NR	0.39
New construction	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Overall	116	7.9	20	16	NR	19	NR	NR	0.50	NR	0.55

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

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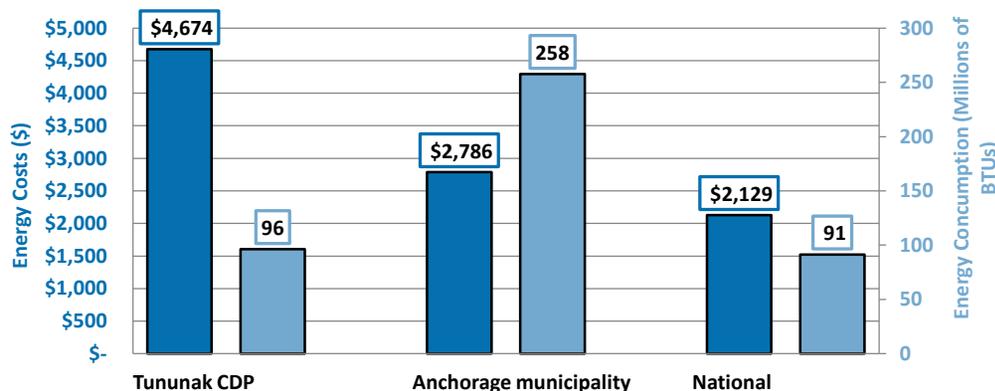
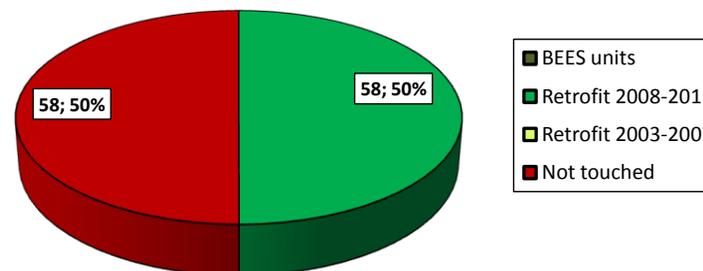


Figure M6: Housing Units Completing an AHFC Energy Program

ARIS



AFFORDABILITY - Tununak CDP

Owner occupied House with Mortgage, Median Value
\$225,000

Owner-occupied House without a Mortgage, Median Value
\$89,200

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$ 6.75
Electricity with PCE (\$/kWh)	\$ 0.21
Electricity without PCE (\$/kWh)	\$ 0.51

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 31,250
Renter-occupied	\$ 65,625
Owner-occupied	\$ 30,313
w/ mortgage	NR
w/o mortgage	\$ 27,500

Average Annual Energy Cost	
With PCE	\$4,674
Without PCE	\$6,299

Avg % Median Income spent on Energy	15.0%
-------------------------------------	-------

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 371	\$ 4,452
Gross rent	\$ 733	\$ 8,796
Owner-occupied	\$ 356	\$ 4,272
Housing units w/ mortgage	NR	NR
Housing units w/out a mortgage	\$ 341	\$ 4,092

Housing Stock Estimates	Number of Units
All Housing	109
All Occupied Housing	94
All Vacant housing	15
Vacant Housing for Sale/Rent	3

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

ACS

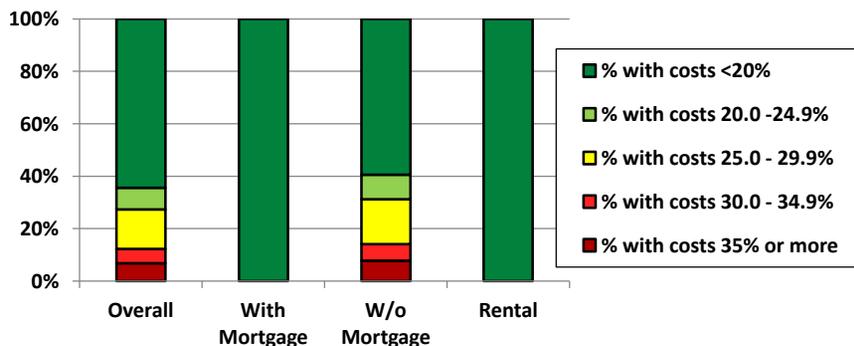


Figure M8: Number of Cost-Burdened Housing Units

ACS



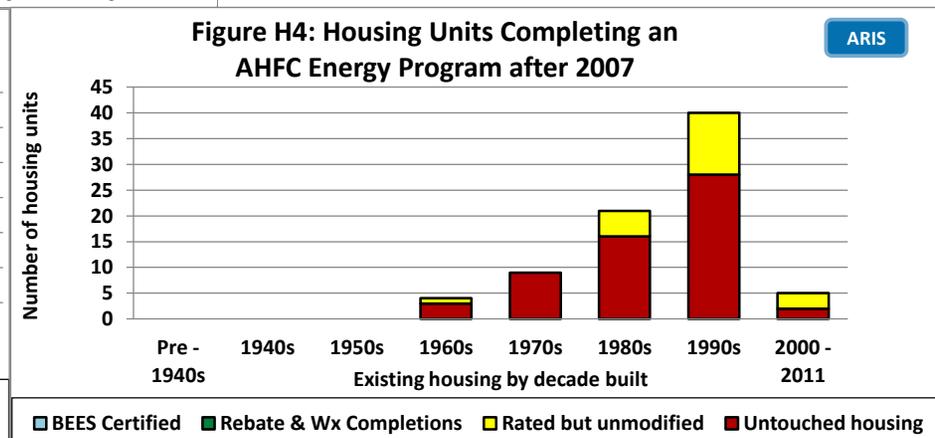
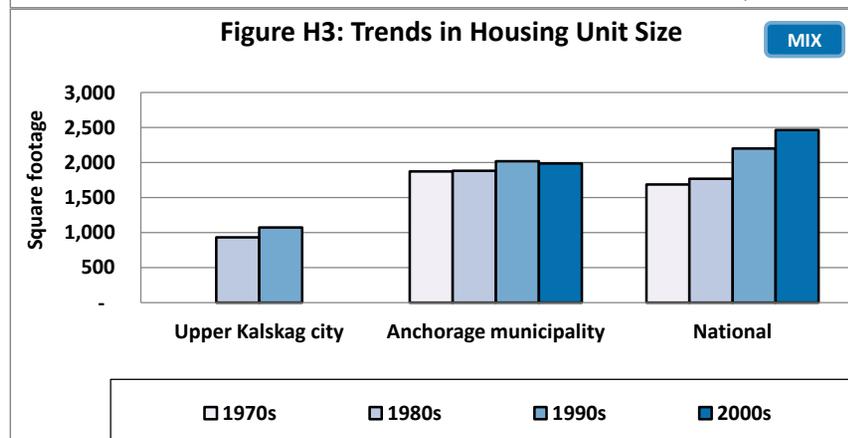
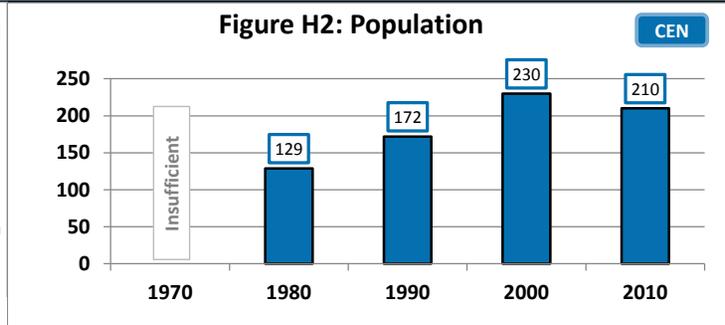
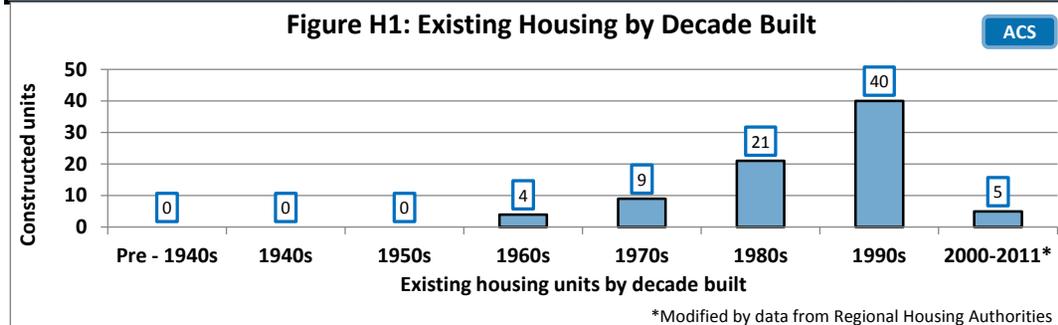
Community Profile for: Upper Kalskag city

ANCSA Region: Calista

Regional Housing Authority: AVCP Regional Housing Authority

BEES Climate Zone (Heating Degree Days): Zone 8 (13,356 HDD)

COMMUNITY - Upper Kalskag city



Houses Lacking Complete Plumbing or Kitchen Facilities	Households	
	Number	Percent
Lack complete plumbing	12	20%
Lack complete kitchen	2	3%

Avg Annual Energy Cost with PCE	\$7,834
Avg Annual Energy Cost without PCE	\$9,837

Weatherization Program Retrofits (funding increased in 2008)	
Date Range	Units
2008-2011	0
2003-2007	-
1990-2002	16

Estimated Total Annual Community Space Heating Fuel Use		
Fuel Oil	38,139	(gallons)
Nat Gas	-	(ccf)
Electricity	7,811	(kWh)
Wood	204	(cords)
Propane	-	(gallons)
Coal	-	(tons)

Estimated Energy Prices as of January 2013	
#1 Fuel oil cost (\$ / gallon)	\$6.50
Electricity with PCE (\$/kWh)	\$0.21
Electricity cost without PCE (\$/kWh)	\$0.58

Housing Stock Estimates	Number of Units
All Housing	76
All Occupied Housing	59
All Vacant housing	17
Vacant Housing for Sale or Rent	2

OVERCROWDING & VENTILATION - Upper Kalskag city

Figure H5: Overcrowded Units

ACS

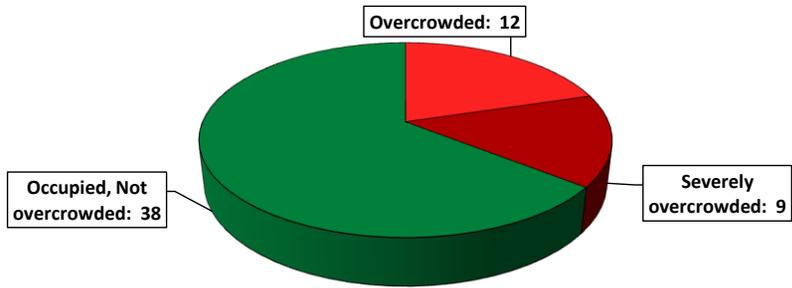


Figure H6: Housing Occupancy

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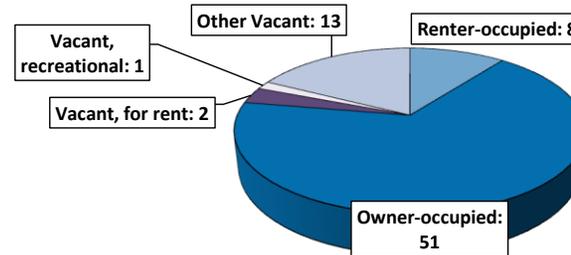


Figure H7: Average Air-Tightness of Current Homes by Decade Built

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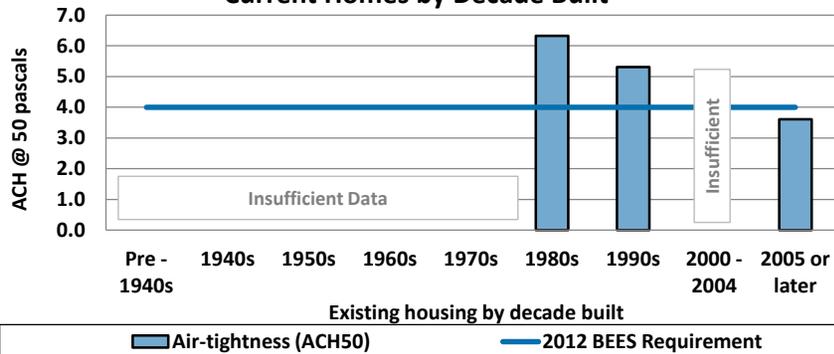


Figure H8: Existing Ventilation Type by Decade Built

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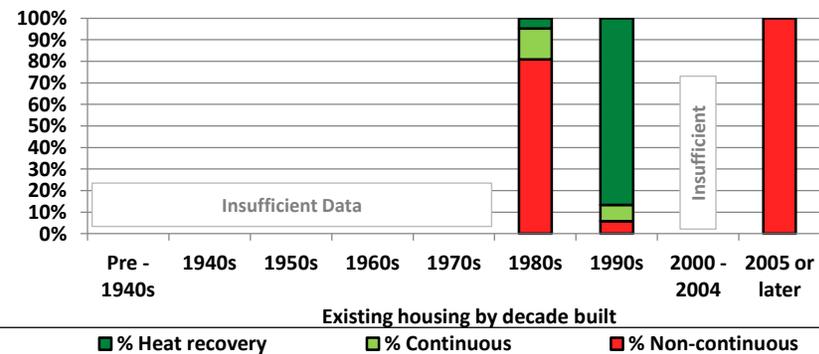


Figure H9: Percent of Housing Stock at High Risk of Moisture and Air Quality Problems

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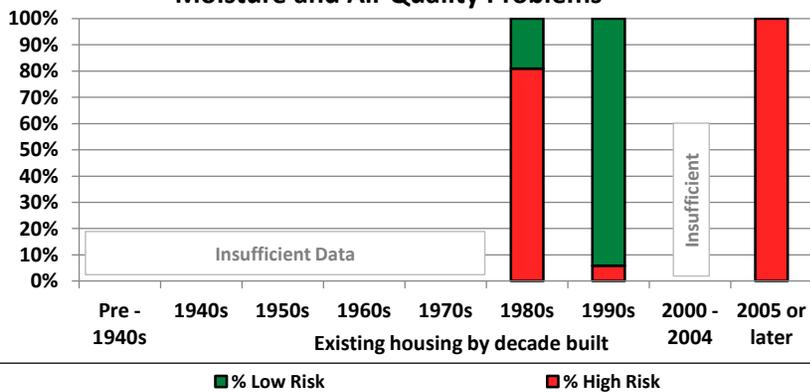
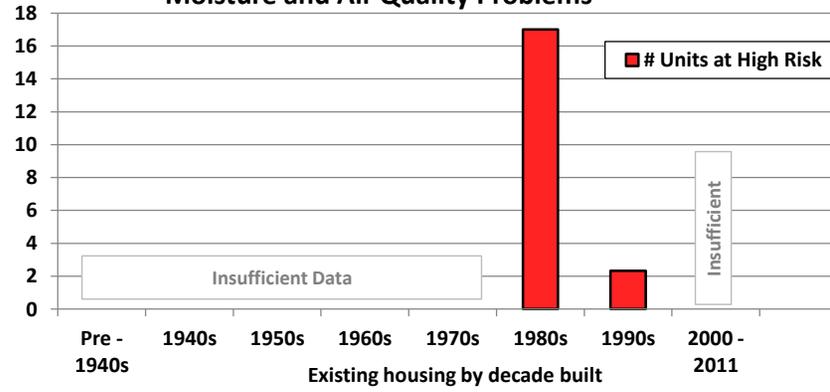


Figure H10: Quantity of Housing Stock at High Risk of Moisture and Air Quality Problems

ARIS



ENERGY - Upper Kalskag city												
Current Upper Kalskag city 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	21	2-star	51.1	996	\$ 7,834	194	148	24	22	190	\$ 7.82	10.8
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1970- 79	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1980- 89	9	1-star plus	41.3	932	\$ 8,621	187	149	13	25	203	\$ 9.36	12.2
1990- 99	24	2-star	53.6	1,070	\$ 7,934	215	159	35	21	205	\$ 7.62	11.6
2000- 2004	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2005 or later	6	3-star plus	74.7	1,133	\$ 7,738	139	85	31	23	126	\$ 6.87	5.9

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

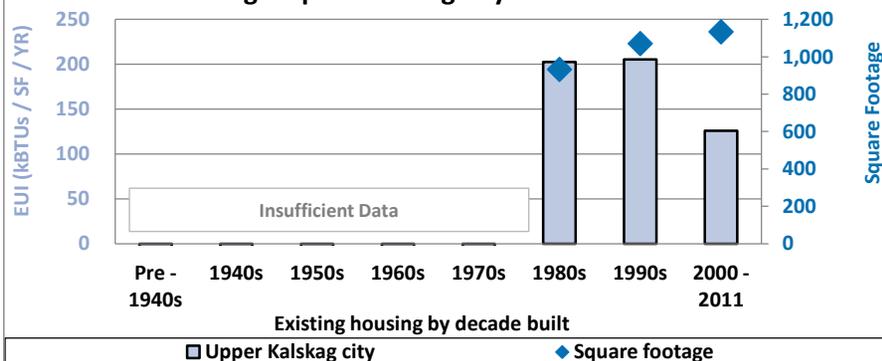
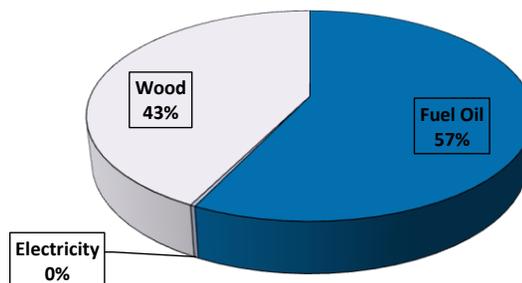


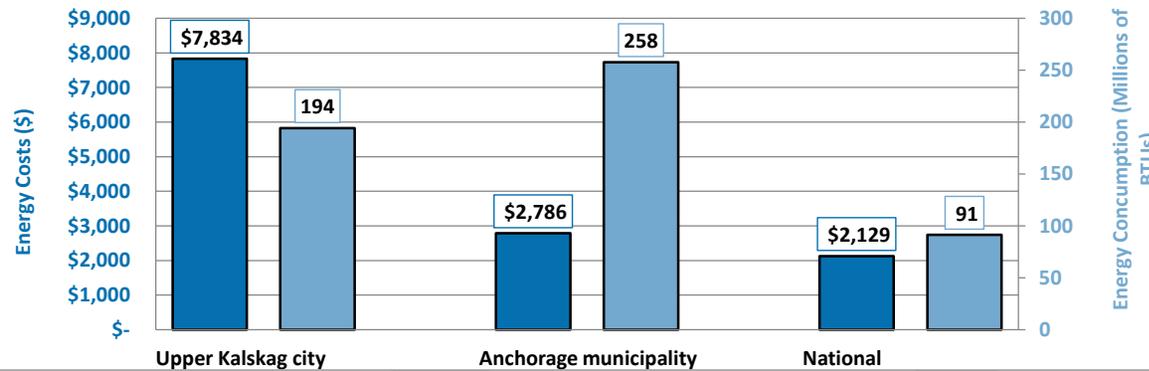
Figure H12: Percent of Total Residential Space Heating Energy by Fuel Type



Current Upper Kalskag 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	21	5.6	31	19	NR	20	NR	NR	0.37	NR	0.71
Pre- 1940	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1940- 49	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1950- 59	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1960- 69	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1970- 79	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1980- 89	9	6.3	28	18	NR	19	NR	NR	0.38	NR	0.70
1990- 99	24	5.3	32	20	NR	19	NR	NR	0.36	NR	0.76
2000- 2004	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2005 or later	6	3.6	35	21	NR	25	NR	NR	0.32	NR	0.47
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

AFFORDABILITY - Upper Kalskag city

Figure H13: Average Annual Home Energy Costs and Use



Housing Information	Avg Household Size (# of people)
All-occupied	3.9
Owner-occupied	3.9
renter-occupied	4.1

Owner-occupied House with Mortgage, Median Value
\$120,800

Owner-occupied House without a Mortgage, Median Value
\$268,800

Median Annual Household Income	
Housing Units	Household Income
All-occupied	\$ 45,938
Renter-occupied	\$ 11,250
Owner-occupied	\$ 53,750
w/ mortgage	\$ 61,563
w/o mortgage	\$ 27,045

Median Housing Costs		
	Monthly	Annual
All-occupied	\$ 625	\$ 7,500
Gross rent	NR	NR
Owner-occupied	\$ 623	\$ 7,476
Housing units w/ mortgage	\$ 589	\$ 7,068
Housing units w/out a mortgage	\$ 667	\$ 8,004

Avg % of Median Income Spent on Energy	17.1%
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Figure H14: Affordability - Housing Costs as a Percent of Income

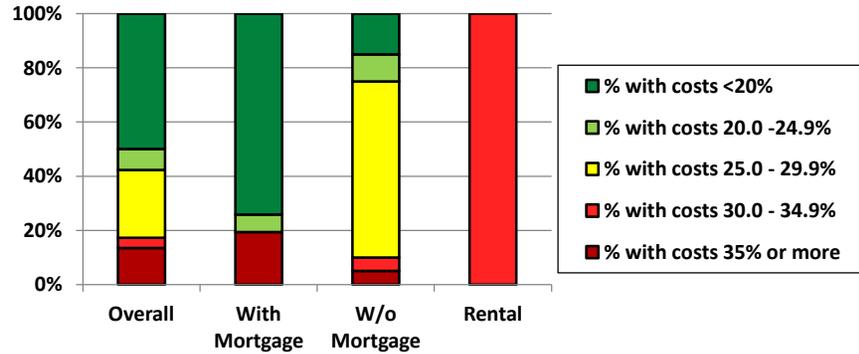


Figure H15: Number of Cost-Burdened Housing Units

