



Table of Contents

Matanuska-Susitna Borough Dashboard	II
Matanuska-Susitna Borough Summary	III-IV
Community	111
Overcrowding	
Energy	
Affordability	IV
Community, Regional, and Statewide Housing Characteristics	IV
How to Interpret the Profile: Data Sources, Definitions & Clarifications	A-H
Matanuska-Susitna Borough Profile	1-4



Matanuska-Susitna Borough Dashboard

Population: The Alaska Department of Labor and Workforce Development's current (2012) population estimate for the Matanuska-Susitna Borough is 93,801—an increase of 58% from 2000.

Housing Units: There are currently 40,206 housing units in the Matanuska-Susitna Borough. Of these, 30,609 are occupied, 1,130 are for sale or rent, and the remaining 8,467 are seasonal or otherwise vacant units (Profile Figure C6).

Energy: The average home in the Matanuska-Susitna Borough is 1,923 square feet and uses 123,000 BTUs of energy per square foot annually, 10% less than the statewide average of 137,000 BTUs per square foot per year.

Energy Costs: Using AKWarm estimates, average annual energy cost for homes in the Matanuska-Susitna Borough is \$3,630, approximately 1.3 times more than the cost in Anchorage, and 1.7 times more than the national average (Profile Figure C13).

Energy Programs: Approximately 30% of occupied housing in the Matanuska-Susitna Borough has completed either the Home Energy Rebate, Weatherization, or BEES programs since 2008, compared to 21% statewide (Profile Figure C12).

Housing Quality: Within current housing stock, newer homes have better energy performance. On average, homes built in the 1940s are currently rated at 1-star-plus, compared to a current average rating of 4-star-plus for houses built after 2000.

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

Ventilation: An estimated 17,525 occupied housing units (or 57%) in the Matanuska-Susitna Borough are relatively air-tight and lack a continuous ventilation system. These houses are at higher risk of moisture and indoor air quality-related issues (Profile Figures C9-C10).

Overcrowding: 6% of occupied units are estimated to be either overcrowded (4%) or severely overcrowded (2%). This is roughly 2 times the national average, and makes the Matanuska-Susitna Borough the 16th most overcrowded census area in the state.

Affordability: On average, approximately 34% of households in the Matanuska-Susitna Borough spend more than 30% of total income on housing costs, which include rent, utilities, and energy costs. Based on average AKWarm estimates, annual energy costs are approximately 5% of census median area income for occupied housing.



Matanuska-Susitna Borough Summary

Community

The Matanuska-Susitna Borough census area is located in southcentral Alaska, just north of Anchorage, Alaska's largest city. It is named after the two major rivers that flow through it and empty into the Cook Inlet. The census area is in the Cook Inlet Native Corporation ANCSA region. Average home size in the census area, 1,923 square feet, is the largest in Alaska. However, the average home size has stayed relatively steady since 1970, in contrast to the national average home size, which has increased nearly 1,000 square feet in that time period.

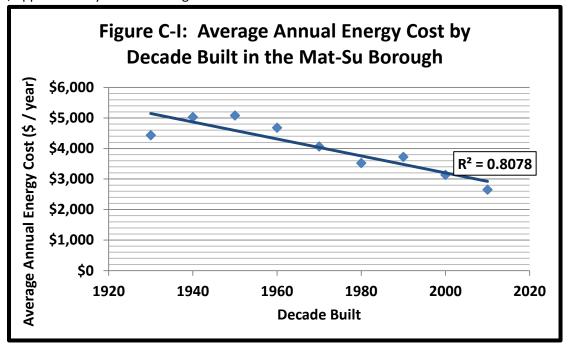
Overcrowding

The Matanuska-Susitna Borough is the 14th least overcrowded census area in the state, with 6% of occupied units estimated to be either overcrowded (4%) or severely overcrowded (2%). The average occupancy, at 2.8 people per household, is slightly above the statewide average of 2.67 people per household. According to ACS data, approximately 3% of housing units in the Matanuska-Susitna census area are available for

sale or rent.

Energy

Estimated average total annual energy costs in the census area are the third lowest in the state, behind the North Slope Borough census area and the Municipality of Anchorage. The estimated energy cost per square foot in Matanuska-Susitna is \$2.07, the second lowest in the state behind the Municipality of Anchorage. While these are averages for the entire housing stock, average energy costs vary depending on when a structure was built, with the average annual energy cost for housing built since 2005 in the census area being approximately \$2,000 less than that for a structure built in the census area in the 1960s (Figure C-I).





The Matanuska-Susitna census area has the highest percentage of participation in a BEES program, with 23% of housing units participating. More than 60% of housing built prior to the widespread penetration of the BEES program (in the 1970s, 1980s, and 1990s) is relatively air-tight and lacking a continuous ventilation system. These housing units are at a higher risk of moisture and indoor air quality-related problems. However, the percentage of housing with continuous ventilation or an HRV has increased steadily over time. For housing built between 2005 and 2011, the most recent time period with available data, more than 80% of housing has some type of continuous ventilation.

Affordability

According to ACS estimates¹, the Matanuska-Susitna Borough has the fifth highest percentage of cost-burdened housing of all census areas in the state, with approximately 34% of all households spending more than 30% of household income on housing costs. These households include both rentals and owner-occupied homes. Nearly half (49%) of households living in rental units are cost-burdened.

Community, Regional, and Statewide Housing Characteristics

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

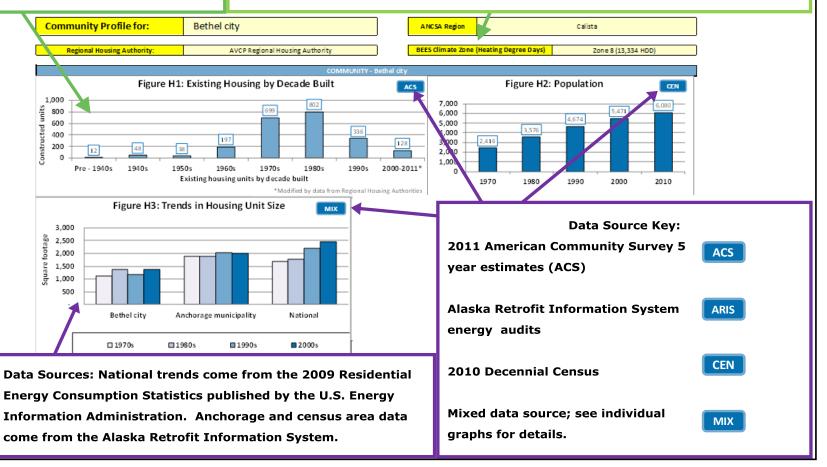
¹ CCHRC's analysis of ACS energy costs indicate that there are systematic underestimations for rural Alaska, which suggests that ACS-based cost burdened housing estimates are low. See Appendix A, "Analysis of American Community Survey Energy Cost Estimates" for more details.





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.

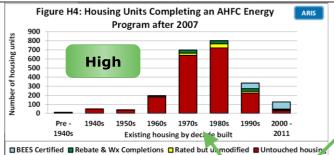
The Alaska Building Energy Efficiency Standard (BEES) was established by AHFC for the State of Alaska to promote the construction of energy efficient buildings. The standards for specific building components are divided into four climate zones, from Zone 6 in Southeast AK to Zone 9 on the North Slope.







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.

American Community Survey (ACS) Data:

House-

20,816

15,459

ACS

Estimated Total Community Space Heating Fuel Use by Ty

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.

% House-

holds

10%

0%

(gallons)

(ccf)

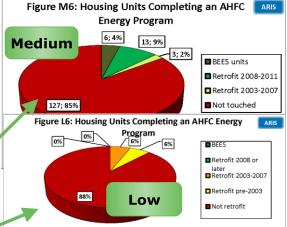
(kWh)

(cords)

(gallons)

(tons)

	K
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



- 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.

Weatherization Prog	
(funding increase	d in 200′
Date Range	Units
2008-2011	17
2003-2007	-
1990-2002	10
Housing Stock Estimat	es
All Housing	

LOccupied Housing

using

incriousing for Sale or Rent

CEN

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

Houses Lacking Complete

Plumbing or Kitchen Facilities

Lack complete plumbing

Lack complete kitchen

Fuel Oil

Nat Gas

Electricity

Wood

Propane

Coal

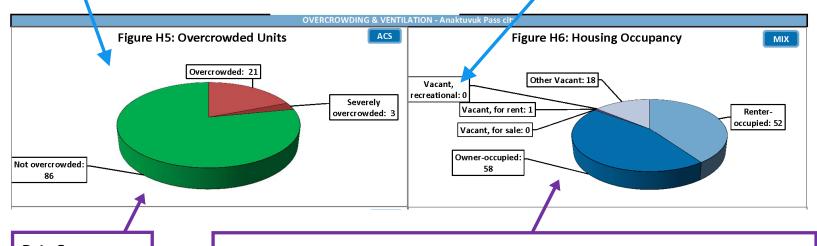




Overcrowded: Housing units with more than 1 person per room Severely Overcrowded: Housing units with more than 1.5 people per room.

"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.





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.

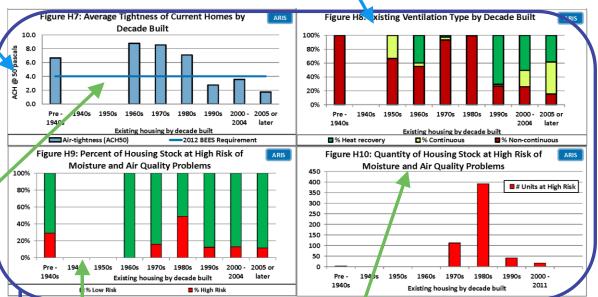
The 2012 Building Energy
Efficiency Standard
(BEES) for air-tightness is
for reference only, as it
was implemented after
the majority of homes in
Alaska were built.

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.





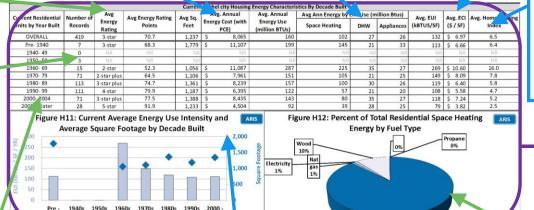


Rating stars and points are based on AHFC's AkWarm energy rating system. Average annual energy cost:
Includes all end uses. Costs
are estimated using January
2013 energy prices, and
include reductions from the
PCE program.

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.



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.

Existing housing by decade built

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.





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 Er ve	lope Characteristic	s By Decade Built				
Current Residential Units by Year Built	Number of	ACH 50	Ceiling R	Above Grade Wall R	Below Graue 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 - Clima	te Zone 8	7.0	38	30	15	38	15	15	0.22	0.22	0.22
BEES 2012 Clima	te 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.



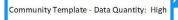


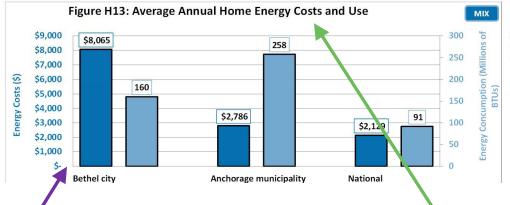
Communities are categorized in this report by the amount of ARIS data available, and reporting is more extensive for locations with more data. Data quantities are defined as--

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.





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

Data Source:
2007-2011 American
Community Survey

Data Sources: Census Area and Anchorage data come from AFHC's Alaska Retrofit Information System.

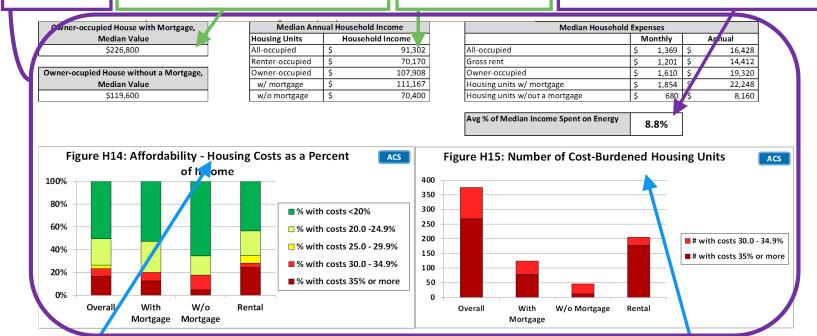
National figures come from the U.S. Energy Information Administration's 2009 Residential Energy Consumption Statistics (RECS) for "cold"/"very cold" climate regions. Average annual home energy costs and usage estimates are for all end uses, including space heating, domestic hot water, lighting and appliances. Costs are estimated using January 2013 energy prices and include reductions from the PCE program.





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).



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.



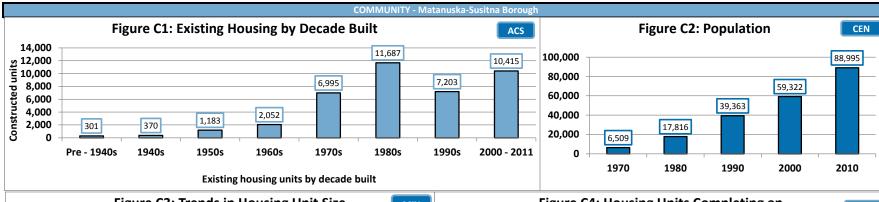
Census Area Profile for: Matanuska-Susitna Borough

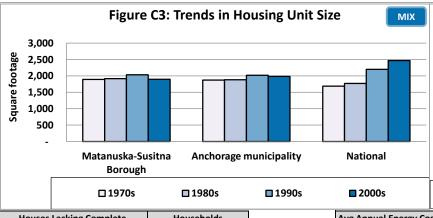
ANCSA Region: Cook Inlet Regional (CIRI)

Regional Housing Authority: Cook Inlet Housing Authority

BEES Climate Zone (Heating Degree Day Range)

Zone 7 (9,000 - 12,600 HDD)





(gallons)

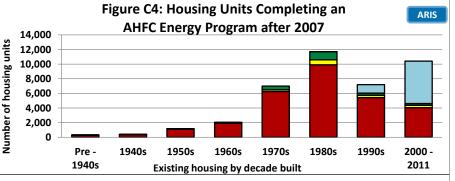
(ccf)

(kWh)

(cords)

(gallons)

(tons)



■ BEES Certified ■ Rebate & Wx completions ■ Rated but unmodified ■ Untouched housing

Houses Lacking Complete	Households				
Plumbing or Kitchen Facilities	Number	Percent			
Lack complete plumbing	1,347	4%			
Lack complete kitchen	1,194	4%			

Estimated Total Annual Community Space Heating Fuel Use

5,958,415

36,133,523

45,827,460

19,026

418

658.641

Avg Annual Energy Cost with PCE	NO PCE
Avg Annual Energy Cost without PCE	\$3,635

Housing Need Indicators	Number of Units	% Occupied Housing
Overcrowded	1,714	6%
Housing cost burdened	10,054	33%
1 Star Homes	1,678	5%

weatherization ketrofits (funding							
increased 2008)							
Date Range Units							
2008 -2011	763						
2003-2007	347						
1990-2002	1281						

Housing Stock Estimates	Number of Units
All Housing	40,206
All Occupied Housing	30,609
All Vacant housing	9,597
Vacant Housing for Sale or Rent	1,130

Fuel Oil

Natural Gas

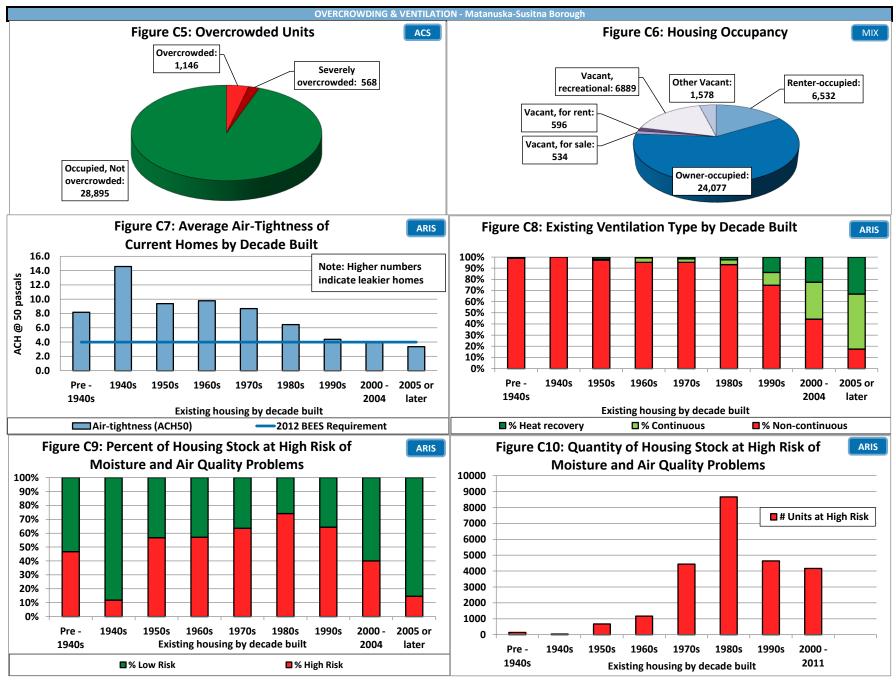
Electricity

Wood

Propane

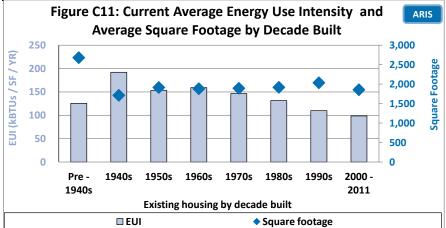
Coal

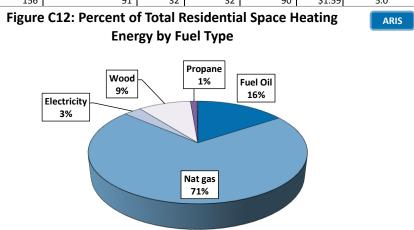






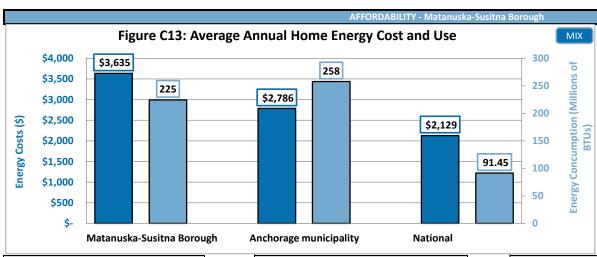
	ENERGY - Matanuska-Susitna Borough													
Current Matanuska-Susitna Borough Housing Energy Characteristics By Decade Built														
Current Residential	# of	# of Avg Energy	Avg Energy Rating	Avg Sq.	Avg. Annual	Avg. Annual	Avg Ann Energy by	End Use (m	illion Btus)	Avg. EUI	Avg. ECI	Avg. Home		
Units by Year Built	AkWarm Records	Rating Stars	Points	Feet	Energy Cost	Energy Use (million BTUs)	Space Heating	DHW	Appliances	1	(\$ / SF)	Heating Index		
OVERALL	12,435	3-star plus	74.4	1,923	\$3,635	225	155	32	32	123	\$2.07	8.2		
Pre- 1940	47	2-star plus	65.3	2,680	\$4,434	318	251	30	37	126	\$1.75	9.2		
1940- 49	15	1-star plus	48.0	1,713	\$5,029	288	224	35	30	192	\$3.38	13.7		
1950- 59	121	2-star	55.8	1,914	\$5,081	266	207	26	32	153	\$3.06	11.2		
1960- 69	227	2-star	59.9	1,883	\$4,681	273	214	27	32	159	\$2.96	11.6		
1970- 79	1,226	2-star plus	66.0	1,894	\$4,065	256	195	30	31	146	\$2.45	10.4		
1980- 89	2,868	3-star	72.3	1,918	\$3,522	243	178	33	32	131	\$1.98	9.0		
1990- 99	2,073	4-star	79.0	2,034	\$3,724	211	127	24	26	110	\$2.07	7.1		
2000- 2004	3,590	4-star plus	83.9	1,898	\$3,136	182	114	34	33	103	\$1.90	6.1		
2005 or later	3,026	4-star plus	87.6	1,806	\$2,650	156	91	32	32	90	\$1.59	5.0		





2 Zei												
			С	urrent Matanuska-Sı	usitna Borough Hous	ing Envelope Charac	teristics By Decade Bu	ilt				
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	12,435	6.0	29	14	7	20	3	3	0.34	0.30	0.48	
Pre- 1940	47	8.2	18	11	3	16	2	2	0.42	0.33	0.59	
1940- 49	15	14.6	13	11	4	9	NR	3	0.44	NR	0.73	
1950- 59	121	9.4	20	7	3	12	3	2	0.44	0.41	0.60	
1960- 69	227	9.8	21	12	3	14	3	2	0.41	0.47	0.60	
1970- 79	1,226	8.7	23	13	6	17	3	2	0.40	0.37	0.56	
1980- 89	2,868	6.4	27	15	6	18	3	3	0.38	0.37	0.52	
1990- 99	2,073	4.4	37	18	8	24	3	3	0.28	0.19	0.39	
2000- 2004	3,590	3.9	36	16	10	24	3	3	0.27	0.20	0.39	
2005 or later	3,026	3.3	40	17	13	27	3	3	0.24	0.18	0.34	
BEES 2009 - Climat	e Zone 7	7.0	38	21	15	38	15	15	0.33	0.33	0.33	
BEES 2012 - Climat	e Zone 7	4.0	43	25	15	38	15	15	0.30	0.30	0.30	





Housing Information	Avg Household Size (# of people)		
All-occupied	2.8		
Owner-occupied	2.8		
Renter-occupied	2.6		

Median Value of Owner-occupied House with

Mortgage
\$223,700

Median Value of Owner-occupied House without a Mortgage \$184,900

Median Annual Household Income					
Housing Units		Household Income			
All-occupied	\$	70,343			
Renter-occupied	\$	38,975			
Owner-occupied	\$	78,399			
w/ mortgage	\$	91,855			
w/o mortgage	\$	41,780			

Median Housing Costs					
	N	Monthly		Annual	
All-occupied	\$	1,278	\$	15,336	
Gross rent	\$	969	\$	11,628	
Owner-occupied	\$	1,404	\$	16,848	
Housing units w/ mortgage	\$	1,684	\$	20,208	
Housing units w/out a mortgage	\$	468	\$	5,616	

Avg % of Median Income Spent on Energy 5.2%

