

Fuel Costs, Migration, and Community Viability

Final Report

prepared for
Denali Commission

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Abstract

ISER researchers compiled and reviewed existing studies and data sources relating to the economic and social viability of remote rural Alaska communities. We particularly looked for possible linkages between high fuel costs and migration. Our review indicates the following: (1) migration from smaller places toward larger places is an ongoing phenomenon that is more noticeable when birth rates drop; (2) there is no systematic empirical evidence that fuel prices, by themselves, have been a definitive cause of migration; (3) the pursuit of economic and educational opportunities appears to be a predominant cause of migration; (4) however, currently available survey data are not sufficient to definitively determine other reasons for migration, which could include concerns about public safety and/or alcohol abuse; 5) most of the survey data pre-date the latest rapid increase (2006-2008) in fuel prices. We suggest several ways that better data could be collected on community viability and the reasons for migration.

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Introduction

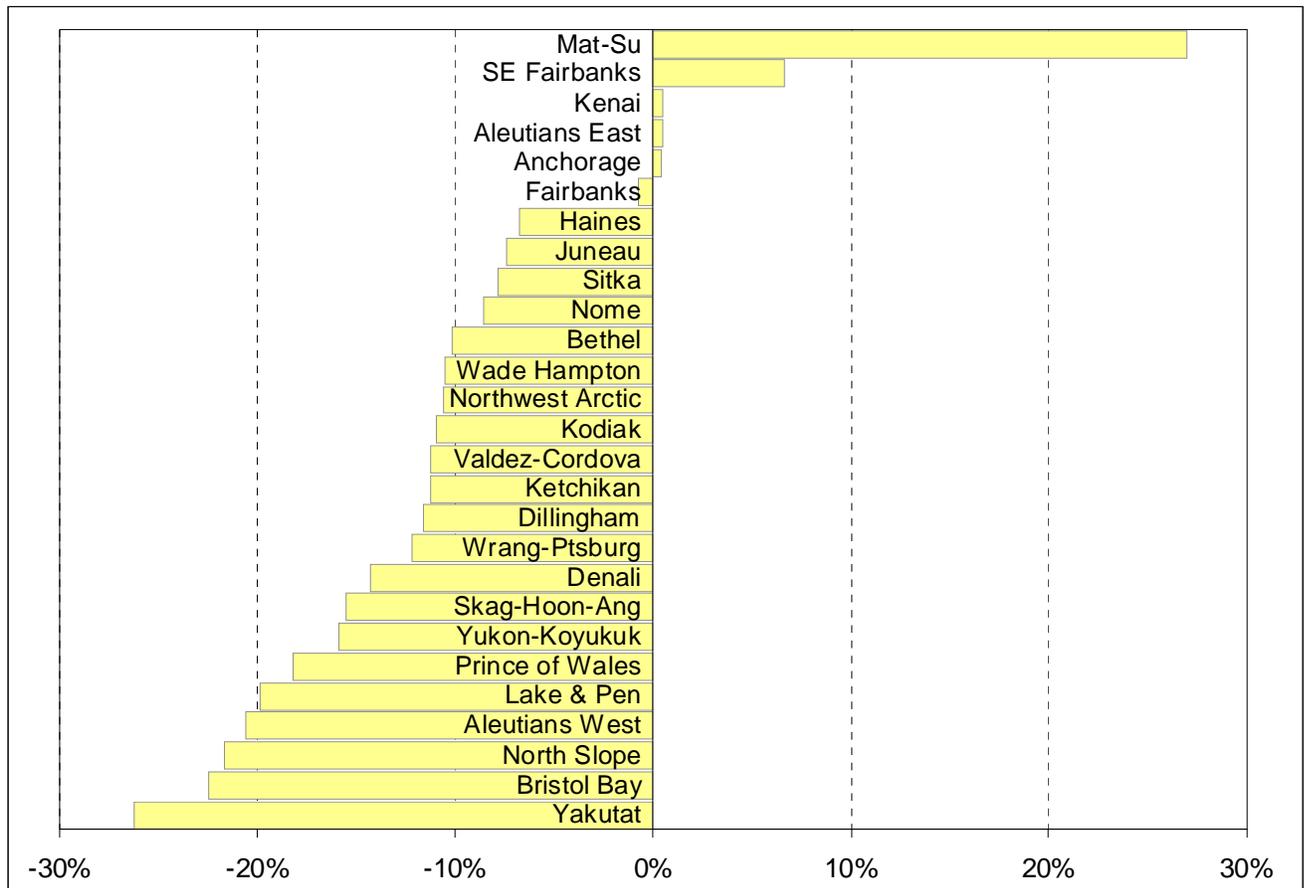
Recent rapid increases in fuel costs have focused attention on several questions relating to the viability of remote rural Alaska communities. (In this paper we define "rural Alaska" to be all boroughs and census areas except for the Anchorage Municipality, Fairbanks Municipality, Juneau City and Borough, Kenai Borough, and Mat-Su Borough.)¹ These questions relate to the perception that people are moving from smaller to larger places because of increased fuel costs. The purpose of this report is to consider what the best available current data can tell us about the following specific questions:

- Are more people migrating out of villages in recent years than previously?
- If so, who is moving, to where, and why?
 - Specifically, are people migrating out of villages due largely to high fuel costs?
 - What other factors may be causing migration?
- What are the effects of out-migration on Alaska's rural communities?
- How are high fuel costs affecting the viability of local governments, utilities, and local businesses?
- Are there major factors – other than fuel costs – affecting community viability and migration, such as lack of employment?

These questions aren't new. Writing in 1976, Alonso and Rust asked, "What is becoming of village Alaska?" and noted that the consequences of migration puzzled even the best-informed observers. Ten years later, Kruse and Foster wrote, "... it is important to understand how migration and natural population growth are changing the size and number of Alaska settlements" (Kruse and Foster 1986). Figure 1 shows that people are leaving nearly all of Alaska's rural boroughs and census areas, giving us a good reason to ask these questions again and review what we know about rural Alaska.

¹ We recognize that definitions of this term may vary and have tried to indicate when an author or data source we cite used a different definition. We considered a large portion of the state as rural to reflect what rural Alaska looked like in 1980, and so that we didn't have to divide census areas.

Figure 1. Net migration (in minus out) during 2000-2007 as a percentage of year 2000 population, by borough/census area



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
 Note: To estimate net-migration, the department combines information from the Alaska Permanent Fund Dividend files with counts of births and deaths from the Alaska Division of Vital Statistics.

Methods

In this report we review prior research on rural-urban migration and the implications of fuel costs, migration and other factors for the viability of rural Alaska communities. We focus on unpublished "gray" literature and survey data. Two major recent surveys of Alaskans that ask about migration are:

- First Alaskans Institute Attitudinal Survey (FAI): A statewide survey conducted in 2007 that included 600 Alaska Natives and 302 non-Natives.
- Survey of Living Conditions in the Arctic (SLiCA): A 2003 survey of Alaska Natives in the North Slope, Northwest Arctic, and Bering Straits regions with 663 respondents. ISER conducted the survey in collaboration with regional non-profits and other groups.

Additional surveys that we consulted include the Buckland Census, various North Slope Borough Censuses, and Social Transitions in the North.² We also include data from the U.S.

² These are described in the section on Data Sources, below.

Census of Population, Alaska Department of Labor and Workforce Development (AKDOLWD), and Alaska Department of Health and Social Services to describe migration and demographic trends.

Migration counts have become more accurate over time. Documentation of Alaska migration prior to 1950 comes mostly from anthropological field work. From 1950 through 1980, the U.S. Census is the best source of migration data. However, census data are based on the question "Where did you live five years ago?" People who have moved from their community and returned within the five year period are not counted as migrants, and multiple moves within the five years are only counted as one. From 1980 through 1985, AKDOLWD used the Internal Revenue Service data on county-to-county flows to calculate the number of migrants. However, the IRS data undercount migrants for several reasons: every time someone does not file, they drop out of the IRS data; first- and last-time filers are not included in the counts; and, low income people are undercounted because many do not file tax returns. Migration estimates starting in 1986 are the most accurate because they are based on data from the Permanent Fund files³.

Findings

Are more people migrating out of villages in recent years than previously?

Yes. People have been moving from small to larger communities for a long time. Lantis (1984) documents migration and village consolidation in the Aleutians in the 1800s. Census data show that people have been leaving smaller communities from 1950s through the present (Alonso and Rust 1976, Kruse and Foster 1986). Figure 2 shows net migration⁴ for rural Alaska boroughs and census areas as a group, from 1980 through 2006.

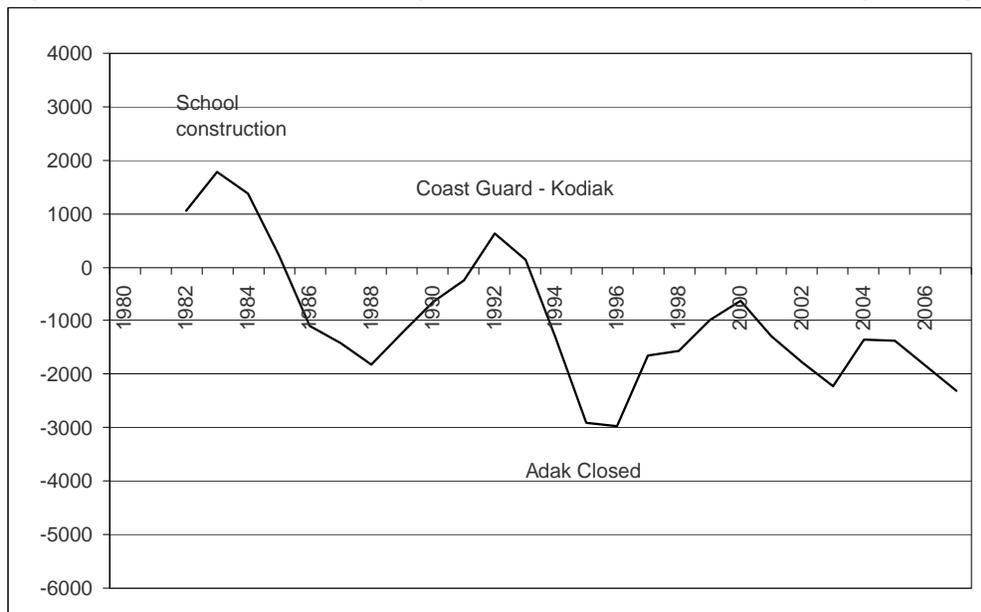
Migration data are not available at the community level. Instead we used data provided by AKDOLWD and examined rural-urban migration at the borough and census area level. We considered "rural" to be all boroughs and census areas except for the Anchorage Municipality, Fairbanks Municipality, Juneau City and Borough, Kenai Borough, and Mat-Su Borough. Figure 2 shows that except for the early 1980s and in 1992, more people have been moving out than moving in. The numbers presented in the report from 1980 through 1985 probably underestimate migration. Although the figure does not clearly show it due to the use of a 3-year moving average, there has been an apparent increase in net out-migration from about 1,200 per year during the period 2002-2005 to about 2,700 per year in 2006 and 2007. These numbers are relative to a rural Alaska population that increased from about 111,000 in 1980 to 142,000 in 2007. It is too soon to tell whether this is a statistical "blip" or whether it constitutes a significant acceleration in outmigration.

³ Migration data are not available for places. Instead we used data provided by AKDOLWD and examined rural-urban migration at the borough and census area level. We considered 'rural' to be all boroughs and census areas except for the Anchorage Municipality, Fairbanks Municipality, Juneau City and Borough, Kenai Borough, and Mat-Su Borough.

⁴ Net migration is defined as people moving in minus people moving out. A negative number for net migration means that more people left than moved in. We do not have separate totals for gross in-migration and gross out-migration because net migration is usually calculated as a residual derived from population change, births, and deaths.

Exceptions to the general pattern of increasing net out-migration occurred during the mid-1970s to 1980s due to several coinciding factors that all tended to increase the viability of small communities. First, high schools were built following the Molly Hootch court ruling. Second, state aid to local governments reached its highest levels (Leask 1983, Goldsmith et al. 1990). Total state government aid for operating costs in all local governments, capital projects, and schools reached \$1 billion in 1982 (Leask 1983). Third, the new Power Cost Equalization program (PCE) dramatically reduced people's electric bills. The late 1970s was also a period of increased housing construction. In 1970, in rural communities of less than 100 people, three out of every 50 houses had been built during the past five years. By 1980, one in four houses was less than six years old (Kruse and Foster 1986).

Figure 2. Rural* Alaska net migration 1980-2006 (3-year moving average)



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

* Rural includes all boroughs and census areas except Anchorage borough, Fairbanks boroughs, Juneau city and borough, Kenai borough, and Mat-Su borough.

Migration is not a one-time event. It tends to be a self-perpetuating process as people move back and forth several times over a lifetime. People move to places where they have friends and family. In turn, their move creates more social ties and job contacts connecting people in the sending community with people in urban areas.

It is important to remember that in some communities people are leaving to pursue educational goals and then returning, adding to the human capital of the original community. Researchers with access to Alaska's Permanent Fund files⁵ could estimate annual place to place migration within Alaska. They could also combine annual PFD files and annual employment data and analyze individual and household moves and employment over time. The U.S. Census does not

⁵ According to state statute (AS 43.23.017) only local, state, and federal government agencies have access to PFD files. ISER has inquired several times over the years and always been denied access.

provide place level net migration estimates because it would violate confidentiality for some respondents.

Who is moving, to where, and why?

Our review shows that women are moving. Especially among Alaska Natives, more women than men leave rural Alaska (Hamilton, Rasmussen, Flanders and Seyfrit 1996). This has been the pattern for a long time. U.S. Census Public Use Microsample (PUMS) data show that from 1980 through 2006 more Alaska Native women than men migrated from rural to urban areas. The SLiCA survey asked people if they had considered leaving their community and why.⁶ The SLiCA data show that more Inupiat women (46%) than men (38%) had considered leaving their community.

The differential moving patterns of women, combined with fewer births, have left many places with a significant gender imbalance especially among younger women. Figure 3 shows that for 18 of Alaska's smallest communities – those with populations under 100 – there were zero women aged 20-29 present at the time of the 2000 census.⁷ Another 23 communities reported only one woman in that age group.⁸ With few births and no one returning, it seems fair to conclude that migration is impacting the population of these communities. Hamilton and Seyfrit (1993, 1994) noted increased social problems when there are no young adult women in the community. SLiCA data show that, for women, being a victim of abuse is statistically correlated with wanting to leave a community.

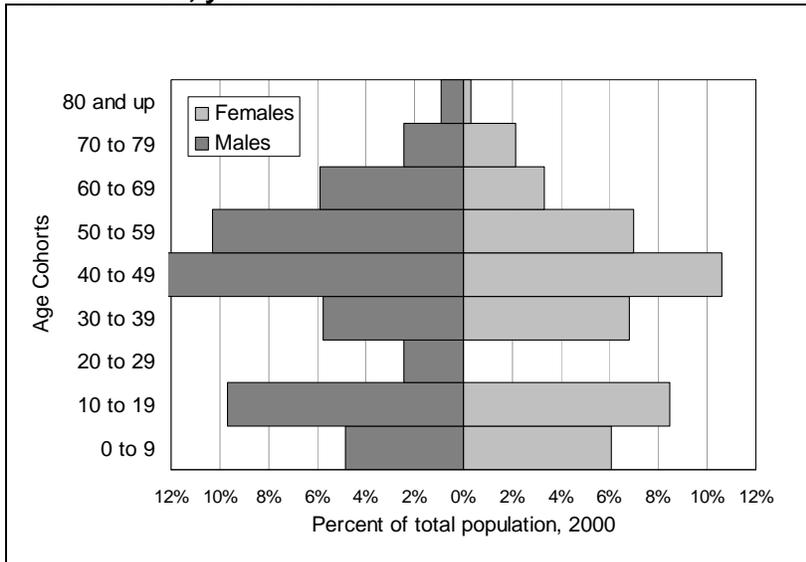
Figure 3 and Figure 4 compare the age-sex structure in some of Alaska's smallest rural communities with that of the state overall. Many of Alaska's small rural communities have no young adult women. We recognize that census data are almost 10 years old but they are useful to show that current and future migration may have the strongest impact on population growth in places where there are few young adults and thus fewer births. The population structure in 2000 affects the population size today.

⁶ The SLiCA sample frame included only rural places, so it was not possible to ask people living in urban places why they moved there.

⁷ Source: 2000 Census. We combined data from 18 rural communities with populations of under 100 to create this age structure diagram: Excursion Inlet, Ugashik, Coldfoot, Dot Lake, Wiseman, Ivanof Bay, Thoms Place, Kupreanof, Tolsona, Livengood, Elfin Cove, Nikolski, Paxson, Lime Village, Red Devil, Chiniak, Pedro Bay, Igiugig,.

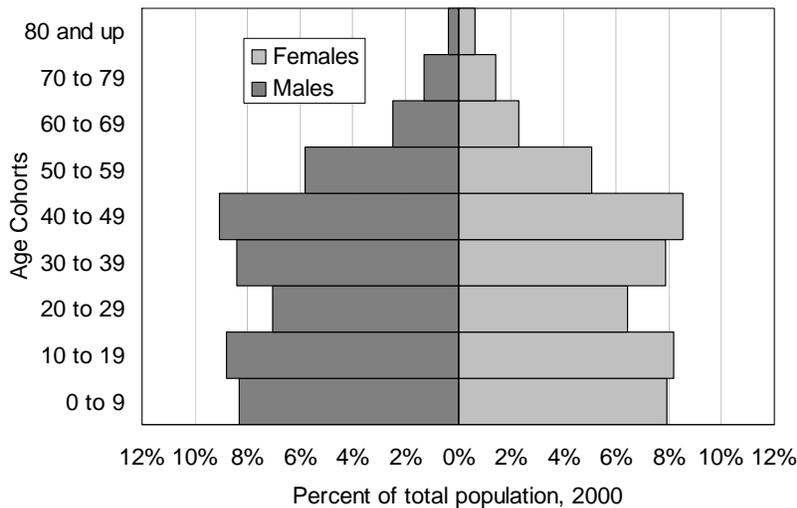
⁸ There are an additional 23 small communities in which there was only one woman 20-29 in year 2000. Source: US Census 2000 summary file 1. The list includes places with populations of up to 160: Bettles, Chase, Chicken, Edna Bay, Ekwook, Evansville, Ferry, Game Creek, Kasaan, Lake Louise, Mendeltna, Nelchina, Nikolai, Pelican, Petersville, Port Protection, Portage Creek, Silver Springs, Sunrise, Takotna, Tenakee Springs, Tonsina, and Twin Hills.

Figure 3. Combined age structure of 18 of Alaska's rural communities with populations less than 100, year 2000



Source: U.S. Census, year 2000

Figure 4. Age structure of Alaska, year 2000



Source: U.S. Census, year 2000

Data from SLiCA suggest that people in the highest income households and people in the lowest income households are less likely than people in the middle to want to leave their communities.⁹ The explanation for this pattern is that people with lowest incomes cannot afford to move and moving would not make life better for people with high incomes.

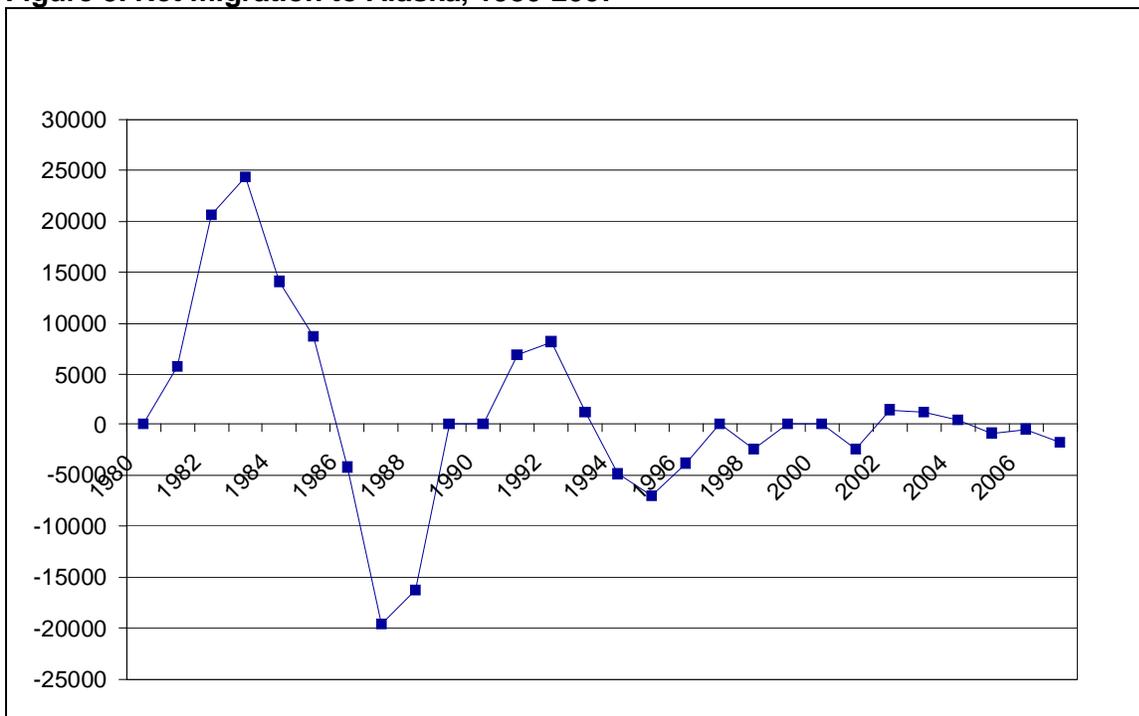
⁹ This relationship is well-documented in international migration literature.

Howe and Huskey (2007) studied Inupiat migration and noted that people follow a "stepping stones" pattern, moving from a village to a hub and from a hub to urban Alaska. When people leave their region, they usually move to Anchorage, Fairbanks, Juneau, or the Mat-Su Borough. Migration flows tend to follow transportation links. People move to where the airlines fly. Government policy can accelerate this process by providing or funding more services in larger communities, creating more jobs and more migration (Jones 1973, Alonso and Rust 1976).

Studying the Aleutians in the 1970s, Jones (1973) noted that people moved to communities within their region. Groups of nearby villages form cultural regions, based on access to one another and cultural ties. People tended to move to the community within their region where there were jobs. We see a similar pattern today, but on a much larger geographic scale: People follow transportation routes to places where there are jobs and where they have cultural ties. Today, many people who grow up in rural Alaska have ties to urban places due to accumulated previous migration.

Finally, there is currently net migration out of Alaska as a whole, as shown in Figure 5. The state has historically experienced large inflows and outflows of people in response to major economic change such as the construction of the oil pipeline. These swings have dropped to near zero in the past ten years, but during the past six years there has been a slow but steady shift from slight in-migration to slight out-migration. In 2007 – out of a population of about 680,000 – about 2,000 more people moved out of Alaska than moved in.

Figure 5. Net migration to Alaska, 1980-2007



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Why do people move?

People move to improve their lives. Primarily, people move for jobs or education. Writing about the Aleutians, Jones (1973) noted that people move for job opportunities. Surveys show that men reportedly move for jobs, while women move for their own or their children's education (Hamilton and Seyfrit 1994, SLiCA 2003, FAI 2007). There are few opportunities for a 4-year college degree without leaving rural Alaska.

Using data covering moves made between 1985 and 1990, Huskey, Berman, and Hill (2004) found interesting differences between low-skill and high-skill people and between men and women. All else equal, people with lower levels of marketable job skills¹⁰ were more likely to move from rural to urban places. The authors suggested that such people might be moving in part for training and education. Conversely, people with higher job skills were more likely to move back from urban to rural areas than people with lower job skills. These data suggested to Huskey, Berman, and Hill that women are attracted back to rural areas by higher-paying jobs, but men appear to be attracted to rural areas for subsistence opportunities.

Specifically, are people migrating out of villages due largely to high fuel costs?

There has been a recent dramatic increase in fuel prices throughout Alaska. Looking only at changes from 2000 through 2006, Saylor and Haley (2007) used census data to document that total utility costs – including heat, electricity, water, and sewer – paid by residents of remote Alaska communities¹¹ increased from a median value of 6.6% of total income to 9.9% of total income. By comparison, the median amount spent by Anchorage households increased from 2.6% to 3.1% of household income during this same period from 2000 through 2006.

Colt (2005) estimated that in rural Alaska the overall consumption of diesel fuel and gasoline for all end uses – heating, electricity, and transportation – equates to about 1,000 gallons of fuel per person. Using this rule of thumb, the recent measured run-up of about \$2.00 per gallon¹² equates to an additional economic burden of several thousand dollars per household in rural Alaska. While natural gas prices in urban areas have also increased, the run-up there has – at least so far – been less severe. Average residential natural gas prices increased by 27% between 2006 and 2007, but the cost per million btu of energy from gas is still about four times lower than the cost of diesel at \$4.00 per gallon.

Despite the high burden of fuel costs, it does not appear from existing data that fuel costs have been an important cause of migration through year 2007. In surveys since 2002, when people were asked open-ended questions about why they left their community or intended to leave, no one cited "fuel costs" as a reason. A small share of SLiCA survey respondents noted that they

¹⁰ Marketable job skills were estimated as a function of education, gender, and age

¹¹ Their use of the "remote" definition was driven by the way census public use microdata are provided. The census "remote" region is roughly the same as our concept of "rural," but also excludes several census areas and individual places that are on the road system, such as the Valdez-Cordova, Haines, and Skagway-Hoonah-Angoon census areas.

¹² This estimate is based on inspection of fuel price data from the PCE program and the State of Alaska Division of Community and Regional Affairs report *Current Community Conditions: Fuel Prices Across Alaska November 2007 update*. http://commerce.state.ak.us/dca/pub/Bulk_Fuel_Report_2007.pdf.

moved or wanted to move because of the high cost of living. A few FAI survey respondents noted the cost of living as a problem in their community.

While the recent data do not directly support a tight linkage between fuel prices and migration, several questions remain unanswered and/or relevant. First, the full extent of the recent price run-up has not yet been felt in rural Alaska because much fuel being sold during early 2008 was purchased months ago from refineries at lower prices.¹³ Additional increases are almost certain to occur when summer 2008 deliveries are made at prices reflecting a crude oil price that is currently close to \$120 per barrel. More increases are on the way. Second, although fuel prices may not cause migration overall, it may still be true that recent and imminent *increases* in fuel prices are a major driver of recent and/or imminent *increases* in migration. At present the data are not sufficient to test this hypothesis.

What other factors may be affecting migration?

Kruse and Foster (1986) noted that a lack of housing may affect migration. People are more likely to leave communities with overcrowded housing and won't return to communities if they have no decent place to live.

Several studies indicate that state and federal transfers by funding jobs, providing direct payments to individuals, and paying for services; lower the cost of living for rural Alaskans and allow people to stay in rural communities (Huskey 1990, 1992, Knapp 1988). Transfer programs include the Permanent Fund Dividend program, Power Cost Equalization program, Municipal Revenue Sharing, School Foundation and School Debt Reimbursement, Aid to Families with Dependent Children, and Adult Public Assistance (Goldsmith, Hogan, and Gorsuch 1990). In 2008, the state legislature implemented a new revenue sharing program. Communities will begin receiving funding in FY2009. It is too early to tell what the impacts of this program will be on local jobs.

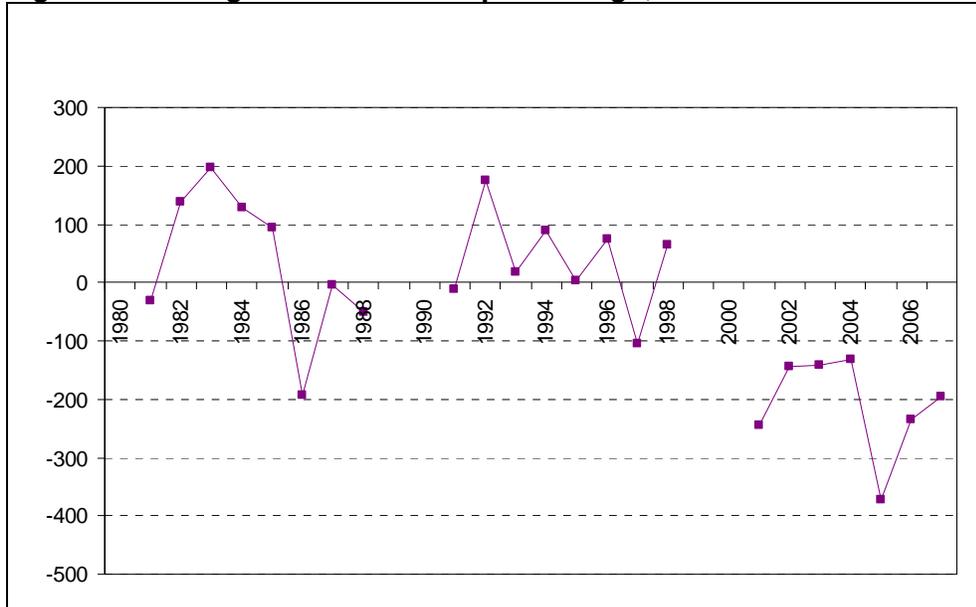
Population decline in small rural communities may be a cumulative process. A plausible scenario is that following cuts to the revenue sharing program, local city jobs disappeared, and some people left. As those people left, some of the jobs they supported went away, and more people left. When the population became very small, the school closed, more jobs ended and more people moved away. As people leave, the quality of life for people remaining in villages may deteriorate because they have fewer friends and family members to do things with.

Jobs are important for communities but not all jobs are the same. Kleinfeld, Kruse and Travis characterize "good" rural jobs as those with high pay, close to home, accommodating subsistence, and with opportunities for advancement (1983). This is not to say that if there were more jobs or more culturally adapted jobs, if fuel costs were lower, if wages were higher, and if there were more wildlife and more opportunities for subsistence, no one would leave rural Alaska. The North Slope borough has fuel subsidies, high wages, and jobs that allow for

¹³ U.S. average refiner acquisition cost of crude oil increased from \$71/barrel in July 2007 to \$96/barrel in March 2008. The spot price for West Texas Intermediate crude oil was \$116/barrel on April 29, 2008. http://tonto.eia.doe.gov/dnav/pet/pet_pri_rac2_dcu_nus_m.htm.

subsistence participation, but it still had high rates of out migration in recent years. Figure 6 shows increasing out-migration from the North Slope borough. However, despite out-migration, the population increased from 4,200 to 6,700 over the 27 years.

Figure 6. Net migration - North Slope Borough, 1980-2007



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

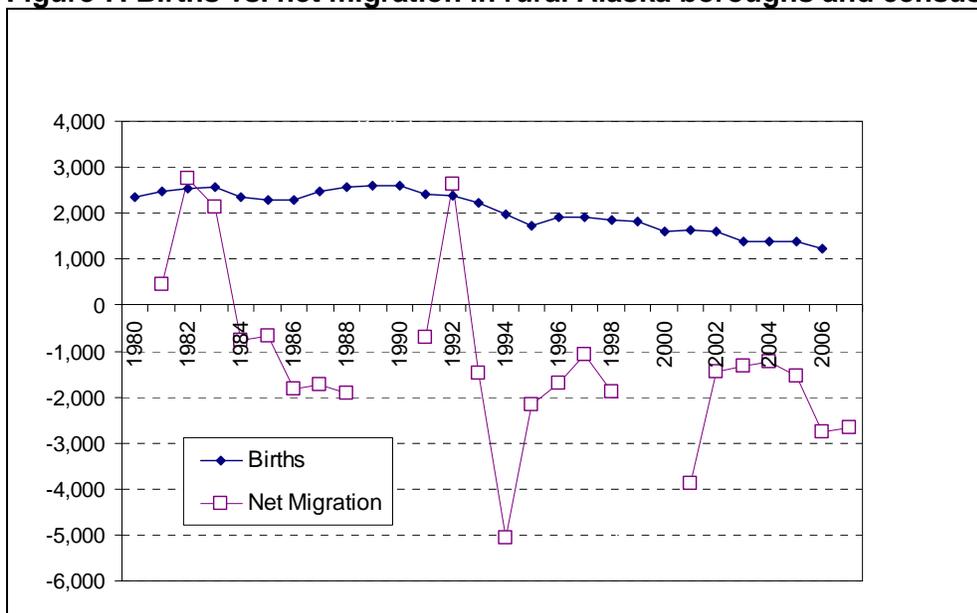
Why do people stay?

Many people prefer to stay in rural Alaska. The SLiCA survey asked people why they remain in their communities. Men stay for hunting and fishing, while women stay for family reasons. Hamilton, Rasmussen, et al. (1996) also found this to be true. Subsistence hunting and fishing require place-specific knowledge and property rights. Subsistence activities provide households with food and help maintain traditional culture. This makes the cost of migration higher for men, who have fewer opportunities to subsistence hunt and fish in their new communities.

What are the effects of out-migration on Alaska's rural communities?

In the 1970s, Alonso and Rust (1976) predicted that the population of rural Alaska would continue to grow for the next couple of decades because of high rates of natural increase (births minus deaths). They were right. However, the long term trends identified by Alonso and Rust seem to be shifting. For many communities, rural out-migration is increasing at the same time births (and replacement population) are decreasing (Alaska Division of Vital Statistics). As Figure 7 shows, the number of rural Alaska births since year 2000 has been about half the number during the 1980s.

Figure 7. Births vs. net migration in rural Alaska boroughs and census areas, 1980-2006



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section (migration); Alaska Department of Health and Human Services *Vital Statistics* (births).

Over time, as more young Alaska Natives have migrated to cities, the Alaska Native population in urban areas has grown from continued migration, as well as from its own natural increase. Table 1 shows that the share of the Alaska Native population living in Anchorage, Fairbanks, Juneau, Ketchikan, or Sitka has increased from 5% in 1950 to almost 30% in 2000.

Table 1. Distribution of in-state Alaska Native population between urban and rural areas

Year	Urban share	Rural share
1950	5%	95%
1960	13%	87%
1970	21%	79%
1980	23%	77%
1990	28%	72%
2000	29%	71%

Sources: 1950-1970 from Kruse and Foster (1986); 1980-2000 from US Census files.

Note: Includes only Alaska Natives living in Alaska.

Growth patterns are not the same everywhere. Large villages continue to grow while small ones may disappear. Some rural communities have been growing very fast. Hooper Bay and Chevak have 1,157 and 908 residents respectively (AKDOLWD, 2006). Both have doubled in size since 1980. Small communities of fewer than 100 people have historically been vulnerable to decline. Jones (1973) noted that in the 18th century there were several hundred villages in the Aleutian Islands. By 1970, there were 24 (Alonso and Rust, 1976). Some villages grow and become towns, but many disappear. Small communities also appear.

In the 1960s and 1970s, non-Natives moved into subdivided homesteads (Anderson), road intersections (Delta Junction), old roadhouse locations (Paxson), and sites along the Richardson

Highway (Slana, Tazlina, and Tonsina) and established new communities. In the 1960s and 1970s Alaska Natives established new communities at Nelson Lagoon, Twin Hills, Nuiqsut, and Atkasuk. But small communities were disappearing faster than new ones were forming (Kruse and Foster, 1986). Based on 2000-2006 AKDOLWD estimates, nearly three-quarters of Alaska's 80 smallest communities (places with less than 100 people) are losing population. Some communities are lacking entire age cohorts. Schools are closing in many of these places.

Return migration benefits rural communities. People who leave and later return with education and job experience increase a community's human capital. However, men are more likely to return than women, increasing the gender imbalance. Fewer women return because they marry and/or get jobs in urban places. About 67% of Alaska Native women living in urban Alaska have been married – even though they may be separated, divorced or widowed. This compares with 53% of Alaska Native men (US Census, PUMS files 2000). Alaska Native women in urban areas are more likely to be employed. Of those in the labor force, 80% of women reported working compared with 79% of Alaska Native men (US Census PUMS files 2000). Alaska Native men also have higher drop-out rates than Alaska Native women, which also makes them more likely to return home (Kleinfeld and Andrews 2006).

How are high fuel costs affecting the viability of local governments, utilities, and local businesses?

There is no systematic data to shed light on this question. Clearly higher fuel prices are putting an increasing strain on the expense side of local government finances, but aside from isolated stories (such as Chevak) it is not clear how widespread the effect is. Utilities attempt to pass fuel costs through to consumers and, unless those consumers can reduce consumption, their bills will go up, as documented by Saylor and Haley (2007). In a survey of 196 businesses located off the road system, Haley et al. (2007) found that 40% of the surveyed business owners cited heating fuel or utilities as their single largest expense after payroll. Only 38% listed goods and supplies as their single largest non-payroll expense.

Are there major factors – other than fuel costs and migration – affecting community viability such as lack of employment?

Both the SLiCA and FAI surveys asked respondents about their communities. The SLiCA survey asked people what they thought were the biggest problems in their community. Problems involving alcohol and/or drugs were mentioned by 60% of respondents. The next largest categories were lack of public safety officers (16%), and domestic violence, child abuse and suicide problems (7%).

The FAI attitudinal survey asked people who had moved from rural to urban Alaska if they would consider moving back. Almost 60% said they were unsure or had no intention of returning. Table 2 shows their responses to an open-ended question asking what, if anything, would motivate them to return. Most said that there was nothing that could make them go back.

Table 2. FAI survey responses on reasons for returning to rural places

What would motivate you to return?	
Nothing could make me return / village is dying	65%
A good job	15%
Cost of living was lower	7%
My family needed me	6%
To retire	5%
Healthcare was available	3%

Information from both the SLiCA and FAI surveys also shows that community life is not just about jobs, schools, public safety and health care. Family ties, friendship, and social support repeatedly show up as being essential to people's satisfaction with their lives.

Significant data collection opportunities

As part of this project we considered where there are significant gaps in primary data and how those gaps might be filled by collecting additional primary data. We believe there are significant opportunities for cost-effective data collection that could increase our understanding of the factors affecting migration and community viability.

1. AKDOLWD could analyze PFD and IRS data to produce tables of back and forth migration by origin and destination communities. (How many people moved from place A to place B and from B to A.) Historical PFD data could be linked to employment data to analyze multiple individual and household moves and associated employment. Producing these tables would require significant efforts due largely to the need to maintain confidentiality through data suppression. AKDOLWD must perform this analysis as they are the only entity with access to the data.
2. Conduct a series of semi-structured interviews of people who have moved from rural to urban Alaska. These data would fill a gap in what we know about migrants. Interview questions could focus on why people moved, and capture the economic and non-economic dimensions of migration decisions. The interviews could also ask people about their migration history to understand moves and migration patterns over a lifetime.
2. A Panel Study of ANCSA corporation shareholders could be conducted by one, several, or all regional corporations. Panel studies are especially informative because they track the status and well-being of individual people over time, allowing powerful conclusions to be drawn from relatively small sample sizes. The ANCSA shareholder rolls provide a unique opportunity to create a sample of Alaska Natives that could be maintained over time, as corporations maintain accurate rolls. We would like to reiterate that a survey of this group would have to be undertaken completely by the corporations themselves or their designated agents.
3. A companion survey of rural Alaska youth would be an important complement to any ANCSA-based effort. Many youth are not shareholders due to the implementation of ANCSA. In

addition, the attitudes of youth might be deemed to be especially good predictors of future changes and of future aspirations of rural residents.

4. The Alaska Energy Authority is currently working to resurrect the publication of “Alaska Electric Power Statistics” and to expand the coverage to include the direct use of fuels. The main reason for doing this is that there is currently no systematic collection of data about the *quantity* of fuels used for heating and transportation. Existing efforts by Alaska Housing Finance Commission and the Division of Community and Regional Affairs only collect data on the prices of these fuels.

Conclusions

Migration out of small rural villages is a long-term trend. The exception in the late 1970s and early 1980s seems to be due to several factors working together. Building high schools across rural Alaska meant that people did not have to leave to attend school. Building high schools also created construction jobs and ongoing work operating the schools. High state spending over several years translated into additional local jobs in everything from construction to local administration. However, this historical pattern doesn't necessarily mean that another round of spending would reverse current migration trends. In the North Slope Borough out-migration continues even though there are many high paying jobs, subsistence opportunities, infrastructure, education and training opportunities, housing, and most people have relatives and friends in their communities.

Fuel costs matter – a lot – but do not seem to be definitive drivers of migration. Because migration appears to be related to earnings, the people who are hardest hit by high fuel costs may be least able to afford to move. They also can't afford to buy much at local stores and need to rely more on subsistence, but can no longer afford as much fuel to hunt and fish. The problem of high fuel costs is an urgent challenge that needs to be addressed, irrespective of the complex effects of fuel prices on migration.

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*These articles and reports have been scanned and placed into an archive of PDF documents. The archive is available at:
<http://www.iser.uaa.alaska.edu/Home/ResearchAreas/fuelcosts.html>

Data Sources Used

Survey data sets

Social Transitions in the North (National Science Foundation (NSF), ISER)

- Sample. Randomly selected adult respondent
- Geographic coverage. NANA region. Deering, Buckland, Kivalina, Kotzebue. Aleutians/Pribilofs – Akutan, St. Paul, Sand Point, Unalaska
- Survey dates. 1993, 1994, 1995.
- Sample size. 1993 n=171, 1994 n=124, 1995 n=94 (in 1995, 15 new households were added to the sample). Sample size adequate to do individual village level analysis.
- Contents. Detailed health and interpersonal relationships, income, subsistence, age, sex, race, migration status (in-migrant, return migrant, stayers) of every household member, household characteristics. Changes in variables over 3 years.
- Notes. Panel dataset.

Survey of Living Conditions in the Arctic (NSF, ISER)

- Sample. Randomly selected Inupiat 16 years and older
- Geographic coverage. North Slope: all communities (Barrow, Anaktuvuk Pass, Kaktovik, Nuiqsut, Atqasuk, Wainwright, Point Lay, Point Hope)
NANA—Kotzebue, Selawik, Kivalina, Deering, Shungnak, Noorvik
Bering Straits – Nome, Brevig Mission, Koyuk, Stebbins, Savoonga, Unakaleet.
- Survey Dates. 2002, 2003
- Sample size. n=663. Sample size adequate for grouped villages and hub within each region.
- Contents. Demographics, education, employment, expenditures, housing conditions, income, language, migration, political participation, subsistence, temporary migration, health, satisfaction

North Slope Borough Censuses (NSB, ISER, others)

- Sample: Census
- Geographic coverage. 1978 all communities except Atqasuk and Point Lay. 1988, 1993, 1998, 2003 – all communities
- Survey dates: 1978, 1988, 1998, 2003
- Contents. Demographics, education, employment, expenditures, housing conditions, income, language, migration, subsistence, temporary migration (not all topics in all years)

Buckland census, (Cooperative agreement ISER, Alaska Department of Fish and Game, National Park Service)

- Sample: Census
- Geographic coverage. Buckland
- Survey dates. 2003
- Census. N=74 households

- Contents. demographics, education, employment, expenditures, housing conditions, income, language, migration, political participation, subsistence, temporary migration
- Notes. Asks migration history (respondent) - places where respondent lived and reasons for moving to each one.

First Alaskans Institute Attitudinal Survey (First Alaskans Institute)

- Sample
- Geographic coverage. Statewide
- Survey date: April 2007
- Sample size. 600 Alaska Natives and 302 non-Natives. (small rural sample)
- Contents. Demographics, Satisfaction with life, values, migration, perceptions of leadership, discrimination, Concerns for future.
- Notes. Telephone survey