YUKON FLATS REGIONAL GOVERNMENT FEASIBILITY STUDY

Prepared for:

The University of Alaska Fairbanks Engineering Science Management & Civil Engineering Departments, and

…the Residents of the Communities of the Yukon Flats

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Appendix A – U.S. Fish and Wildlife Service and Doyon Limited Land Exchange Information
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Cover Photo Credit: Council of Athabascan Tribal Governments and Bill Hess

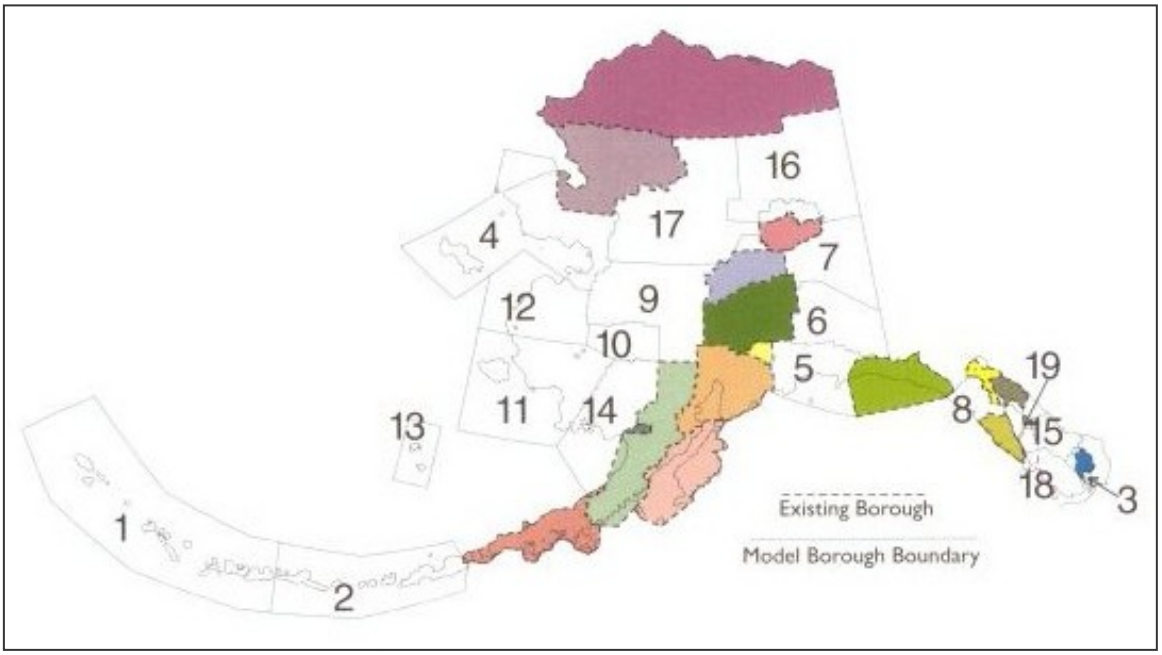
ACRONYMS & ABBREVIATIONS

AAC	Alaska Administrative Code
ADCED	Alaska Department of Community and Economic Development
ADNR	Alaska Department of Natural Resources
ANSCA	Alaska Native Claims Settlement Act
AS	Alaska Statute
ATV	All-terrain vehicle
CATG	Council of Athabascan Tribal Governments
Doyon	Doyon, Limited
FNSB	Fairbanks North Star Borough
GIS	Geographic Information System
LBC	State of Alaska Local Boundary Commission
NSB	North Slope Borough
O&M	Operations and Maintenance
PCE	Power Cost Equalization
PILT	Payment in Lieu of Taxes
REAA	Regional Education Attendance Area
SGDA	Alaska Stranded Gas Development Act
TAPS	Trans-Alaska Pipeline System
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VUU	Vacant, unappropriated, unreserved

1.0 INTRODUCTION

In 2004 and 2005 the leaders of the Athabascan communities of the Yukon Flats organized to evaluate the formation of a local borough government. The effort was initiated in response to suggested annexation by outside governments. The potential new borough would be called the Yukon Flats Borough. With a population of approximately 1,370, the new borough would encompass an estimated 53,000 square miles, bordering the North Slope Borough (NSB) to the north and the Fairbanks North Star Borough (FNSB) to the south, and would include the unincorporated communities of Arctic Village, Beaver, Birch Creek, Chalkyitsik, Circle (including Central and Circle Hot Springs), Rampart, Stevens Village, Venetie, and the 2nd class city of Fort Yukon. Figure 1-1 presents the extent of Alaska's existing boroughs and model borough boundaries. Figure 1-2 presents the extent of the model borough boundary for the Yukon Flats and the extent of the Trans-Alaska Oil Pipeline (TAPS) within the extent of the borough.

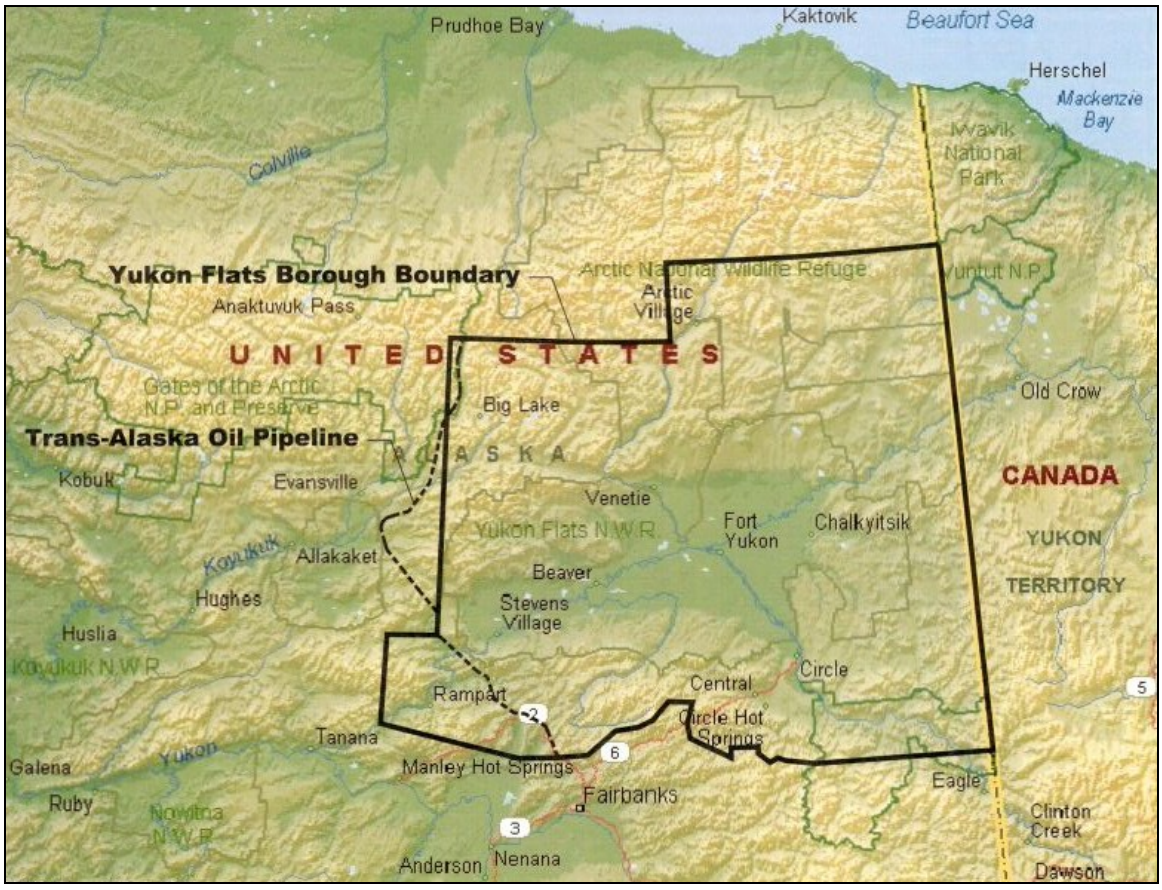
Figure 1-1
Model Borough Boundaries



1. Aleutian – Military
2. Aleutians West Region
3. Annette Island Reserve
4. Bering Straits
5. Prince William Sounds
6. Copper River Basin
7. Upper Tanana Valley
8. Glacier Bay
9. Iditarod Region
10. Kuspuk
11. Lower Kuskokwim
12. Lower Yukon
13. Priblof Islands
14. Dillingham-Nushagak-Togiak
15. Wrangell/Petersbeg
16. **Yukon Flats**
17. Yukon-Koyukuk
18. Prince of Wales Island
19. Chatham

Note: Existing Boroughs are shown in color and are not identified by name.

Figure 1-2
Proposed Yukon Flats Borough Boundary and Extent of Trans-Alaska Pipeline



Note: Ultimate boundary for borough may be modified to exclude the communities of Central and Circle Hot Springs.

1.1 Study Purpose and Overview

This study has been prepared to satisfy two primary purposes as follows:

1) Provide the Council of Athabascan Tribal Governments (CATG) with a preliminary planning document that provides some measure of assistance in evaluating the possible formation of a borough government in the Yukon Flats.

2) Satisfy the requirements for the authors who are completing graduate degrees in engineering at the University of Alaska Fairbanks in 2005.

The study is organized as follows:

- ***The remaining portion of Section 1*** addresses the internal and external issues forcing the consideration of a local government, and presents an overview of the benefits and detractors associated with a local borough government.

- ***Section 2 – "Physiographic Setting and Socio-Economic Characteristics of the Study Area"*** presents detailed physical data and information for the Yukon Flats, describes the socio-economic setting for each of the communities, and concludes with a regional demographics summary.

- ***Section 3 – "The Standards for Incorporation"*** summarizes State requirements including Section X of the Alaska Constitution, the Alaska Statutes, and applicable Alaska Administrative Codes, and presents specific responses to each of the criteria that must be satisfied for a community receiving approval from the State to incorporate.

- ***Section 4 – "Borough Structure Options and Decision Analysis"*** summarizes the possible borough structure options for consideration, utilizes a decisions analysis technique to quantity the problem, and concludes with identification of a recommended borough structure.

- ***Section 5 – "The Management Path to Incorporation"*** identifies the management processes and costs the community must undertake toward

incorporation. Specific items that are addressed include project management and resource requirements, anticipated costs, and schedule recommendations.

- ***Section 6 – "Operational Costs for the Recommended Borough Structure"*** summarizes the anticipated operational costs for the recommended borough structure, including education, community utilities, and local government functions.

- ***Section 7 – "Potential Revenue Sources for the Recommended Borough Structure"*** describes State, Federal and local revenue sources that may be utilized by the borough.

- ***Section 8 - "Financial Cost Analysis for Operation of the Recommended Borough Structure: Year 2005 through 2015"*** presents a detailed financial cost analysis for the recommended borough structure commencing in year 2005, and ending in year 2015, and includes four scenarios for a real or personal property tax of 8-, 12-, 16-, and 20-mills.

- ***Section 9 – "Recommendations and Conclusions"*** provides a summary of the study including the recommended course of action and concluding comments.

1.2 Issues Forcing the Discussion of a Local Government

Internal and external issues that are forcing the residents of the Yukon Flats to discuss the formation of a local government are presented in the following sections.

1.2.1 Threat of Annexation

Gary Lawrence, executive director of Gwichyaa Zhee Gwich'in tribal government; and CATG director Craig Fleener report their primary issue forcing discussion of a potential Yukon Flats borough is to stop any annexation of the area by outside governments (Anchorage Daily News, 2005; personal communication, CATG, 2005; State of Alaska, 2001). The threat of annexation originates with the NSB and FNSB, each of which has recently expressed an interest in annexing land in the Yukon Flats. The potential

annexation directly relates to a recent U.S. Geological Survey (USGS) study indicating the Yukon Flats National Wildlife Refuge (NWF) may contain an estimated 5.5 trillion cubic feet of recoverable natural gas. This quantity is comparable with the Cook Inlet gas fields that have provided power for south-central Alaska communities for several decades (Anchorage Daily News, 2005a). Doyon Limited (Doyon), an Alaska Native Claims Settlement Act (ANSCA) Corporation and the Alaska Native Regional Corporation for the Yukon Flats, has independently evaluated seismic and other data and is of the opinion that a 1 in 20 or 30 chance exists for oil revenues of 200 to 800 million barrels (personal communication, Jim Mery, 2005). Independently, the FNSB has commenced with a study to assess the feasibility of annexing land as far north as the south bank of the Yukon River.

In January 2005 the Fort Yukon village council and the larger regional CATG approached the State of Alaska Local Boundary Commission (LBC) and requested assistance in assessing their possible annexation by outside governments, as well as clarification on the issues associated with forming a new borough. In February 2005, Mr. Dan Bockhorst, with the State of Alaska Department of Commerce, Community and Economic Development Office Local Boundary Commission, traveled to Fort Yukon to provide the community with a general overview of the issues to be considered with formation of a local borough government. The CATG is currently organizing and assessing the social and economic feasibility of the formation of a borough government in the Yukon Flats.

1.2.2 Potential for Oil and Gas in the Yukon Flats

With the discovery of potentially marketable quantities of oil and gas in the Yukon Flats, Doyon has entered negotiations with the U.S. Fish and Wildlife Service (USFWS) for an exchange of land that will present a significant financial opportunity for its shareholders should the oil reserves be proven (U.S. Department of Interior, 2005). Doyon currently owns 1.25 million acres within the boundary of the Yukon Flats NWR (the Yukon Flats NWR holdings total 8.6 million acres). Doyon and the USFWS, Alaska Region (FWS), have agreed in principle to provide Doyon with surface and subsurface title to

approximately 110,000 acres of core refuge lands that may hold the developable oil and gas resources. These core lands are in the south-central portion of the NWR around Beaver Creek south of the community of Birch Creek. In exchange, the FWS will receive quality fish and wildlife habitat currently owned by Doyon within the refuge boundary. If Doyon subsequently finds and chooses to develop the resources, the agreement would establish the creation of a land acquisition and facility development account and allows the FWS to purchase additional Doyon lands within the refuge at fair market value. Doyon will also take additional title to approximately 100,000 acres of subsurface oil and gas interests in a "halo" of lands around the core lands and other Doyon holdings within the refuge. If marketable oil and gas resources are discovered, Doyon will be able to access these halo land interests by directional drilling from their adjacent surface holdings. Surface occupancy will not be permitted on the "halo" lands.

1.2.2.1 USFWS Interests

In an equal value exchange for the core lands and halo land interests, USFWS will receive an estimated 150,000 acres of Doyon fee holdings (surface and subsurface) within the Yukon Flats NWR. These lands contain quality fish and wildlife habitat and will provide expanded opportunities for recreation and subsistence uses. In addition, USFWS will receive some royalties from Doyon should the potential resources in the Yukon Flats be developed.

1.2.2.2 Current Status and Schedule of the Proposed Land Exchange

The USFWS held public meetings in early 2005 to obtain feedback on the proposed land exchange. Meetings locations included the cities of Fairbanks and Anchorage; and the nine Yukon Flats communities of Arctic Village, Beaver, Birch Creek, Central, Chalkytsik, Circle, Fort Yukon, Stevens Village, and Venetie. The FWS extending the deadline for public comment on the proposed land exchange to July 30, 2005, following which comments will be reviewed and managers will proceed under one of the following three scenarios:

1) The land exchange will be cancelled;

2) The land exchange will be re-evaluated and the conditions may be modified to satisfy public comments/concerns; or

3) The land exchange will proceed according to the current plan.

If the land exchange is ultimately successful, and marketable quantities of oil and gas reserves are proven and developed, a local borough could reap a portion of the property tax collected on these assets, which would yield significant revenues.

1.2.2.3 Assessment of Potential Resources

As an overview, the USGS has assessed the flats and offers a mean estimate of 5.5 trillion cubic feet of recoverable natural gas, 172 million barrels of oil, and 126 million barrels of natural-gas liquids (Stanley, et al, 2004). Independent and preliminary studies by Doyon indicate a potential for oil reserves to significantly exceed the USGS estimates, ranging from a low of 200 to 300 million barrels to an upper limit that may approach 1 billion barrels of oil in the study area. A quantity of 200 to 300 million barrels is similar in size to the Alpine Satellite Development on Alaska's North Slope, and would present a developable scenario (personal communication, Jim Mery, 2005).

1.2.3 Benefits and Detractors of a Local Borough Government

The positive and negative aspects of a local borough are difficult to categorize because while one group may view an issue as a benefit, another group will view it as a detractor. Presented below, in no particular order, are issues that may be viewed as either benefits or detractors based on personal viewpoints and opinions.

1.2.3.1 Impacts to a Traditional Way of Life

Doyon's attempts at resource development in the Yukon Flats are focused on providing their 14,000 shareholders with economic growth and quality of life improvements. A component of Doyon's mission statement is to "promote the economic and social well-being of their share holders and future share holders, strengthen their native way of life, and to protect and enhance their land and resources." (Doyon, Limited, 2005). However Doyon's shareholders, the Gwich'in and Koyukon Athabascans of the Yukon Flats, may

not unanimously agree that Doyon's efforts are in their best interests. The Athabascan people are concerned that resource development and a local borough government would have negative impacts on their subsistence way of life and traditional village council form of government (personal communication, CATG, 2005).

In 1971, Alaska Natives were awarded $962.5 million and 44 million acres of land in exchange for the extinguishment of their claims to the land under the Alaska Native Claims Settlement Act (ANSCA). Since ANSCA, Alaska Natives have become one of the strongest economic and political forces in the state. Through the formation of regional corporations, ANSCA helped establish the first recognized geopolitical boundaries in the unorganized borough, and these boundaries are now used for the Regional Education Attendance Areas (REAAs) (State of Alaska, 2002). Each of the communities in the Yukon Flats, with the exception of Arctic Village and Venetie, elected to participate in ANSCA and are members of the regional corporation Doyon. However, all nine communities in the Yukon Flats maintain a traditional village council and are members of the CATG.

Assessment of the social and economic impact between the traditional village council governments currently in use by each community, and a proposed Yukon Flats Borough Government, is beyond the scope of this study. However, many experienced people are of the opinion that the formation of a Yukon Flats Borough would not necessarily conflict with the traditional village council. This is demonstrated by the Northwest Arctic Borough and the North Slope Borough, which have effectively worked well with local tribal governments. The population in each of the Yukon Flats communities exceeds 91-percent Alaskan Native or part Alaskan Native, with the exception of Circle (85 percent) and Fort Yukon (88.7 percent) (State of Alaska, 2005). An influx of a number of non-native people into a community that is large enough to control future elections is not very likely. An elected borough assembly would address all major government functions and services that are required to be provided by State law, while traditional village councils would focus on addressing tribal issues. Alaska Native leaders in the Yukon Flats communities may disagree and have expressed concern that an influx of non-native

people into their communities may influence elections and ultimately impact their lifestyles.

In regards to traditional subsistence use of land, the region of proposed oil and gas development in the Yukon Flats is not considered to be of high priority for subsistence hunting and trapping use. Lands found outside of the region proposed for oil and gas development are considered to be used much more prevalently, and be of significantly greater value, from a perspective of subsistence use.

1.2.3.2 Decline of State Oil Revenues and State-Shifts of Government Costs

The communities within the Yukon Flats region are unincorporated and rely solely on external funding and State support to meet their critical needs. An external issue impacting all residents of the Yukon Flats communities, as well as all unorganized communities throughout Alaska, is the general decline of oil revenues and the State shifting of the costs of government to municipalities.

Since the 1970s Alaska has been one of the richest states in the union on a per capita basis based on the taxation of North Slope oil and the Trans-Alaska Pipeline System (TAPS). For over 20 years the State of Alaska has provided communities in unorganized areas with funding for operational and capital needs. Since approximately 1990 the decline of oil revenues has resulted in the legislature evaluating methods to entice or force borough organization in unincorporated areas of the state. In recent years the State of Alaska has faced a more serious financial crisis and law makers continue to struggle with how to satisfy the costs for basic services in the unincorporated areas without instituting state taxes, significantly reducing state spending, or utilizing permanent fund revenues. Recent and significant increases in the price of oil have resulted in a large increase in oil revenues for the State. Generally, economists provide differing opinions on what the price of oil may be in the future. Due to the uncertainty of estimating future oil prices, the residents of the Yukon Flats would be best served by taking steps to prepare for a future reduction in available funding for the operation of their local government.

1.2.3.3 Potential for Economic Growth in the Yukon Flats

Creation of a new borough would create new jobs. Depending on how the borough is organized, employment opportunities may consist of positions in borough administration, department of public works, the school system (teachers and aids), public safety arena (police officers and firefighters), etc. A new borough presents economic development and growth opportunities that are not available should the region remain unincorporated.

1.2.3.4 Increased Self-Determination and Control

A home-rule borough would provide the greatest degree of self-determination possible under the Alaska Constitution. The borough cannot be threatened by annexation, can define its boundary, and remain active with local tribal government-traditional village councils. A borough can control their land-use and resource development, and manage the planning, zoning, and platting of land. A home-rule borough is a school district, thus an elected board of local community members and the borough assembly would have much broader powers than the current Rural Education Attendance Area (REAA), particularly in the matters of construction of new facilities, remodeling of existing facilities, and budget control. A new borough is entitled to select 10-percent of the maximum total acreage of vacant, unappropriated unreserved (VUU) State land within the borough boundary for its use.

1.2.3.5 The Cost of Education

The largest, single challenge a new borough faces is meeting the mandatory minimum levels of educational support as required by Alaska law. Currently the level is equal to a 4 mill property tax on all taxable property within the limits of a new borough.

1.2.3.6 Cost of Local Government

A new borough must generate sufficient revenue to support the minimal borough government functions as required by State law.

2.0 PHYSICAL SETTING AND COMMUNITY REGIONAL PROFILES

This chapter describes the regional physiographic setting, presents a brief socio-economic summary for each of the nine communities within the region, and concludes with summary of demographic trends observed in the region over the previous 30 years.

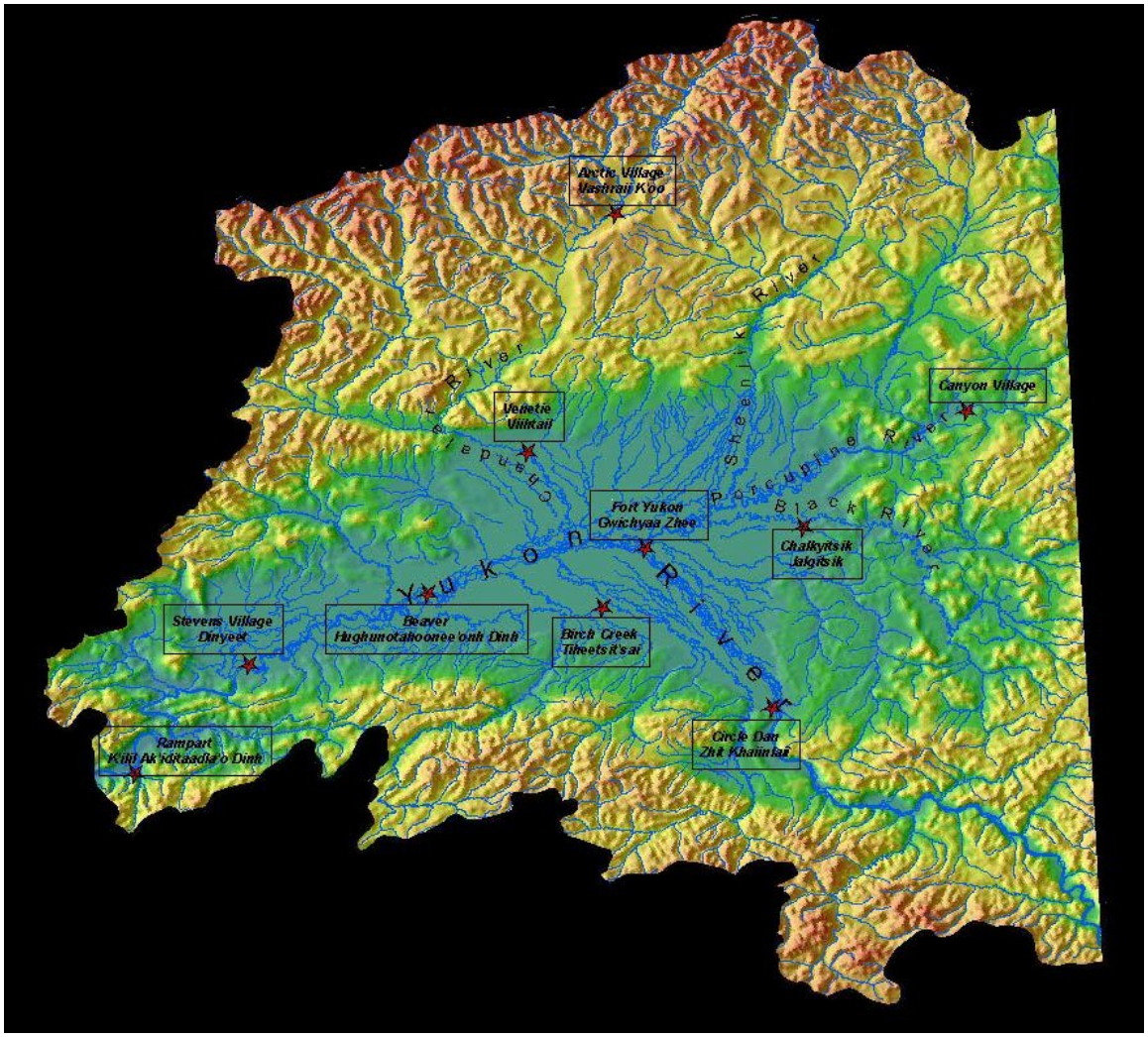
2.1 Physiographic Setting

The proposed Yukon Flats Borough boundary is identical to the model borough boundary as established by the LBC. The area encompasses approximately 53,000 square miles and is located in interior Alaska, sharing its eastern border with Canada and bordered to the north by the North Slope Borough and to the south by the Fairbanks North Star Borough. The Yukon Flats region includes the unincorporated communities of Arctic Village, Beaver, Birch Creek, Chalkyitsik, Circle (including Central and Circle Hot Springs), Rampart, Stevens Village, Venetie, and the 2nd class city of Fort Yukon. A map of the Yukon Flats showing the locations of the communities (not including Central and Circle Hot Springs) is presented as Figure 2-1. Only the community of Circle is accessible via the State's Road System (the Steese Highway); all other communities are accessible by air. The current population estimate for the region is 1,312 people (State of Alaska, 2005a) [throughout the remainder of this study the regional population is assumed to be approximately 1,300 people].

Seven physiographic provinces exist within the study area including the Central and Eastern Brooks Range, Porcupine Plateau, Yukon Flats, Ogilvie Mountains, Yukon-Tanana Uplands, Rampart Trough, and Kokrine-Hodzana Highlands. The regional climate is categorized as Continental Sub-arctic, and consists of great diurnal and annual temperatures variations and low precipitation (approximately 7 to 10 inches annually). Temperatures during January can range from -60s to the high 30s (degrees Fahrenheit [ºF]), and during June temperatures can vary from the 20s to mid-90sºF.

A prominent feature of the area is the Yukon Flats NWR, which is the third largest conservation area in the National Wildlife Refuge System. The refuge boundary encloses approximately 8,630,000 acres of federal lands and an additional 2,500,000 acres of selected and conveyed lands. The non-refuge lands belong to Doyon, the villages of Beaver, Birch Creek, Chalkyitsik, Circle, Fort Yukon and Stevens Village, State of Alaska, and individual Native allotment holders.

Figure 2-1
Communities of the Yukon Flats



The Yukon Flats is a vast wetland basin bisected by the Yukon River. The basin is underlain by permafrost and includes a complex network of lakes, streams, and rivers. The area is characterized by mixed forests dominated by spruce, birch, and aspen. The

refuge supports the highest density of breeding ducks in Alaska, and includes one of the greatest waterfowl breeding areas in North America. The majority of birds in the Yukon Flats are seasonal residents. Approximately 13 species including boreal chickadees, great gray owls, spruce grouse, three-toed woodpeckers and ravens remain on the refuge year around. Furbearers include beaver, lynx, marten, mink, muskrat and river otter. Moose can be found throughout the refuge and are the region's most important game animal from a subsistence perspective. Grizzly bears are found throughout the refuge in low concentrations, while the more common black bears generally are found in the forested lowlands. Wolves can be encountered anywhere on the refuge and Dall sheep can be spotted on the alpine tundra of the White Mountains and Hodzana Highlands. No reptiles are found on the refuge.

The refuge includes three major topographic features: the Yukon Flats at the center, the surrounding uplands, and the encircling highlands. The Yukon Flats, consisting of 6.5 million acres, consists of mostly flat to undulating lowlands dotted with shallow lakes, sloughs, and meandering and braided streams. Elevation is about 300 feet in the west and 600 to 900 feet in the north and east. The Yukon River is the principal drainage, dropping only 200 feet in elevation in 300 miles as it meanders across the Yukon Flats. The lower stretches of the Yukon's tributaries are intricately braided streams with meandering channels, swelling in flood stage to cover vast areas. The Yukon Flats are surrounded by uplands consisting of river terraces, alluvial fans, and flood plain deposits that rest on bedrock. It is overall topography is gently rolling. Elevations do not generally exceed 1,200 to 1,300 feet. Encircling the entire Yukon Flats and its uplands are highlands and mountains. The Porcupine Plateau, an area of low ridges with gentle slopes and rounded-to-flat summits, lies along the northern and eastern boundary of the refuge. Elevations reach to 2,500 feet. The Chandalar, Sheenjek, and Coleen rivers drain the northern portion of the plateau; the Black and Little Black rivers, which originate in the Ogilvie Mountains southeast of the refuge, drain the area south of the Porcupine River. Along the western boundary of the refuge are the Hodzana Highlands, an area of 4,000-foot ridges drained by the Hadweenzic, Hodzana, and Dall rivers. The eastern Brooks Range lies north of the Hodzana Highlands and the Porcupine Plateau and is north of the refuge boundary. Bounding the Yukon Flats to the south are the Yukon–Tanana Uplands, of

which the White and Crazy mountains are the northern extension. Summits in the White and Crazy mountains range from 3,000 to 4,100 feet in elevation. Birch and Beaver creeks are the major drainages on the northern side of the mountains.

2.2 Community Overviews

The following sections include an overview for each of the nine communities located within the study area.

2.2.1 Arctic Village

Arctic Village is on the east fork of the Chandalar River, 100 miles north of Fort Yukon and 290 miles north of Fairbanks. It lies at approximately 68.126940° North Latitude and -145.53778° West Longitude. (Sec. 24, T015S, R028E, Umiat Meridian.) Arctic Village is located in the Barrow Recording District. The area encompasses 61.7 sq. miles of land and 8.1 sq. miles of water. The current population is 146 (State of Alaska, 2005).

Until the 1950s, the Neets'aii Gwichin ("residents of the north side") lived a highly nomadic life, and currently lead a subsistence-based lifestyle. They traditionally used seasonal camps and semi-permanent settlements, such as Arctic Village, Christian, Venetie and Sheenjek, in pursuit of fish and game. They traded with Inupiat Eskimos on the Arctic coast. There is archaeological evidence that the Arctic Village area was population as early as 4,500 BC. In 1863, Archdeacon McDonald of Fort Yukon observed that the Chandalar Kutchin were important providers of caribou meat for the residents of Ft. Yukon. Reverend Albert Tritt, a Neets'aii Gwich'in born in 1880, wrote that his people led a nomadic life, traveling to the Arctic coast, Rampart, Old Crow, the Coleen River and Fort Yukon in the 1880s and 1890s. With the advent of firearms in the early 1900s, family groups began to gather more permanently at several locations; there was no longer a need to disperse into small groups to hunt caribou. The first permanent resident at the present village site was Chief Christian in 1909. In 1943, the Venetie Indian Reservation was established, due to the efforts of several area villagers to protect their land for subsistence use. The first school was built in 1959. When the Alaska Native Claims Settlement Act (ANCSA) was passed in 1971, Venetie and Arctic Village opted

for title to the 1.8 million acres of land in the former Reservation. Residents continue to use the community as a base of operations from which they pursue seasonal subsistence activities.

The economy of Arctic Village is subsistence-based. Caribou, moose, sheep, porcupine, rabbit and ptarmigan are hunted. Freshwater fish, waterfowl and berries are also harvested. The school, clinic, village council and stores are the primary employers. Seasonal employment includes construction, fire fighting, guiding and conducting wildlife surveys for the USFWS. Some residents trap or sell firewood for income. The Tribe operates the washeteria and clinic. Table 2-1 presents the income and poverty levels for Arctic Village based on the 2000 U.S. Census.

Table 2-1
Arctic Village Income and Poverty Levels

Per Capita Income:	$10,761
Median Household Income:	$20,250
Median Family Income:	$19,000
Persons in Poverty:	56
Percent Below Poverty:	46.3%

Water is drawn from the Chandalar River, is treated and hauled from the washeteria. None of the homes are plumbed. The village provides water to two school tanks; one 17,000 gallons and the other 7,000 gallons. The clinic hauls their own water. Honey buckets are disposed of by residents or outhouses are used. Feasibility studies are underway to examine alternatives for a safer water source, washeteria upgrades and landfill relocation. The washeteria is the only facility with running water, and uses a small solar power system to provide some electricity. The landfill is not permitted and needs to be relocated away from the airport.

Air transportation provides the only year-round access to Arctic Village. Ice fog frequently interferes with air service in winter months. The 4,500' long by 75' wide gravel

airstrip is owned and managed by the Tribal Government. Local transportation is by 4 wheeler and snow machine. Five residents maintain dog teams.

Arctic Village has a continental sub arctic climate. Winters are long and harsh, and summers are short but warm. The average high temperature range during July is 65 to 72 degrees Fahrenheit. The average low temperature during January is well below zero. Extended periods of -50 to -60 degrees Fahrenheit are common. Extreme temperatures have been measured, ranging from a low of -70 to a high of 90 degrees Fahrenheit. Precipitation averages 9 inches and snowfall averages 52.8 inches.

2.2.2 Beaver

Beaver is located on the north bank of the Yukon River, approximately 60 air miles southwest of Fort Yukon and 110 miles north of Fairbanks. It lies in the Yukon Flats NWR. It lies at approximately 66.359440° North Latitude and -147.39639° West Longitude. (Sec. 30, T018N, R002E, Fairbanks Meridian.) Beaver is located in the Fairbanks Recording District. The area encompasses 20.5 sq. miles of land and 1.1 sq. miles of water. The current population is 67 (State of Alaska, 2005).

Gold discoveries in the Chandalar region in 1907 led to the founding of Beaver. It was established as the Yukon River terminus for miners heading north to the gold fields. The Alaska Road Commission built a trail from Beaver north to Caro on the Chandalar River around 1907. In 1910, Thomas Carter and H.E. Ashelby established a store at Beaver, and three freight companies operated on the trail, commonly known as Government Road. In 1911, about the time the gold rush was over, Frank Yasuda, a Japanese man who had traded at Point Barrow and prospected in the Brooks Range, arrived with a group of Eskimos and became a partner in the trading post. They served the remaining mines in the region, supplied riverboats with firewood, and traded with Eskimo and Indian fur trappers. A post office was established in 1913, and a second trading post opened in the early 1920s. The first Beaver school opened in 1928, and an airstrip was built in the 1930s. Beaver's population remained stable from 1950 through the 1970s. In 1974, the village council purchased the local store and set it up as a cooperative, with villagers holding shares of stock. The population of Beaver is predominantly mixed

Gwitchin/Koyukon Athabascan and Inupiat Eskimo. Subsistence is an important source of food items.

Almost all Beaver residents are involved in subsistence activities. Moose, salmon, freshwater fish, bear and waterfowl supply meat. Poor fish returns since 1998 have significantly affected the community. Gardening and berry-picking are popular activities. Most wage employment is at the school, post office, clinic and village council. Seasonal wages are earned through BLM fire fighting, construction jobs, trapping, producing handicrafts or selling cut firewood. Table 2-2 presents the income and poverty levels for Beaver based on the 2000 U.S. Census.

A new well and pump house were constructed in 1997; residents haul treated water from this point. Honey buckets are used for sewage disposal in all homes; a village-operated vehicle is used to haul wastes. Villagers rely on the washeteria for bathing and laundry. The washeteria and school use individual septic systems. The water tank, water treatment system and washeteria were renovated and a water & sewer master plan was developed in May 2003 to develop a piped water and sewer system. A new landfill was recently completed.

Table 2-2
Beaver Income and Poverty Levels

Per Capita Income:	$8,441
Median Household Income:	$28,750
Median Family Income:	$29,792
Persons in Poverty:	15
Percent Below Poverty:	11.1%

The State-owned 3,954-feet long by 75-feet wide lighted gravel airstrip provides daily air service. Fuel, store goods and supplies are shipped to Beaver via air cargo or barge during the summers. Trucks and ATVs are used by many residents. Snow machines and dog teams are used during winter.

Beaver has a continental sub arctic climate characterized by seasonal extreme temperatures. The average high temperature during July ranges from 65 to 72 degrees Fahrenheit. The average low temperature during January is well below zero. Extended periods of -50 to -60 degrees Fahrenheit are common. Extreme temperatures ranging from a low of -70 to a high of 90 degrees Fahrenheit have been measured. Precipitation averages 6.5 inches. The average annual snowfall is 43.4 inches. The Yukon River is ice-free from mid-June to mid-October.

2.2.3 Birch Creek

The village of Birch Creek is located along Birch Creek, approximately 26 miles southwest of Fort Yukon. It lies at approximately 66.256190° North Latitude and -145.84967° West Longitude. (Sec. 28, T017N, R009E, Fairbanks Meridian.) Birch Creek is located in the Fairbanks Recording District. The area encompasses 6.1 sq. miles of land and 0.3 sq. miles of water. The current population is 43 (State of Alaska, 2005).

The Dendu Gwich'in traditionally occupied much of the Yukon Flats south of the Yukon River, including portions of the Crazy and White Mountains. Semi-permanent camps existed near the present village. The first written reference to a settlement in the Birch Creek area was in 1862 by a Fort Yukon clergyman who visited a camp established to provide fish for the Hudson's Bay Company in Ft. Yukon. Some anthropologists believe that this band was annihilated by scarlet fever in the 1880s, but there are ethnographic accounts of the use of this area from 1867 onwards. Birch Creek Jimmy was the founder of Birch Creek, and was Great Chief among the Chiefs in his days. He built a cabin in 1898 at the site of the Hudson's Bay fish camp. Several years later, he was joined by other extended family members. In about 1916, the group moved three miles upstream to the site of the present village. It was used as a seasonal base for harvest activities until the early 1950s, when the establishment of a school encouraged village residents to adopt a less nomadic way of life. The first school was constructed in 1973, but was closed in the 1999-2000 school year due to an insufficient number of students. Local residents are Dendu Gwich'in Athabascans, and are active in subsistence practices. Possession of alcohol is banned in the village.

Birch Creek's economy is heavily dependent upon subsistence. Salmon, whitefish, moose, black bear, waterfowl and berries provide most food sources. Wage income opportunities are extremely limited. BLM fire fighting, construction, the school, and the village council provide employment. The community is conducting planning activities to expand the economy to include tourism and merchandising. The Tribe operates the washeteria and electrical service. Table 2-3 presents the income and poverty levels for Birch Creek based on the 2000 U.S. Census.

Water is derived from Birch Creek and a slant well, is treated and stored in an 80,000-gal. tank. Residents haul water from the water plant. Honey buckets are disposed of in the sewage lagoon or outhouses are used. No homes are plumbed. A new water intake, water treatment improvements, washeteria renovation, and sewage lagoon were recently completed. Funds are needed to repair the water tank and foundation, built in 1979. The landfill is nearing capacity, and a site has been selected to develop a new one.

Table 2-3
Birch Creek Income and Poverty Levels

Per Capita Income:	$5,952
Median Household Income:	$11,250
Median Family Income:	$13,750
Persons in Poverty:	10
Percent Below Poverty:	37.0%

Access to Birch Creek is primarily by the 4,000' long by 75' wide gravel, lighted State-owned airstrip. The village was once served by barge during high water, but no longer. There is a 26-mile winter trail connecting Birch Creek with Ft. Yukon.

2.2.4 Chalkyitsik

Chalkyitsik is located on the Black River about 50 miles east of Fort Yukon. It lies at approximately 66.654440° North Latitude and -143.72222° West Longitude. (Sec. 12, T021N, R018E, Fairbanks Meridian). Chalkyitsik is located in the Fairbanks Recording District. The area encompasses 8.7 sq. miles of land and 0.3 sq. miles of water. The current population of Chalkyitsik is 84 (State of Alaska, 2005).

Chalkyitsik means "fish hooking place," and has traditionally been an important seasonal fishing site for the Gwich'in. Archaeological excavations in the area reveal use and occupancy of the region as early as 10,000 B.C. Village elders remember a highly nomadic way of life, living at the headwaters of the Black River from autumn to spring, and then floating downriver to fish in summer. Early explorers of the region refer briefly to the Black River Gwich'in Natives. Archdeacon MacDonald encountered them on the Black and Porcupine Rivers, as well as trading and socializing in Fort Yukon and Rampart, on a number of occasions from 1863 to 1868. Around the turn of the century, the Black River band began to settle in Salmon Village, about 70 miles upriver from the present site. The first permanent structure was built there by William Salmon, a Canadian Indian who married a Black River woman. In the late 1930s, a boat bound for Salmon Village with construction materials for a school had to unload at Chalkyitsik because of low water. The site was used as a seasonal fishing camp, and four cabins existed at that time. The decision was made to build the school there, and the Black River people began to settle around the school. By 1969, there were 26 houses, a store, two churches and a community hall in Chalkyitsik. Chalkyitsik is a traditional Gwich'in Athabascan village, with a subsistence lifestyle. The sale or importation of alcohol is banned in the village.

Wage opportunities are limited and primarily part-time with the school district, village council, clinic, or state and federal agencies. Seasonal work is found fire firefighting for the BLM, making sleds and snowshoes, trapping and handicrafts. Subsistence plays an important role in the village economy. Moose, caribou, sheep, salmon and whitefish provide a relatively stable source of food. Table 2-4 presents the income and poverty levels for Chalkyitsik based on the 2000 U.S. Census.

Table 2-4
Chalkyitsik Income and Poverty Levels

Per Capita Income:	$11,509
Median Household Income:	$16,250
Median Family Income:	$16,875
Persons in Poverty:	30
Percent Below Poverty:	52.6%

Water is derived from a well under the Black River, treated and stored in a 100,000-gal. tank. Residents haul water from the new water treatment plant/washeteria/clinic building, and use honey buckets or outhouses for sewage disposal. No homes are plumbed. The village provides water to the school. Water is often inadequate; a second well has been funded. A feasibility study was completed to serve piped water and sewer system to the school and 10 homes on the west side. A landfill relocation study is also being conducted.

Access is primarily by air; there is a State-owned 4,000' long by 90' wide gravel runway. Residents own ATVs, snow machines and skiffs for fishing, hunting and recreation. No roads connect Chalkyitsik with other villages, although there is a winter trail to Fort Yukon. It is accessible by small riverboat. Chalkyitsik received cargo by barge at one time, but the service is no longer provided.

2.2.5 Circle

Circle is located on the south bank of the Yukon River at the edge of the Yukon Flats, 160 miles northeast of Fairbanks. It is at the eastern end of the Steese Highway. It lies at approximately 65.825560° North Latitude and -144.06056° West Longitude. (Sec. 31, T012N, R018E, Fairbanks Meridian.) Circle is located in the Fairbanks Recording District. The area encompasses 107.7 sq. miles of land and 0.5 sq. miles of water. The current population is 99 (State of Alaska, 2005).

Circle (also known as Circle City) was established in 1893 as a supply point for goods shipped up the Yukon River and then overland to the gold mining camps. Early miners believed the town was located on the Arctic Circle, and named it Circle. By 1896, before the Klondike gold rush, Circle was the largest mining town on the Yukon, with a population of 700. It boasted an Alaska Commercial Company store, eight or ten dance halls, an opera house, a library, a school, a hospital, and an Episcopal Church. It had its own newspaper, the Yukon Press, and a number of residential U.S. government officials, including a commissioner, marshal, customs inspector, tax collector and postmaster. The town was virtually emptied after gold discoveries in the Klondike (1897) and Nome (1899). A few hearty miners stayed on in the Birch Creek area, and Circle became a small, stable community that supplied miners in the nearby Mastodon, Mammoth, Deadwood and Circle Creeks. Mining activity continues to this day.

The population of Circle is predominantly Athabascan, but there are several non-Native families in the community. The Circle Civic Community Association was formed in 1967. It cooperates with the traditional council in maintaining the sign area and public boat launch, and in preserving historic sites.

Recreation attracts visitors to Circle seasonally. Circle Hot Springs was closed in October 2002 and has since operated intermittently. Some persons live in the community only during summer months. Major employers include the school, clinic, village corporation, trading post, and post office. A 25-room hotel is under construction. Two residents hold commercial fishing permits. Almost all residents are involved in subsistence. Salmon, freshwater fish, moose and bear are the major sources of meat. Trapping and making of handicrafts contribute to family incomes. Table 2-5 presents the income and poverty levels for Circle based on the 2000 U.S. Census.

Table 2-5
Circle Income and Poverty Levels

Per Capita Income:	$6,426
Median Household Income:	$11,667
Median Family Income:	$11,250
Persons in Poverty:	29
Percent Below Poverty:	42.0%

Most homes haul treated well water from the washeteria/fire station or the school. Outhouses and honey buckets are used for sewage disposal. All homes lack plumbing facilities. A feasibility study and master plan is underway to examine infrastructure alternatives. The landfill is located at mi. 156.5 Steese Hwy.

Circle has direct road access to Fairbanks by way of the Steese Highway. Barges deliver goods by the Yukon River during summer. Residents use ATVs, snowmobiles and dog sleds for recreation and subsistence activities. A new State-owned 3,000' long by 60' wide, lighted gravel airstrip is available. Float planes land on the River.

2.2.6 Fort Yukon

Fort Yukon is located at the confluence of the Yukon River and the Porcupine River, about 145 air miles northeast of Fairbanks. It lies at approximately 66.564720° North Latitude and -145.27389° West Longitude. (Sec. 18, T020N, R012E, Fairbanks Meridian.) Fort Yukon is located in the Fairbanks Recording District, is the largest community in the Yukon Flats, and serves as the organization center for the CATG. The area encompasses 7.0 sq. miles of land and 0.4 sq. miles of water. The current population of Fort Yukon is 594 (State of Alaska, 2005).

Fort Yukon was founded in 1847 by Alexander Murray as a Canadian outpost in Russian Territory. It became an important trade center for the Gwich'in Indians, who inhabited the vast lowlands of the Yukon Flats and River valleys. The Hudson Bay Company, a British trading company, operated at Fort Yukon from 1846 until 1869. In 1862, a mission

school was established. In 1867, Alaska was purchased by the U.S., and two years later it was determined that Fort Yukon was on American soil. Moses Mercier, a trader with the Alaska Commercial Company, took over operation of the Fort Yukon Trading Post. A post office was established in 1898. The fur trade of the 1800s, the whaling boom on the Arctic coast (1889-1904), and the Klondike gold rush spurred economic activity and provided some economic opportunities for the Natives. However, major epidemics of introduced diseases struck the Fort Yukon population from the 1860s until the 1920s. In 1949, a flood damaged or destroyed many homes in Fort Yukon. During the 1950s, a White Alice radar site and an Air Force station were established. Fort Yukon incorporated as a city in 1959. Most Fort Yukon residents are descendants of the Yukon Flats, Chandalar River, Birch Creek, Black River and Porcupine River Gwich'in Athabascan tribes. Subsistence is an important component of the local culture. The sale of alcohol is restricted to the City-owned package store.

City, state, federal agencies and the Native corporation are the primary employers in Fort Yukon. The School District is the largest employer. The BLM operates an emergency fire fighting base at the airport. Trapping and Native handicrafts also provide income. Residents rely on subsistence foods – salmon, whitefish, moose, bear, caribou, and waterfowl provide most meat sources. One resident holds a commercial fishing permit. Table 2-6 presents the income and poverty levels for Fort Yukon based on the 2000 U.S. Census.

Table 2-6
Fort Yukon Income and Poverty Levels

Per Capita Income:	$13,360
Median Household Income:	$29,375
Median Family Income:	$32,083
Persons in Poverty:	120
Percent Below Poverty:	18.6%

Water is derived from two wells and is treated and stored in a 110,000-gallon tank. A combination of piped water, water delivery and individual wells serve households. A flush/haul system, septic tanks, honey buckets and outhouses are used for sewage disposal. Approximately half of all homes are plumbed. The piped water system and household septic tanks were installed in 1984. The City has received funds to begin repairs to the piped water system and to construct a piped gravity sewer system to serve 250 residents and businesses.

Fort Yukon is accessible by air and barge access is available only during the summer months. Heavy cargo is brought in by barge from the end of May through mid-September; there is a barge off-loading area, but no dock. Riverboats and skiffs are used for recreation, hunting, fishing and other subsistence activities. A State-owned 5,810' long by 150' wide lighted gravel airstrip is available; Hospital Lake, adjacent to the airport, is used by float planes. There are 17 miles of local roads, and over 100 automobiles and trucks. The City Transit Bus system provides transport throughout the town. Snow machines and dog sleds are used on area trails or the frozen river, which becomes an ice road to area villages during winter.

2.2.7 Rampart

Rampart is located on the south bank of the Yukon River, approximately 75 miles upstream from its junction with the Tanana River, 100 miles northwest of Fairbanks. It lies at approximately 65.5050° North Latitude and -150.17° West Longitude. (Sec. 23, T008N, R013W, Fairbanks Meridian.) Rampart is located in the Rampart Recording District. The area encompasses 168.8 sq. miles of land and 0.0 sq. miles of water. The current population is 21 (State of Alaska, 2005).

The name Rampart refers to the range of low mountains through which the Yukon passes in this region and which forms the "ramparts" of the Upper Yukon. Rampart City was established in 1897 as a river supply point for gold placer mines in the hills and creek valleys south of the Yukon. News of strikes in Minook Creek, Idaho Bar, Quail Creek, and Eureka Creek, all within 30 miles of Rampart, triggered a rush to the community in 1898 and swelled the population to as high as 10,000 by some estimates. During its

heyday, Rampart had a newspaper, hotels, saloons, library, fire department, hospital, and a host of stores and businesses that were typical of the mining towns of that time. The boom was short-lived. New strikes in the Upper Koyukuk River, Anvil Creek, Nome and Fairbanks rapidly depleted the population. By 1903, only a Native community remained among the abandoned homes and businesses. Over time, the population gradually increased as people migrated from Minook Creek. By 1917, about 30 Natives and 30 Whites were living in Rampart. An agricultural experiment station was established by the University of Alaska across the river from Rampart in 1900 to cross-breed grains and legumes. By 1920, more than 90 acres were under cultivation. The station also tested vegetables, strawberries, flowers and field crops. The farm was closed in 1925. An airstrip was constructed by the Alaska Road Commission in 1939. A salmon cannery was established in the 1940s, and sawmill and logging operations were built in the 1950s. Residents continued to work in nearby gold mines and the local store served as supply point for area operations. The school was closed for the 1999-2000 year due to an insufficient number of students. Consequently, a number of families have moved from the village. The population of Rampart is predominantly Koyukon Athabascan and is active in subsistence.

Rampart is heavily dependent upon subsistence activities. Salmon, whitefish, moose, caribou, waterfowl and small game provide meat sources. Gardening and berry-picking are also popular. Employment opportunities are part-time or seasonal through the clinic, village council, commercial fishing, or firefighting. Six residents hold commercial fishing permits. Table 2-7 presents the income and poverty levels for Rampart based on the 2000 U.S. Census.

Table 2-7
Rampart Income and Poverty Levels

Per Capita Income:	$12,439
Median Household Income:	$22,813
Median Family Income:	$23,438
Persons in Poverty:	7
Percent Below Poverty:	18.0%

Most residents haul their own treated water. A new washeteria, well, watering point, water treatment plant, and 35,000-gallon storage tank were recently completed. Honey buckets or outhouses are used for sewage disposal, and no homes are plumbed. The landfill is not permitted and needs to be relocated away from the airport. Master plans for water, sewer and landfill improvements are underway.

Air transportation provides the only year-round access. A State-owned 3,500' long by 75' wide lighted gravel airstrip is available. A 30-mile winter trail exists from the Elliott Highway north to Rampart; it is used only during winter months. Approximately half of this road already exists, and the community wants the State to complete a road connection. Fuel and other goods are delivered by barge two or three times each summer. Skiffs and snow machines are used for subsistence hunting and fishing.

2.2.8 Stevens Village

Stevens Village is located on the north bank of the Yukon River, 17 miles upstream of the Dalton Highway bridge crossing, and 90 air miles northwest of Fairbanks. It lies at approximately 66.006390° North Latitude and -149.09083° West Longitude. (Sec. 30, T014N, R007W, Fairbanks Meridian.) Stevens Village is located in the Rampart Recording District. The area encompasses 10.4 sq. miles of land and 0.6 sq. miles of water. The current population is 76 (State of Alaska, 2005).

The original settlement, called Dinyea (meaning "mouth of the canyon"), was founded by three Athabascan Indian brothers from the Koyukon region: Old Jacob, Gochonayeeya,

and Old Steven. The village was named for Old Steven when he was elected Chief in 1902. During the gold rush, residents cut wood for mining operations and to fuel steamboats plying the Yukon River. A trading post was established in the early 1900s. The first school opened in 1907. A post office began operations in 1936, and scheduled air service was initiated in 1939. The Native population is predominantly Kutchin Indians, who depend upon subsistence. The sale or importation of alcohol is banned in the village.

Stevens Village is heavily dependent upon subsistence activities. Salmon, whitefish, moose, bear, waterfowl and small game are the primary sources of meat. Gardening and berry-picking are also popular. There is some seasonal and part-time employment at the school, clinic, village council, stores, BLM fire-fighting or construction work. Three residents hold commercial fishing permits. Table 2-8 presents the income and poverty levels for Stevens Village based on the 2000 U.S. Census.

Treated river water is hauled from a central tap; some households use surface sources. Honey buckets and outhouses are used by residents for sewage disposal, and no homes are plumbed. A sanitation Master Plan is underway, and washeteria improvements are under construction. A new landfill site and access road are in development.

Table 2-8
Stevens Village Income and Poverty Levels

Per Capita Income:	$7,113
Median Household Income:	$12,500
Median Family Income:	$11,563
Persons in Poverty:	52
Percent Below Poverty:	61.2%

Access to Stevens Village is primarily via the State-owned airstrip. A new airport was recently completed with a 2,120' long by 60' wide lighted gravel runway. Fuel is shipped by barge at least three times each summer; goods are offloaded at the barge landing.

Residents use skiffs, ATVs, snow machines and dog teams for recreation and subsistence fishing and hunting.

2.2.9 Venetie

Venetie, the second largest community in the Yukon Flats, is located on the north side of the Chandalar River, 45 miles northwest of Fort Yukon. It lies at approximately 67.013890° North Latitude and -146.41861° West Longitude. (Sec. 10, T025N, R006E, Fairbanks Meridian.) Venetie is located in the Fairbanks Recording District. The area encompasses 20.8 sq. miles of land and 0.0 sq. miles of water. The current population is 188 (State of Alaska, 2005).

Known to early explorers as Old Robert's Village or Chandalar Village, Venetie was founded in 1895 by a man named Old Robert who chose Venetie because of its plentiful fish and game. In 1899, the U.S. Geological Survey noted about 50 Natives living on the Chandalar, some in small settlements of cabins about 7 miles above the mouth of the River, but most in the mountainous part of the country beyond the Yukon Flats. He noted that the Natives spent only the coldest winter months in cabins and the remainder of the year traveling for various food sources. In 1905, Venetie was a settlement of a half a dozen cabins and 25 or 30 residents. The gold rush to the Chandalar region in 1906-07 brought a large number of miners. A mining camp of nearly 40 cabins and attendant services was established at Caro upriver from Venetie, and another store was located near the mouth of the East Fork. By 1910, the Chandalar was largely played out and Caro almost completely abandoned. In 1943, the Venetie Indian Reservation was established, due to the combined efforts of the residents of Venetie, Arctic Village, Christian Village and Robert's Fish Camp, who worked together to protect their land for subsistence use. At about this same time, a school was established at Venetie, encouraging additional families to settle in the village. Eventually an airstrip, post office and store were built. During the 1950s and 60s, the use of seasonal camps declined, but the advent of the snow machine enabled Venetie residents to renew use of areas which had traditionally been occupied seasonally. When the Alaska Native Claims Settlement Act (ANCSA) was passed in 1971, Venetie and Arctic Village opted for title to the 1.8 million acres of land

in the former Reservation, which they own as tenants in common through the Native Village of Venetie Tribal Government. Venetie is comprised largely of descendants of the Neets'ai Gwich'in, and to a lesser extent the Gwichyaa and Dihaii Gwich'in. The village council is combined with Arctic Village. Subsistence activities are an important part of the local culture.

Venetie is heavily dependent on subsistence. Salmon, whitefish, moose, caribou, bear, waterfowl and small game provide meat sources. Most employment is through the school, clinic, post office, store and village council. The National Guard has used Venetie as a cold weather survival training school. BLM employs residents as fire fighters seasonally. The village is interested in developing a small mill to process local lumber for housing and other projects, and in tourism promotion. Cabins manufactured from local logs could house visitors, developing arts and crafts activities, cultural activities and a museum. Table 2-9 presents the income and poverty levels for the community of Venetie based on the 2000 U.S. Census

Water is derived from a well near the Chandalar River, then is treated and stored in a tank. Residents haul water and honey buckets. A circulating water utilidor system and 49 households service connections were constructed in 1980, however, the east loop froze in 1981 and the west loop in 1982. 29 individual household septic tanks were installed in 1980, and also froze during their first winter of operation. Currently, only 8 homes have functioning plumbing. A flush/haul system is under construction in Venetie; 4 homes are currently served. The Stanley Frank Washeteria and Water Treatment Plant were recently completed. It uses a small solar power system to provide some electricity.

Table 2-9
Venetie Income and Poverty Levels

Per Capita Income:	$7,314
Median Household Income:	$21,000
Median Family Income:	$21,429
Persons in Poverty:	89
Percent Below Poverty:	42.8%

Access to Venetie is almost exclusively by air. The Venetie Tribal Council owns and operates the 4,100' long by 65' wide dirt/gravel airstrip. The Chandalar River provides access by boat from May to October, but there is no barge service, due to shallow water. Motor bikes, 4-wheelers, snowmobiles and dog teams are used for local travel.

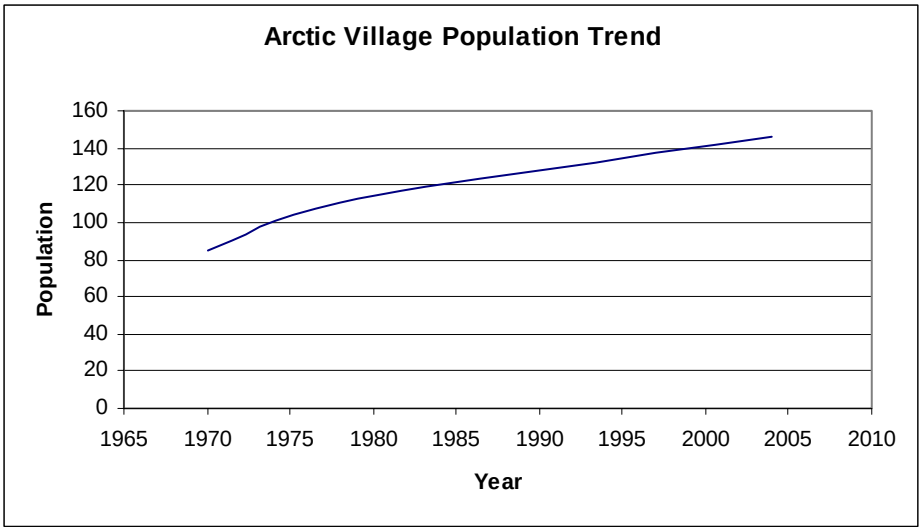
2.3 Demographic Summary

The following sections describe resident population trends for each of the communities in the Yukon Flat, and address regional trends, for the period from 1970 through 2004.

2.3.1 Arctic Village

From 1970 to 2004 the community of Arctic Village has experienced a 72-percent increase in population.

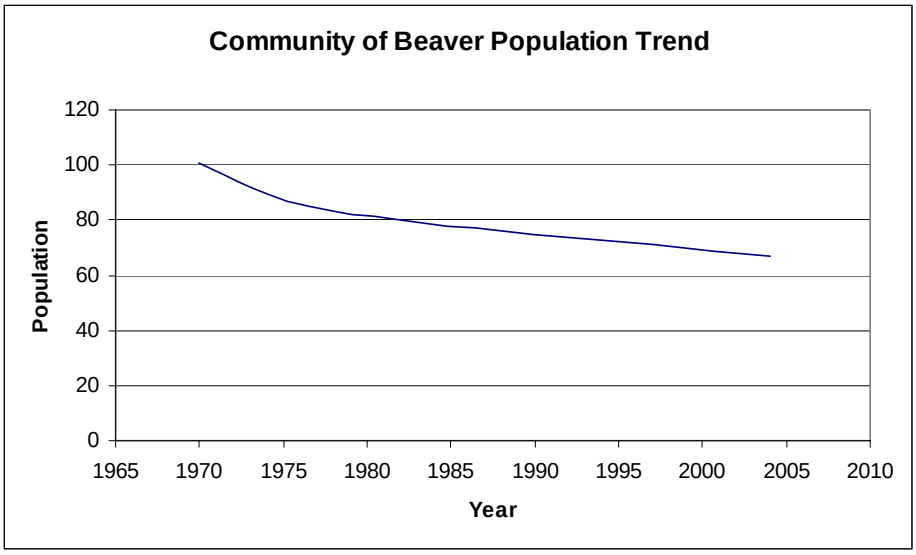
Figure 2-2



2.3.2 Beaver

From 1970 to 2004 the community of Beaver has experienced a 34-percent decline in population.

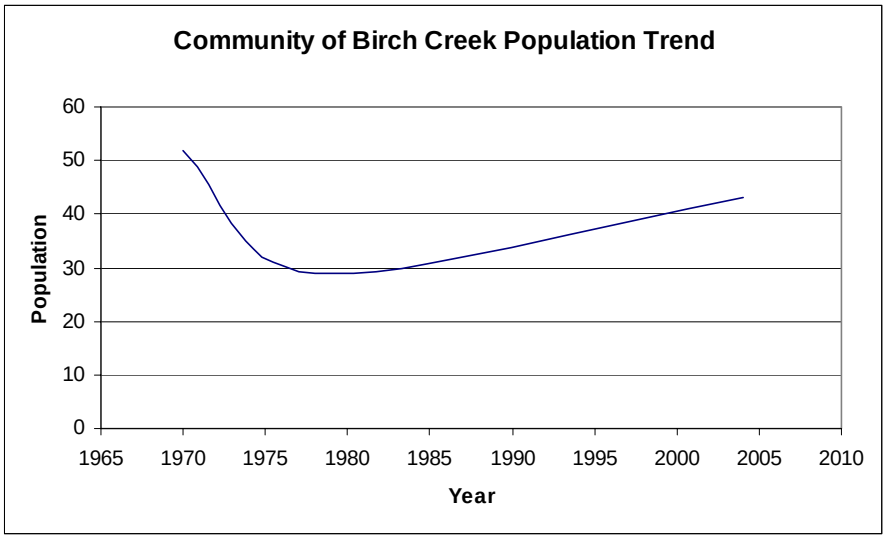
Figure 2-3



2.3.3 Birch Creek

The current population of Birch Creek is less than the 1970 population. The community experienced a precipitous decline in population through the 1970s. However, from 1978 the community population has experienced a 48-percent increase in population.

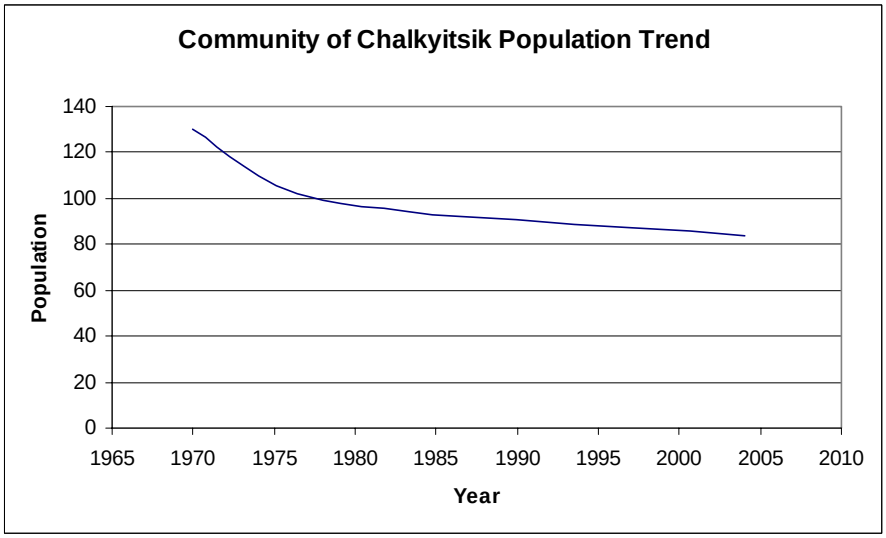
Figure 2-4



2.3.4 Chalkyitsik

Since 1970 the community of Chalkyitsik has experienced a 35-percent decline in population.

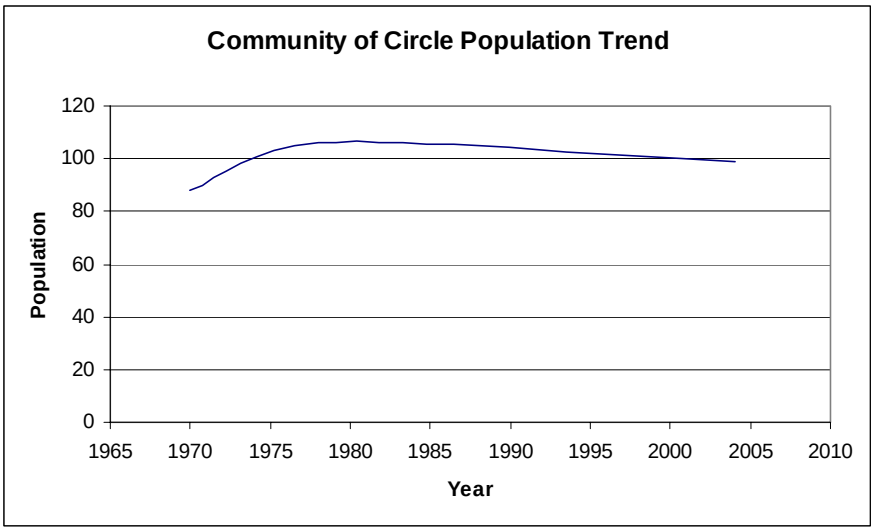
Figure 2-5



2.3.5 Circle

In the 1970s the community of Circle experienced an increase in population. However, since 1978 the community has experienced a 7% decline in population.

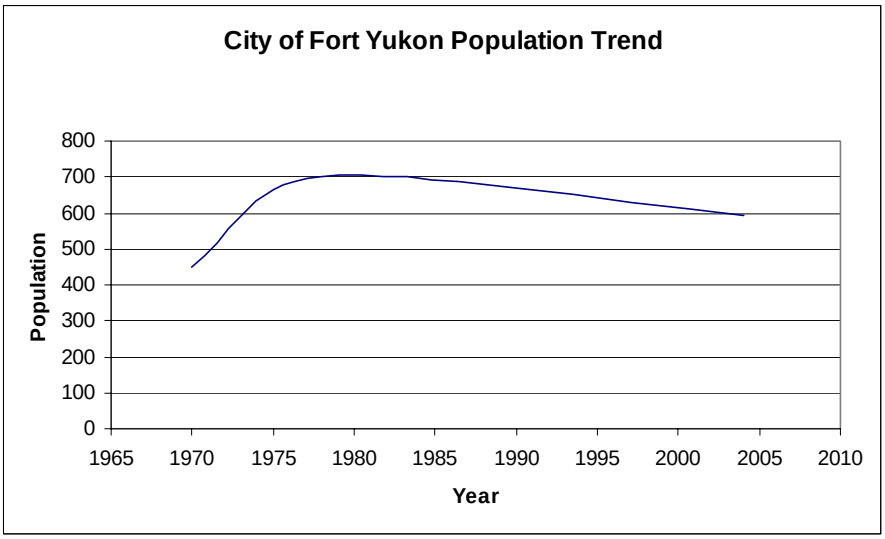
Figure 2-6



2.3.6 Fort Yukon

The City of Fort Yukon population increased significantly through the 1970s. However, from 1978 to the present the community has experienced a 15% decline in population.

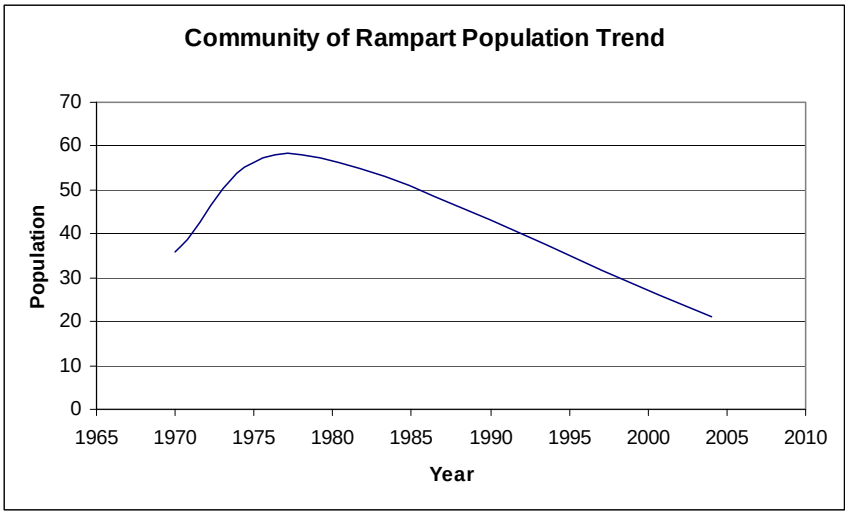
Figure 2-7



2.3.7 Rampart

The community of Rampart experienced a significant increase in population during the 1970s. However, since 1978 the community has experienced a 64% decline in population.

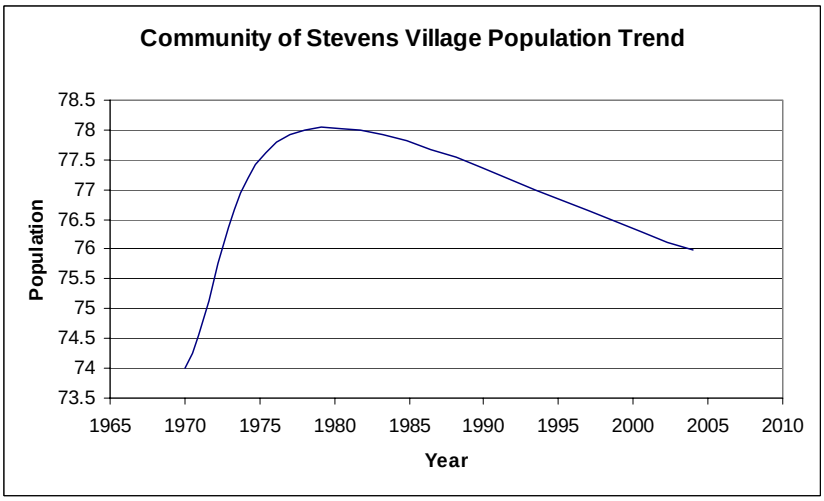
Figure 2-8



2.3.8 Stevens Village

The Community of Stevens Village experienced a significant increase in population through the 1970s. Since 1978 the community population has remained relatively constant with an overall 3% decline.

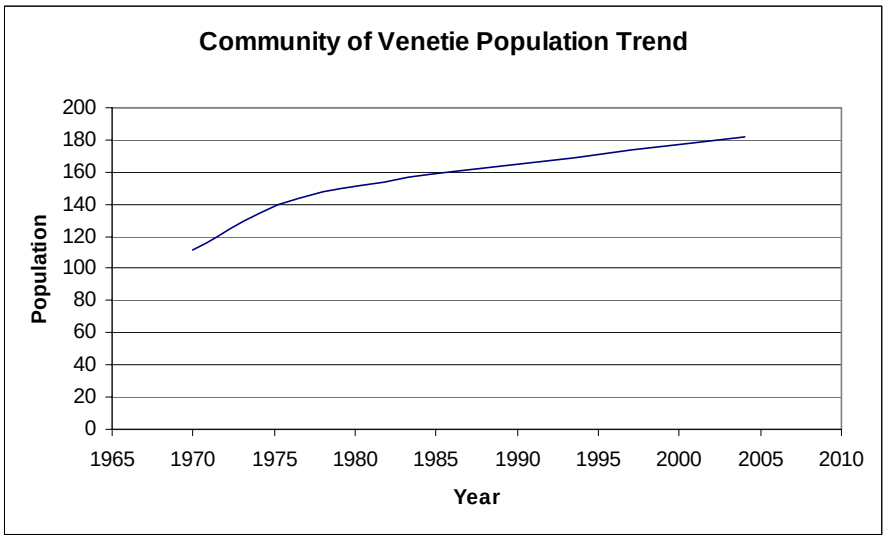
Figure 2-9



2.3.9 Venetie

The Community of Venetie has experienced a population increase of nearly 63% since 1970.

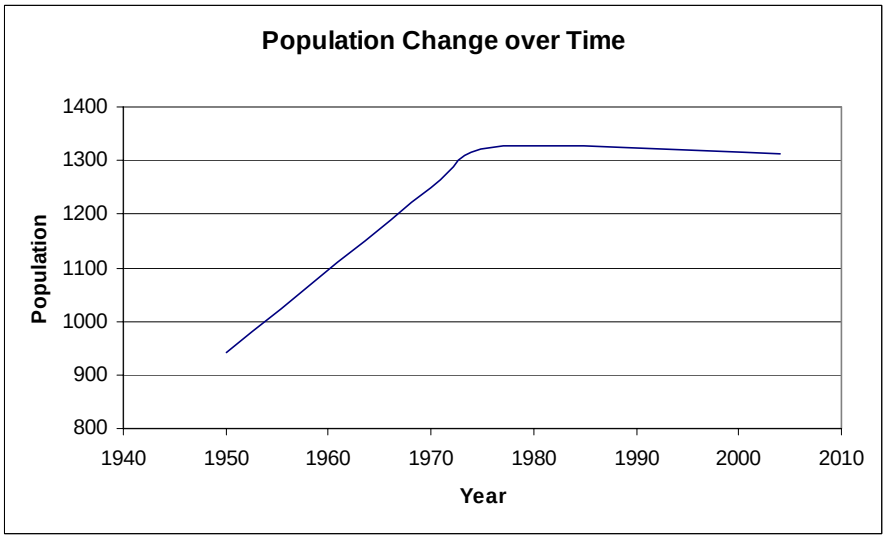
Figure 2-10



2.4 Regional Population Trend

The Yukon Flats regional population has remained relatively constant and as of 2004 is estimated at 1,312 people.

Figure 2-11



3.0 REVIEW OF THE STANDARDS FOR INCORPORATION

The State of Alaska Constitution and the Alaska Administrative Code (AAC) present laws and regulations for the formation of local governments. Alaska law requires that citizens desiring to form a local government must incorporate as a city and/or borough government. In addition, the LBC and the Alaska Department of Community and Economic Development (ADCED) are required to evaluate any petitions related to the formation of local governments and determine if the standards for incorporation (which are generally broad social, economic, and geographic requirements as defined in state law and the AAC) are satisfied.

3.1 Alaska Constitution, Article X

The Alaska Constitution, Article X, Sections 1 through 15, govern the formation of local government and are presented below.

- ***Section 1 – Purpose and Construction.*** The purpose of this article is to provide for maximum local self-government with a minimum of local government units, and to prevent duplication of tax levying jurisdictions. A liberal construction shall be given to the powers of local government units.

- ***Section 2 – Local Government Powers.*** All local government powers shall be vested in boroughs and cities. The State may delegate taxing powers to organized boroughs and cities only.

- ***Section 3 – Boroughs.*** The entire State shall be divided into boroughs, organized or unorganized. They shall be established in a manner and according to standards provided by law. The standards shall include population, geography, economy, transportation, and other factors. Each borough shall embrace an area and population with common interests to the maximum degree possible. The legislature shall classify boroughs and prescribe their powers and functions.

Methods by which boroughs may be organized, incorporated, merged, consolidated, reclassified, or dissolved shall be prescribed by law.

- ***Section 4 – Assembly.*** The governing body of the organized borough shall be the assembly, and its composition shall be established by law or charter.

- ***Section 5 – Service Areas.*** Service areas to provide special services within an organized borough may be established, altered, or abolished by the assembly, subject to the provisions of law or charter. A new service area shall not be established if, consistent with the purposes of this article, the new service can be provided by an existing service area, by incorporation as a city, or by annexation to a city. The assembly may authorize the levying of taxes, charges, or assessments within a service area to finance the special services.

- ***Section 6 – Unorganized Boroughs.*** The legislature shall provide for the performance of services it deems necessary or advisable in unorganized boroughs, allowing for maximum local participation and responsibility. It may exercise any power or function in an unorganized borough which the assembly may exercise in an organized borough.

- ***Section 7 – Cities.*** Cities shall be incorporated in a manner prescribed by law, and shall be a part of the borough in which they are located. Cities shall have the powers and functions conferred by law or charter. They may be merged, consolidated, classified, reclassified, or dissolved in the manner provided by law.

- ***Section 8 – Council.*** The governing body of a city shall be the council.

- ***Section 9 – Charters.*** The qualified voters of any borough of the first class or city of the first class may adopt, amend, or repeal a home rule charter in a manner provided by law. In the absence of such legislation, the governing body of a borough or city of the first class shall provide the procedure for the preparation and adoption or rejection of the charter. All charters, or parts or amendments of charters, shall be submitted to the qualified voters of the borough or city, and shall

become effective if approved by a majority of those who vote on the specific question.

- ***Section 10 – Extended Home Rule.*** The legislature may extend home rule to other boroughs and cities.

- ***Section 11 – Home Rule Powers.*** A home rule borough or city may exercise all legislative powers not prohibited by law or by charter.

- ***Section 12 – Boundaries.*** A local boundary commission or board shall be established by law in the executive branch of the state government. The commission or board may consider any proposed local government boundary change. It may present proposed changes to the legislature during the first ten days of any regular session. The change shall become effective forty-five days after presentation or at the end of the session, whichever is earlier, unless disapproved by a resolution concurred in by a majority of the members of each house. The commission or board, subject to law, may establish procedures whereby boundaries may be adjusted by local action.

- ***Section 13 – Agreements.*** Transfer of Powers: Agreements, including those for cooperative or joint administration of any functions or powers, may be made by any local government with any other local government, with the State, or with the United States, unless otherwise provided by law or charter. A city may transfer to the borough in which it is located any of its powers or functions unless prohibited by law or charter, and may in like manner revoke the transfer.

- ***Section 14 – Local Government Agency.*** An agency shall be established by law in the executive branch of the state government to advise and assist local governments. It shall review their activities, collect and publish local government information, and perform other duties prescribed by law.

- ***Section 15 – Special Service Districts.*** Special service districts existing at the time a borough is organized shall be integrated with the government of the borough as provided by law.

3.2 Alaska Statutes

As mandated by the Alaska Constitution, the Legislature adopted laws regulating the formation of municipal governments under AS 29, with incorporation standards provided under AS 29.05.030. An area that meets the following four standards may incorporate as a home rule, first class, or second class borough, or as a unified municipality. Note that an area may not incorporate as a third class borough. **(*Responses/Justifications to incorporation requirements are presented in bold italic font.)***

1) The population of the area is interrelated and integrated as to its social, cultural, and economic activities, and is large and stable enough to support borough government;

   The Yukon Flats population meets these criteria. Population is estimated at 1,370 people with an essentially flat growth rate for the previous 10 years.

2) The boundaries of the proposed borough or unified municipality conform generally to natural geography and include all areas necessary for full development of municipal services;

   The boundary of the proposed borough is identical to the LBC model borough boundary for the region.

3) The economy of the area includes the human and financial resources capable of providing municipal services; evaluation of an area's economy includes land use, property values, total economic base, total personal income, resource and commercial development, anticipated functions, expenses, and income of the proposed borough or unified municipality;

The residents of the Yukon Flats are currently and successfully administering their educational system, the CATG, and local village councils.

4) Land, water, and air transportation facilities allow the communication and exchange necessary for the development of integrated borough government.

These requirements are satisfied for the region.

3.3 Alaska Administrative Code

The LBC has adopted regulations as per the Alaska Administrative Code (AAC) based on the relevant sections of Article X of the State Constitution and Statutes as follows (***responses/justifications in bold italic font follow each applicable code***):

3.3.1 3 AAC 110.045, Community of Interests

The social, cultural and economic characteristics and activities of the people in the proposed borough must be interrelated and integrated. The commission may consider each of the following relevant factors:

1) Compatibility of urban and rural areas.

The Yukon Flats is extremely rural and comprises 9 communities of primarily native Alaskans of Athabascan descent. There is no urban community associated with the new borough; however, Circle is accessible via the Steese Highway and is approximately 160 miles north east of Fairbanks, Alaska.

2) Compatibility of economic lifestyles and industrial and commercial activities.

The communities of the Yukon Flats share very similar lifestyles that are largely subsistence-based. Residents harvest a variety of wild game and berries, and some limited commercial fishing occurs. The schools, clinics, village councils, local stores, federal agencies and Native corporations are the primary employers. Seasonal employment includes construction, fire fighting, guiding

and conducting wildlife surveys. Some residents trap or sell firewood for income and Native handicrafts provide limited incomes for some individuals.

3) Existence throughout the proposed borough of customary and simple transportation and communication patterns.

Eight of the nine communities of the Yukon Flats share very similar transportation and communication patterns. With the exception of Circle, all communities are in road-less areas and are very dependent on air transportation. All communities in the Yukon Flats receive regularly scheduled air service from either Wright Air Service or Warbelow Air Ventures, which are both based in Fairbanks. Transportation of goods is provided by barge to the communities on the Yukon River. Circle and Fairbanks are connected via 160 miles of the Steese Highway.

4) Extent and accommodation of spoken language differences throughout the proposed borough.

The people of the communities comprising the Yukon Flats communities are primarily Gwich'in and Koyukon Athabascans. Traditional native dialects and English are spoken in the communities.

Absent specific and persuasive demonstration to the contrary, the commission will presume that a sufficient level of interrelationship cannot exist unless there are at least two communities in the proposed borough.

The borough is comprised of 9 communities of similar socio-economic background.

The communications media and the land, water, and air transportation facilities throughout the proposed borough must allow for the level of communications and exchange necessary to develop an integrated borough government. In this regard, the commission may consider relevant factors including the following:

1) Transportation schedules and costs.

Primary mode of transportation for the communities is air travel. A secondary form a travel between some of the communities is river travel during summer months and overland during winter months.

2) Geographic and climatic impediments.

There are no geographic and climatic impediments for transportation or communication.

3) Telephone and teleconferencing facilities.

The region has adequate telephonic and teleconferencing facilities.

4) Electronic media for use by the public.

The local radio station is KZPA, AM 900, which is based in Fort Yukon and translates to the communities in the Yukon flats. Arctic Village and Stevens Villages do not reliably receive KZPA broadcasts (personal communication, 2005, KZPA)***; however radio communication to these villages can be improved.***

Absent a specific and persuasive showing to the contrary, the commission will presume that communications and exchange patterns are insufficient unless all communities within a proposed borough are connected to the seat of the proposed borough by a public roadway, regularly scheduled airline flights on at least a weekly basis, regular ferry service on at least a weekly basis, a charter flight service based in the proposed borough, or sufficient electronic media communications.

All communities in the Yukon Flats receive regularly scheduled air service from Fairbanks to Fort Yukon by either Wright Air Service or Warbelow Air Ventures, which are both based in Fairbanks. Several air carriers serve the region on a charter basis and provide mail delivery.

3.3.2 3 AAC 110.050, Population

The population of a proposed borough must be sufficiently large and stable to support the proposed borough government. In this regard, the commission may consider relevant factors including 1) total census enumerations, 2) durations of residency, 3) historical population patterns, 4) seasonal population changes, and 5) age distributions. The commission will presume that the population is not sufficient to support a proposed borough government unless at least 1,000 permanent residents live in the proposed borough.

The population of the Yukon Flats is estimated at 1,350 people. There is essentially little change in population in the region based on the 1990 and 2000 census data.

3.3.3 3 AAC 110.055, Resources

The economy of a proposed borough must include the human and financial resources necessary to provide essential borough services on an efficient, cost-effective level. In this regard the commission will consider:

1) The reasonably anticipated functions, expenses, and the ability to generate and collect local revenue and the reasonably anticipated income;

   The proposed borough be a minimalist government and provide the basic services of education, taxation and planning. The anticipated revenue and operating costs for the proposed borough, and an operational cost assessment, are addressed in Sections 6, 7 and 8.

2) The feasibility and plausibility of the anticipated operating and capital budgets through the third full fiscal year of operation;

   Section 8 of this study addresses the potential long-term budget revenues during the initial four years of borough operation, and for scenarios projected out through year 2015.

3) The economic base;

The potential borough economic base includes TAPs, and possible oil and gas development scenarios in the Yukon Flats, and a potential North Slope gas line. Additional income is provided through state and federal jobs, and employment with the Native Corporations (for profit and non-profit corporations).

4) The property valuations;

Personal and real property in the Yukon Flats is estimated at $24 million (without consideration of TAPS).

5) Land use;

Land use within the proposed borough includes State and Federal lands, village and regional corporation lands, and privately owned parcels.

6) Existing and reasonably anticipated industrial, commercial, and resource development; and

The primary anticipated industrial, commercial, and resource development in the proposed borough is the potential oil and gas development in the Yukon Flats and development of North Slope natural gas.

7) Personal income of residents.

Personal income data for each community is presented in Section 2.0.

Other relevant factors may include:

1) The need and availability of employable skilled and unskilled persons; and

There is a demonstrated need, as well as the availability, of employable skilled and unskilled persons in the Yukon Flats communities.

2) A reasonably predictable level of commitment and interest in the population in sustaining a borough government.

The REAA is successfully providing education services, and traditional village council-type governments and the CATG are currently operating. However, in general the majority of Alaska Natives in the region may not support a borough government over traditional village councils or tribal government.

3.3.4 3 AAC 110.060, Boundaries

The boundaries of a proposed borough must conform generally to natural geography, and must include all land and water necessary to provide full development of essential borough services on an efficient, cost-effective level. In this regard the commission may consider the following relevant factors:

1) Land use and ownership patterns;

   Land is owned by private individuals, the Native Corporations, State of Alaska and Federal Government.

2) Ethnicity and cultures;

   The ethnicity and culture of the region is primarily Gwich'in and Koyukon Athabascan Native Alaskans.

3) Population and density patterns;

   Section 2 presents a detailed summary of community and regional population trends since 1970. In summary the regional population remains relatively constant with a 5% increase since 1970.

4) Existing and reasonably anticipated transportation patterns and facilities;

   The transportation in the region consists of local unpaved roads, airports, and seasonal travel on rivers/waterways via boat, or overland during winter months. Circle is the only community that is accessible by the State road system.

5) Natural geographical features and environmental factors; and

The region generally conforms to the natural geographical features, and environmental factors are similar for all communities.

6) Extraterritorial powers of boroughs.

It is not considered likely that the region would seek extraterritorial powers.

Absent a specific and persuasive showing to the contrary, the commission will not approve a proposed borough with boundaries extending beyond any model borough boundaries.

The proposed borough is within the model borough boundaries.

The proposed borough boundaries must conform to the REAA.

The proposed borough boundary does not totally conform to the boundary of the Yukon Flats REAA (see previous response).

Absent a specific and persuasive showing to the contrary, the commission will presume that territory proposed for incorporation is non-contiguous or that contains enclaves does not includes all land and water necessary to allow full development of essential borough services on an efficient and cost-effective basis:

This criterion is not applicable to the proposed Yukon Flats Borough.

If a petition for incorporation of a proposed borough describes boundaries overlapping the boundaries of an existing organized borough, the petition for incorporation must also address and comply with all standards and procedures for detachment of the overlapping region from the existing organized borough.

This criterion is not applicable to the proposed Yukon Flats Borough.

3.3.5 3 AAC 110.065, Best Interests of the State

In determining whether incorporation of a borough is in the best interests of the state under AS 29.05.100, the commission may consider relevant factors, including whether incorporation:

1) Promotes maximum self-government;

   The proposed Yukon Flats Borough would be a minimalist government providing the basic and essential required services

2) Promotes a minimum number of local government units;

   There would be no local government units. One government unit would be created, and will most likely be based in Fort Yukon.

3) Will relieve state government of the responsibility of providing local services; and

   The proposed Yukon Flats Borough would provide a local contribution to the provision of education within the study area.

4) Is reasonably likely to expose the state government to unusual and substantial risks as the prospective successor to the borough in the event of the borough's dissolution.

   This risk cannot be eliminated from further consideration at this time.

4.0 BOROUGH STRUCTURE OPTIONS AND STATISTICAL DECISION ANALYSIS

A few of the initial considerations to be undertaken by the Yukon Flats Borough are to establish a boundary and an organizational structure. The LBC strongly influences the establishment of the borough boundary, and the proposed Yukon Flats Borough boundary would most likely be identical to the REAA boundary**.** The residents of the communities within the borough boundary will determine the organizational structure of the local government. Boroughs may exercise a broad range of fundamental powers including police; fire protection; emergency medical services; road maintenance; transportation facilities such as harbors, docks, and airports; solid waste landfills; libraries; health services; parks and recreation; and utilities such as water, sewer, solid waste disposal, The manner in which a particular borough obtains a specific power depends on two factors: (1) the classification of the borough, and (2) the geographic area in which the power is to be exercised (State of Alaska, 2005b).

4.1 Classification

The three fundamental classes of boroughs are Home-Rule, First-Class and Second-Class; each is explained in detail in the following sections.

4.1.1 Home-Rule Borough

A home rule borough has more flexibility than either a First-Class or Second-Class Borough and *"may exercise all legislative powers not prohibited by law or by charter"* (Alaska Constitution, Article X, Section 11). Home-Rule boroughs adopt a home-rule charter, which is the equivalent of a local government constitution. Home-rule boroughs may consist of the following:

- ***Unified Home-Rule.*** A unified home-rule borough is one in which no city government is permitted to exist. Currently there are three unified home-rule

boroughs in Alaska: the Municipality of Anchorage, City and Borough of Juneau, and City and Borough of Sitka.

- ***Non-Unified Home-Rule.*** A non-unified home-rule borough is one in which city governments are permitted but not required. Currently, there are six non-unified home-rule boroughs: the North Slope Borough, Northwest Arctic Borough, Lake and Peninsula Borough, Denali Borough, City and Borough of Yakutat, and Haines Borough. Two of those six have no city governments within the borough boundaries.

The charter for a Home-Rule Borough should specify how discretionary powers are obtained. For example, the charter may require voter approval to implement decisions or services, or the charter may provide for an assembly to implement decisions or services by ordinance.

4.1.2 First-Class Borough

A First-Class Borough is a general law borough that has not adopted a home-rule charter. The main distinction between a First-Class and Second-Class Borough is that a First-Class Borough may assume "other powers" via a majority vote of the assembly. There are currently no first class boroughs in Alaska (personal communication 2005, Dan Bockhorst). This is probably because the relatively broad powers assigned to the assembly in a first class borough is unappealing to the typical individualist Alaskan. The numbers in Alaska are approximately evenly split between home rule and second class boroughs. Both allow for restrictions to local government assumption of powers (either via charter or by state law, and therefore are more popular with Alaskans.

4.1.3 Second-Class Borough

A Second-Class Borough is the most constrained form of government of the three Borough options. Formation of service areas within a second class borough requires voter approval. All *"other powers not prohibited"* may be exercised only on a service area basis and require voter approval in a second class borough. Second-Class Boroughs are also general law boroughs. Currently, there are seven second-class boroughs within

Alaska: the Matanuska-Susitna Borough, Fairbanks North Star Borough, Kenai Peninsula Borough, Kodiak Island Borough, Ketchikan Gateway Borough, Aleutians East Borough, and Bristol Bay Borough.

4.2 Geographic Area

A borough may provide services in four defined geographic areas as follows:

- Area-Wide Services: are provided throughout the entire geographical extent of the borough boundary.
- Non-Area-Wide Services: are provided throughout the geographical extent of the borough boundary, but may not include corporation boundaries of city governments within a borough.
- Service Areas: are a discrete area within a geographic portion of a borough that is defined by ordinance, and are created to provide special services or a different level of service than those services provided on an Area-Wide or Non-Area-Wide basis. Multiple service areas may be established within a borough, and a service area may be within the boundary of a city government.
- Extra-territorial Service Areas: are outside the corporate boundaries of a borough.

The borough classification and geographic area in which services are provided determine how borough establishes discretionary powers.

4.3 Statistical Decision Analysis

The decision of borough formation is a complex one. Many of the factors important to residents of the area are political or social in nature, and difficult to quantify. For the people of Yukon Flats, the decision regarding borough formation is unique, unstructured, and somewhat dynamic. Financial aspects of the decision can be numerically estimated, but other aspects (impacts to a rural lifestyle, for example) are more elusive. Therefore, a single criteria examination of the problem (such as a cost benefit analysis) does not

provide an answer that satisfies all the myriad of issues associated with such a complex decision.

Researchers have developed various approaches to multi-criteria problems and categorize them under the broad heading of "decision analysis". Decision analysis techniques utilize multiple subjective criteria to elicit a quantitative "answer" to a qualitative problem. For this study we have chosen to apply the analytic hierarchy process (AHP) as it is one of the more structured and the "…better theoretically grounded approach(es)." (Saunders, 1999).

AHP utilizes a "comprehensive, logical and structural framework, which improves the understanding of complex decisions by decomposing the problem in a hierarchical structure." (Saunders, 1999). The process relies on the subjective judgments of those ranking the criteria and alternatives. The method applied for this study consists of the following basic steps:

1) Identify the decision.
2) Identify the criteria applicable to the decision.
3) Develop a matrix describing the priority of each criterion.
4) Develop pair-wise comparison matrices of each alternative with each criterion.
5) Determine if the consistency level is acceptable.
6) Calculate final ranking.

The weighting, consistency, and final ranking calculations are easily completed using an Excel spreadsheet and the methodology outlined by Taha (Taha, 2003).

4.3.1 Decision and Alternatives

The decision in this case is: What type of borough structure is best for Yukon Flats?

4.3.2 Alternatives

- *Unorganized Borough (current situation)*
- *Home-rule Borough*
- *1st Class Borough*
- *2nd Class Borough*

4.3.3 Criteria

We identified important factors to borough formation and developed a survey designed to obtain priority rankings of these issues. The survey was distributed to individuals in the Yukon Flats area. Although we did not receive as many completed surveys back as we had hoped for, we were able to utilize the priority rankings from the surveys in our study. For example, possible annexation by the Fairbanks North Star Borough was identified by the CATG as a main driver for consideration of a Yukon Flats Borough. In the survey results, threat of annexation actually was given an average priority ranking of 2. Other criteria, such as planning, platting, and land use powers (which differ depending on which type of borough government is formed) were given very low weighting. Complete survey results and a discussion of the associated statistics is presented in Appendix A. From the survey data, the criteria and calculated normalized weightings are as follows:

Table 4-1
Priority of Criteria based on Relative Weights

Criteria	Relative Weights
Tribal Government	0.2704
Annexation	0.2309
Costs	0.1641
Tax on TAPS	0.1214
Tax on Future Gas Line	0.0568
Tax on future oil and gas development	0.0545
Property Tax	0.0427
Public Education	0.0282
Area-wide powers	0.0157
Planning, Platting, and Land Use	0.0155

The criteria above are sorted according to the calculated priority based on the survey data in the process. A brief explanation of each item follows:

- ***Tribal Government***- With the exception of the Yukon Flats city government, the area has tribal government. Creation of a borough would possibly supersede some tribal government powers.

- ***Annexation***- As stated above, possible annexation is really the only reason the borough topic arose. The citizens of the Yukon Flats region have no strong desire to form a borough government, but have less desire to be annexed by Fairbanks.

- ***Cost***- A borough government would cost money to run. It is unclear if Yukon Flats has the economic tax base available to sustain the costs of government.

- ***Tax on TAPS***- The value of TAPS in the Yukon Flats borough would be counted toward the total assessed property value of the borough. Thus, the borough would need to come up with 4 mills of the personal property plus TAPS. State law requires boroughs to have a property tax in order to receive property tax revenue from the portion of TAPS in their borough.

- ***Tax on Future Gas Line***- If a gas line were to be built, and if it ran through Alaska, then a property tax structure similar to TAPS could provide additional revenue to the area. The weighting of this item reflects the uncertainty that the gas line will be built in Alaska.

- ***Tax on future oil and gas development***- The Yukon Flats region has real potential for major oil and gas reserves (Stanley, et. al, 2004). Development of oil or gas in the region is a long term prospect (and thus not weighted highly in the criteria) but could provide significant revenues in 10 plus years if developed.

- ***Property Tax***- Under state law, the new borough must provide 4 mills on the assessed value of property in the borough toward public education. Local sentiment is strongly against personal property tax.

- ***Public Education***- This is an important issue to Yukon Flats residents. Under state law, the borough would be required to provide public education area wide. The current REAA funding would cease.

- ***Area-wide powers***- This item is differentiated in the different types of borough governments. For example, a second-class borough is required to have voter approval to take on certain powers area wide. A first class borough may by law exercise these powers area wide.

- ***Planning, Platting, and Land Use***- Again, this item is differentiated in the different types of borough governments.

4.3.4 Pair-wise Comparison

Once the above weighting or priority of the criteria is determined, the next step is to perform a pair-wide comparison of each alternative to each criterion. For example, the four alternatives (unorganized, home rule, 1st class, and 2nd class boroughs) are each rated on the criterion of annexation, then public education, etc. These matrices are normalized and those normalized numbers are utilized in the calculation of the final ranking of the alternatives.

The top portion of the below worksheet ("Input") shows the pair-wise comparison for "annexation". Any of the three types of organized borough would equally and totally eliminate the chance of annexation. Therefore, each of the type of organized borough (home rule, 1st class, and 2nd class) are given a 9 relative to the unorganized borough option. As an unorganized borough, they are vulnerable to possible annexation by Fairbanks or other adjacent boroughs.

The lower portion ("Output") shows the consistency calculation (acceptable) and the normalized weightings of the comparisons. The final calculated weight for each option against the criterion is the row average (i.e. for unorganized borough the "weight" is calculated as (0.03571+0.35371+0.035371+0.035371)/ 4). Appendix A includes an in-depth discussion of the consistency calculation as well as all the pair comparison matrices, and other calculations.

Table 4-2

Input: Comparison Matrix				
Matrix Name	Cost			
Matrix Size=	4.00000			
Matrix Data:	Unorganize	Home Rule	1st Class	2nd Class
Unorganized	1.00	4.00	4.00	4.00
Home Rule	0.25	1.00	3.00	3.00
1st Class	0.25	0.33	1.00	1.00
2nd Class	0.25	0.33	1.00	1.00
Column Sum	1.75000	5.66667	9.00000	9.00000

Table 4-3

Output: Normalized Matrix				
Cost	nMax=	4.00000	CR=	0.00000
	Unorganized	Home Rule	1st Class	2nd Class
Unorganized	0.57143	0.70588	0.44444	0.44444
Home Rule	0.14286	0.17647	0.33333	0.33333
1st Class	0.14286	0.05882	0.11111	0.11111
2nd Class	0.14286	0.05882	0.11111	0.11111

Table 4-4

Calculated Weight of Cost
0.5415
0.2465
0.1060
0.1060

4.3.5 Final Ranking

Once the weight of each option is calculated for each criterion, they are combined with the priority weighting of the criteria to obtain the final ranking. Performing these calculations gives us the following ranking for the four alternatives:

Table 4-5

Final Ranking	
Unorganized	0.2564
Home Rule	0.2662
1st Class	0.2386
2nd Class	0.2387

4.4 Recommended Borough Structure Option

The recommended borough structure option for the Yukon Flats is Home-Rule based on resident surveys (ultimately the recommended borough structure would be Non-Unified Home Rule). The proposed borough government would be a minimalist government and provide the basic services of education, taxation and planning. This type of government will provide the people of the Yukon Flats with the greatest degree of self determination available under the Alaska Constitution. The broad charter powers of a home rule borough would offer significant flexibility for accommodation and interaction with the tribal government, as is the case in the Northwest Arctic Borough and North Slope Boroughs.

5.0 THE PATH TO INCORPORATION

Doyon managers and CATG leaders are currently in the early and preliminary stages of assessing the feasibility of a potential Yukon Flats Borough. If preliminary results suggest a Yukon Flats Borough will provide social and economic benefit to regions communities, Doyon and CATG managers may elect to proceed down the path of incorporation by preparing a more detailed study, implementing a community outreach/education program, and ultimately preparing a written Charter and submitting a proposal to the State LBC requesting incorporation. If managers elect to head down this path, ultimate success will depend on how well the project is managed. The process will require a significant investment in time and money. Appointment of an experienced and committed project manager to oversee legal and technical consultants, coordinate local resources (tribal governments, appointed Charter Commission, etc), develop and maintain a schedule, and control costs, is recommended.

5.1 Preliminary Studies and Written Charter

As demonstrated in Section 4 of this study, a Non-Unified Home Rule borough will provide the people of the Yukon Flats with the greatest degree of self determination available under the Alaska Constitution, and the broad charter powers of a home rule borough would offer significant flexibility for accommodation and interaction with the tribal governments. However, the decision to incorporate will be an extremely difficult step for the residents of the communities in the Yukon Flats. Preliminary efforts by community leaders should focus on assessing the economic as well as social feasibility of a local borough government. Doyon and CATG managers must answer the following preliminary questions:

- Can enough revenue be generated to support a local borough government, and
- Will the people support a local borough government

If preliminary planning studies indicate a borough government can be economically feasible, managers should commence with community outreach/education efforts to inform the people of the positive and negative aspects of a local government and determine if the people will provide support prior to initiating further studies.

If ultimately the residents are supportive of a local borough government, leaders may elect to prepare a detailed local government study *(by comparison, the technical content of this report is more appropriately conceptual in nature and provides preliminary planning information*). Professional expertise would be retained under contract to prepare a detailed local government study, which would include a significantly more detailed assessment of options, positive and negative aspects, and financial analysis. A local Charter Commission should be appointed and legal expertise retained under contract. The legal expert will work with the local Charter Commission to develop and prepare a written Charter to direct the activities of the proposed government.

If the community leaders desire to pursue incorporation, the written Charter along with an application for incorporation would be submitted to the State LBC for review. The LBC determines if the proposed local borough government conforms to State standards for incorporation, and prepares a report documenting their review and decision. An election would then be held within the proposed boundary of the local borough government under the auspices of the LBC. The election would include a vote of the people to decide on the issue of a borough government versus status quo, determine how the local government shall be funded, and appoint the first assembly positions and mayor.

5.2 Project Management Considerations

Should Doyon and CATG managers elect to head down the path to incorporation, the following management considerations should be implemented.

5.2.1 Experienced and Committed Project Manager

An experienced and committed project manager should be appointed to direct the effort. The project manager will serve as the single point of authority, responsibility, and accountability for implementing the project. The project manager shall be directly

responsible for all aspects of quality, cost, and schedule for this project, including the management of technical and legal consultants on a subcontract basis. The selected project manager must be able to focus 25-percent of his or her normal 8-hour workday toward completing this project.

The project manager should be a full-time salaried individual within either Doyon or the CATG, have the appropriate technical and project management experience, be experienced with the operations of the local as well as State government, and understand the desires of the region and members of the communities. To ensure continuity and remain on schedule it is strongly recommended that the project manager remain dedicated to the project through completion. The project manager should have strong and effective written and oral communication skills, be experienced with principals of project management, skilled in building teams and generating consensus, and have the respect of the members of the communities and charter commission.

5.2.2 Resources

The project manager must obtain and rely on the assistance of qualified technical and legal resources and Charter Commission members to prepare a written Charter for the proposed borough government. It is strongly suggested that the community leaders retain appropriate financial, government, and legal expertise under contract to direct preparation of the local government study and written Charter, primarily due to the complexity of legal matters and potential liabilities associated with a new government (personal communication, Pete Hallgren, 2005). In addition, the project manager can rely on LBC personnel to provide a reasonable measure of support.

5.2.3 Facilities

Existing facilities owned by either Doyon or the CATG should be made available for the management of this project. Facilities include office space, meeting rooms, vehicles/transportation, computers and communication systems, accounting and administrative support, etc. The entities providing the facilities may desire to track the

incurred costs for use, however facilities costs are not accounted for in the proposed budget presented in this section.

5.2.4 Schedule

A very well organized, realistic and attainable schedule should be developed for the project, with timelines and milestone clearly identified. A project of this nature can "drag on forever, which only results in increased costs." (personal communication, Pete Hallgren, 2005). For a proposed borough the size of the Yukon Flats, a realistic schedule for establishing a charter commission, developing a written charter, and preparing a proposal for incorporation to the LBC is approximately one year (note: Delta Junction completed the process during an approximately 12 month process in 2004/2005; however, the rural location of the Yukon Flats and its associated logistical challenges will likely introduce inefficiencies and may potentially extend the time required for completion). It is strongly recommended to develop a project schedule using a project scheduling software, such as Microsoft® Project, and that the schedule be routinely updated by an individual experienced with technical project scheduling and the use of the software. Thus a baseline schedule can be established at the commencement of the project. Project schedule updates should be completed at a minimum of every two weeks, thus providing the project manager with technical information to define, plan, control and complete the project within the desired time period.

5.2.5 Cost

Successful implementation and completion of the project will require a substantial level of funding. The State of Alaska provides newly incorporated boroughs with an organization grant (currently $600,000) to assist with startup of operations; however, the State does not provide communities with funding to assess the feasibility of a local borough government or prepare a written Charter.

Suitable funding must be obtained and secured prior to commencing with the project. Not including the percentage of time the project manager must commit, the estimated cost for organizing and appointing a volunteer charter commission, retaining legal and

technical expertise to write the charter, and prepare an application to the LBC for incorporation can be significant. A preliminary planning-level cost estimate for developing a local government study and cost analyses, and a written Charter for a proposed Yukon Flats Borough is presented in Table 5-1, and is based on the following assumptions:

- The project manager/director will be a CATG director, and will remain on the CATG payroll but will reapportion approximately 25-percent of job responsibilities to managing preparation of a written charter.

- Nine charter commission members will be selected, one from each of the communities in the Yukon Flats, and members will provide time on a volunteer basis.

- Each charter commission member will travel to Fort Yukon every two weeks for a two-day charter commission meeting to ensure completion of the project within one calendar year.

- Outside expertise including a consultant and legal support is required.

- The Yukon Flats Borough would adopt a home-rule charter (the equivalent of a local government constitution) and be classified as a non-unified home-rule borough providing the minimal and basic services as required by state law including (1) education, (2) planning and land use, and (3) assessment and collection of taxes.

- While city government functions would be permitted by State law, they would not be a component of a Yukon Flats Borough. The City Government of Fort Yukon would be dissolved and assets incorporated in the new borough government.

Table 5-1

Cost Estimate for Local Government Study, Cost Analyses, and Preparation of Written Charter	
Budget Category	**2005**
Primary Functional Requirements	
Local Government Consultant	$60,000
Attorney's Fees	$40,000
Travel - Consultant/Atty to Fort Yukon	$10,000
Travel - Charter Members to Fort Yukon	$60,000
Per Diem	$17,000
Printing and Publications	$5,000
Telephone and Postage	$5,000
Subtotal	$197,000
Contingency 25%	$49,250
ESTIMATED EXPENDITURE	**$246,250**

The project manager must have complete and accountable control of the available budget. Once funding is obtained, any overruns will require additional efforts be expended to obtain more funding, the outcome of which will be a significant delay in the project schedule and overruns in cost.

5.2.6 Borough and Tribal Government Merger Considerations

The written Charter would largely define the responsibilities and interactions of the borough government and tribal councils. Leaders should consult with the Northwest Arctic and North Slope Borough managers, since both entities have successfully implemented a program for interaction between borough and tribal governments.

The local borough government would provide the basic minimum services required by State law, including education, taxation, and planning. The tribal government should, at a minimum, be responsible for coordinating and facilitating development of programs or projects that involve federal grants in conjunction with Bureau of Indian Affairs/Department of Interior, and act as a liaison for the tribal entities

6.0 BOROUGH OPERATIONAL COSTS

This section presents an overview of the primary operational functions the recommended borough government structure must assume responsibility for, including education, utility maintenance, and operation of the local government. A planning-level cost analysis for these functions is presented in Section 8.0.

6.1 School System Operational Expenses

The operation costs for the School System are more complicated to estimate than for the borough functions. Consideration must be made for the annual expected increase in real and personal property values (estimated at 3.3 percent, [Fried and Robinson, 2004]), and annual depreciation of TAPs (estimated at 4%, [Cotton, 2004]). In addition, the local contribution for schools is phased in over the initial four years of borough government operations. The current contribution by the State, Federal Government, and miscellaneous other sources is currently $5,600,000, and assumed to increase annually at 3.3%. The annual school contribution the borough should expect to provide for years 2005 through 2015 is presented below.

Table 6-1

Borough School Contribution											
Budget Category	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
ASSUMPTIONS											
Real and Personal Property Value	$24,120,000	$24,915,960	$25,738,187	$26,587,547	$27,464,936	$28,371,279	$29,307,531	$30,274,679	$31,273,744	$32,305,777	$33,371,868
Est. Value TAPS (annual deprec. 4%)	$316,000,000	$303,360,000	$291,225,600	$279,576,576	$268,393,513	$257,657,772	$247,351,462	$237,457,403	$227,959,107	$218,840,743	$210,087,113
Property Tax Mill Rate Applied to School	0	2	3	4	4	4	4	4	4	4	4
Yukon Flats REAA Operating Budget (inflat 3.3%)	$6,612,103	$6,830,302	$7,055,702	$7,288,541	$7,529,062	$7,777,521	$8,034,180	$8,299,308	$8,573,185	$8,856,100	$9,148,351
Yukon Flats Borough School Contribution	$0	$656,552	$950,891	$1,224,656	$1,183,434	$1,144,116	$1,106,636	$1,070,928	$1,036,931	$1,004,586	$973,836
State, Federal and Other School Contribution	$6,612,103	$6,173,750	$6,104,811	$6,063,884	$6,345,629	$6,633,405	$6,927,544	$7,228,379	$7,536,253	$7,851,514	$8,174,515
Yukon Flats Borough School Contribution	$0	$656,552	$950,891	$1,224,656	$1,183,434	$1,144,116	$1,106,636	$1,070,928	$1,036,931	$1,004,586	$973,836
Contingency 10%	$0	$65,655	$95,089	$122,466	$118,343	$114,412	$110,664	$107,093	$103,693	$100,459	$97,384
ESTIMATED SCHOOL CONTRIBUTION	**$0**	**$722,207**	**$1,045,980**	**$1,347,122**	**$1,301,777**	**$1,258,528**	**$1,217,300**	**$1,178,021**	**$1,140,625**	**$1,105,045**	**$1,071,220**

6.2 Utilities

Boroughs are not required by law to provide utilities as part of the services they offer. However, the example of the North Slope Borough shows that it can be a valuable service to the residents.

Some communities, such as Ft. Yukon, have electricity, some households with piped water and sewage. These are provided by private utility companies or individuals have their own wells and septic tanks. Other communities have unreliable power; water is limited to a jug filling station, laundry and showerhouse; and sewage is collected in honeybuckets.(Community Development Database, RUBA Community Summaries)

Subsistence activities make it difficult or impossible for small villages to maintain complicated utilities and the arctic climate makes a trained operator a necessity to keep expensive systems in good working order. The construction of systems could be funded from federal and state grants and other sources outside the borough. The borough could be the source of expertise and personnel for the villages that want a greater level of reliability. Operators could be drawn from the region and the experts would be in Ft. Yukon instead of distant Fairbanks or Anchorage.

The cost of providing the services is summarized in the table below. The detailed analysis is presented in Appendix B. This section includes the cost for a streamlined department of public works, including a manager and 3 maintenance foremen. The cost estimate does not include a fund for the replacement of utilities.

Table 6-2

Utility Operation and Maintenance Expenditures	
Budget Category	**2005**
Utility Operations and Maintenance	$1,160,000
Fuel	$450,000
Subtotal	$1,610,000
Contingency 10%	$161,000
ESTIMATED EXPENDITURE	**$1,771,000**

6.3 Borough Operational Costs

This section summarizes operational costs for a local borough government. Operational costs are based on a minimalist government providing the basic services required by State law (education, taxation and planning), along with a moderately-sized Department of Public Works.

6.3.1 Borough Government Structure Costs

The section presents a summary of the annual operating cost for the recommended borough government structure, which includes a summary table and additional tables providing cost justification for each functional department including the Mayor's Office, Assembly, Legal, Finance, Planning and Public Works, and Tax Assessor. Costs are based on the assumption the borough is incorporated in 2005, assembly and planning commission members work on a volunteer basis, and the 2nd Class City of Ft. Yukon will be dissolved and their facilities will be utilized by the new borough government thus eliminating the requirement for new buildings, office space, furniture, etc.

6.3.2 Borough Estimated Operating Budget

The estimated operating budget for the recommended borough government structure is presented in the following table.

Table 6-3

Yukon Flats Borough Estimated Expenditures	
Department	**2005**
Mayor's Office Expenditures	$245,406
Assembly Expenditures	$248,750
Legal Expenditures	$81,250
Finance Department Expenditures	$135,625
Planning & Public Works Expenditures	$416,250
Tax Assessment Expenditures	$172,500
Borough School Contribution	$0
Utility Operation and Maintenance Expenditures	$1,771,000
TOTAL ESTIMATED EXPENDITURES	**$3,070,781**

6.3.3 Mayor's Office

The estimated annual budget for operation of the Mayor's Office is presented in the following table:

Table 6-4

Mayor's Office Expenditures	
Budget Category	**2005**
Mayor Salary	$70,000
Administrative Assistant	$38,500
Benefits (45-percent)	$48,825
Contractual	$10,000
Travel	$15,000
Per Diem	$5,000
Dues/Subscriptions	$500
Printing and Publications	$2,500
Telephone and Postage	$3,500
Other Expenses	
Office Equipment	$0
Office Supplies	$2,500
Subtotal	$196,325
Contingency 25%	$49,081
ESTIMATED EXPENDITURE	**$245,406**

6.3.4 Assembly

The estimated annual budget for operation of the Assembly is presented in the following table:

Table 6-5

Assembly Expenditures	
Budget Category	**2005**
Borough Clerk Salary	$40,000
Benefits (45-percent)	$18,000
Contractual Services	$10,000
Travel	$30,000
Travel (Municipal League and Outside Meeting)	$50,000
Per Diem	$5,000
Dues/Subscriptions	$1,000
Printing and Publications	$2,500
Telephone and Postage	$2,500
Audit (Contractor, required by some grants)	$25,000
Elections	$10,000
Office Equipment	$0
Office Supplies	$5,000
Subtotal	$199,000
Contingency 25%	$49,750
ESTIMATED EXPENDITURE	**$248,750**

6.3.5 Legal

The estimated annual budget for Legal related matters is presented in Table 8-4.

Table 6-6

Legal Expenditures	
Budget Category	**2005**
Attorney (contract basis)	$60,000
Travel	$5,000
Subtotal	$65,000
Contingency 25%	$16,250
ESTIMATED EXPENDITURE	**$81,250**

6.3.6 Finance Department Expenditures

The estimated annual budget for operation of the Finance Department is presented in the following table.

Table 6-7

Finance Department Expenditures	
Budget Category	**2005**
Director	$60,000
Benefits (45-percent)	$27,000
Consultant Fees	$10,000
Travel	$5,000
Per Diem	$2,500
Telephone and Postage	$2,000
Office Supplies	$2,000
Subtotal	$108,500
Contingency 25%	$27,125
ESTIMATED EXPENDITURE	**$135,625**

6.3.7 Planning & Public Works Department Expenditures

The estimated annual budget for operation of the Finance Department is presented in the following table.

Table 6-8

Planning & Public Works Expenditures	
Budget Category	**2005**
Planning Director	$50,000
Director of Public Works	$50,000
Village Public Works Operator ($40K/yr x 2 people)	$80,000
Benefits (45-percent)	$81,000
Contract Services	$25,000
Travel	$30,000
Per Diem	$10,000
Telephone and Postage	$4,000
Office Equipment	$0
Office Supplies	$3,000
Subtotal	$333,000
Contingency 25%	$83,250
ESTIMATED EXPENDITURE	**$416,250**

6.3.8 Tax Assessment

The estimated annual budget for operation of the Tax Assessment Department is presented in the following table.

Table 6-9

Tax Assessment Expenditures	
Budget Category	**2005**
Tax Assessor (consultant)	$50,000
Borough Tax Clerk	$40,000
Benefits (45-percent)	$18,000
Travel	$30,000
Subtotal	$138,000
Contingency 25%	$34,500
ESTIMATED EXPENDITURE	**$172,500**

7.0 POTENTIAL REVENUE SOURCES

This section is not "*all-encompassing*" of potential state and federal revenue sources, including the myriad of potential grants that are available, but presents a general overview of the more obvious and common revenue sources that are applicable to the recommended borough structure. A developing borough should thoroughly evaluate any and all opportunities for grants, which can provide a significant source of revenue.

7.1 State and Federal Revenue Sources

7.1.1 Alaska New Borough Organizational Grant

The State of Alaska provides new boroughs with $600,000 over a three year period as an organizational grant. The funds are allocated as $300,000 during the initial year, $200,000 during the second year, and $100,000 during the third and final year.

7.1.2 Federal Lands PILT

Federal lands PILT is a revenue sharing program to compensate communities or governments with non-taxable Federal lands within their boundaries since federal lands cannot be taxed by local governments without Congressional approval (31 U.S.C. §§6901-6907). The PILT for federal lands is based on the population of a borough. Federal land holdings within the boundary of the proposed Yukon Flats Borough are estimated at 8.6 million acres (personal communication, Ted Heuer, 2005). Assuming the new borough was established in 2005, the Federal Land PILT that would be provided to the Yukon Flats Borough would be $177,000 based on a population of 1,312 and a payment rate of $135 per person (personal communication, Bill Rolfzen, 2005).

7.1.3 Federal PILT for Schools

The Federal government provides a PILT to school districts for educational support (20 U.S.C. §§7701-7714). In 2005 the Yukon Flats REAA received $1.2 million in Federal aid assistance and $3.8 million in State funding for a total of $5.1 million in basic educational need. A component of the $1.2 million in Federal aid included the Federal PILT for schools. Assuming a new local borough government is established, the borough

could anticipate receiving an increased level of educational funding for education only if the borough increased their local contribution to education above the minimum required 4 mills on personal and real property. The economic reality of this is unlikely. In conclusion, the local government will contribute 4 mills of tax received on all real or personal property in the borough, including TAPS (approximately 20-percent of the required funding for the school district). The remaining 80-percent of the required school district funding will be provided by State and Federal funds, a portion of this consisting of the Federal PILT for schools (personal communication, Mindy Lobaugh, 2005).

7.1.4 Power Cost Equalization

The cost of electricity for customers in rural Alaska is generally 3 to 5 times higher than for customers in more urban areas of the State. The Alaska Energy Authority currently provides assistance to the customers of rural electrical utilities through power cost equalization (PCE) payment in an attempt to insure the viability of local utilities and the availability of reliable centralized power. Each of the communities within the proposed Yukon Flats Borough has at one time participated in the PCE program; however, only 2 of the 8 communities are currently active. Table 7-1 presents for each community the electric company name, PCE program status, and the average annual PCE based on available data. Assuming the proposed Yukon Flats Borough Department of Public Works would take control of PCE reporting requirements for all communities within the borough, the average annual PCE payment for the proposed Yukon Flats Borough is estimated at $293,000 (personal communication, 2005, Terry Harper).

Table 7-1

PCE Program Status and Average Annual PCE Payments for the Communities of the Yukon Flats			
Community	**Electric Company**	**PCE Program Status**	**Average Annual PCE Payment**
Arctic Village	Arctic Village Electric Company	Inactive	$21,400
Beaver	Beaver Joint Utilities	Inactive	$29,000
Birch Creek	Birch Creek Village Electric	Inactive	Not Available, Inactive Status for Extended
Chalkyitsik	Chalkyitsik Village Energy System	Inactive	$14,000
Circle	Circle Electric Utility	Active	$33,000
Fort Yukon	Gwitchyaa Zhee Utilities	Active	$130,000
Rampart	Rampart Village Council Electric Utility	Inactive	Not Available, Inactive Status for Extended
Stevens Village	Stevens Village Energy Systems	Inactive	$15,000
Venetie	Venetie Village Electric	Active	$23,000

7.1.5 Property Tax – Oil and Gas Property

Assessing the tax potential of oil and gas properties within the proposed Yukon Flats Borough includes the existing TAPs, the potential development of natural gas and oil reserves in the Yukon Flats, potential development of a North Slope natural gas pipeline paralleling TAPS or passing through the proposed Yukon Flats Borough boundary, and the potential development of shallow coal bed methane.

7.1.5.1 Trans-Alaska Pipeline System

The State of Alaska assesses a 20 mill tax rate on TAPS, which includes the pipeline and operating pump stations. One seeming benefit of borough creation is the ability of borough governments to collect property tax on TAPS per AS 29.45.080. TAPS is, however, a double-edged sword to boroughs. The essence of the state statutes allows boroughs to collect property tax on the assessed value of TAPS within the borough

boundaries up to 20 mills. The caveat is, the borough may only collect tax on TAPS equal to the mill rate charged on the rest of the property in the borough. For example, if the borough taxes private property in the borough at 10 mills, they may also tax TAPS at 10 mills. The State of Alaska retains the difference between the maximum 20 mill rate and the borough tax rate (State of Alaska, 2004).

Within the boundary of the proposed Yukon Flats Borough taxable oil and gas property as defined by AS 43.56 includes an estimated 140 miles of TAPS and Pump Stations #7 and #6. The current assessed value of the pipeline is approximately $1.9 million per mile and pump stations are valued at $53 million. (personal communication, 2005, Randy Hoffbeck). Since Pump Station #6 is currently not operating, it is assigned a value of $0. Thus, the current value for the proposed borough area is $319 million.

However, State law throws in another caveat. According to AS 29.45.080(c), "a municipality may levy and collect a tax on the full and true value of that portion of taxable property taxable under AS 43.56…which value, when combined with the value of property otherwise taxable by the municipality, does not exceed the product of 225 percent of the average per capita assessed and full and true value of property in the state multiplied by the number of residents of the taxing municipality multiplied by a 30-mill tax rate." This statute effectively caps or limits the allowable total property tax a borough can collect from TAPS, thus more fairly sharing oil revenues between municipalities (State of Alaska, 2005c). For the Yukon Flats proposed borough area, the limit based on an assumed population of 1350 is approximately $8.6 million (personal communication, 2005, Steve Van Sant).

Additionally, as described in section 6.1 of this report, the borough must contribute money to public education equal to 4 mills of the total assessed property in the borough. The total assessment includes TAPS property. Because the value of TAPS adds such a great quantity of value to the assessed property, boroughs are essentially forced to collect property tax to gain the revenue from TAPS.

Since the value is tied to the life of the proven reserves (personal communication, 2005, Randy Hoffbeck) the assessed value is declining as production declines and reserves are

depleted. Future property values of TAPS are difficult to estimate. If no new fields are opened, the value will likely decrease at an estimated 3-5% a year. If the Arctic National Wildlife Refuge or other oil producing areas are opened, presumably the rate of depreciation would slow or "flat line" depending on the size of new reserves.

7.1.5.2 Potential Oil and Gas Reserves in the Yukon Flats

The USGS offers a mean estimate of 5.5 trillion cubic feet of recoverable natural gas, 172 million barrels of oil, and 126 million barrels of natural-gas liquids (Stanley, et al). The area of potential is conveniently proximal to the existing TAPs. However, the USGS estimates are likely conservative. Doyon has independently assessed available data and are of the opinion that oil reserves may be significantly greater than the USGS estimate, and anticipate a 1 in 20 or 30 opportunity that 200 to 800 million barrels of oil are present in the study area. This reserve would be similar in size to the Alpine Satellite Development on Alaska's North Slope (estimated to be approximately 400 million barrels), and would present a situation in which Doyon would most likely pursue development (personal communication, 2005, Jim Mery).

Estimating the future assessed value of a potential development is difficult (personal communication, 2005, Randy Hoffbeck). However, given the following assumptions:

- Oil reserves in the Yukon Flats are proven to be in the range of 200 to 300 million barrels
- Doyon is successful in developing the oil reserves and product is delivered to market in 2015, and

Assuming the Yukon Flats oil is developed, and the assessed value is similar to the Alpine Satellite Development, we estimate the property value in 2015 to be $425 million. The same 225% cap of allowed tax revenue would apply to this development as applies to TAPS. Therefore, we can estimate an approximate revenue of $4 million ($2.9 million value in 2005 escalated at 3.3% annual inflation to year 2015).

7.1.5.3 North Slope Natural Gas

The Alaska Legislature passed the Alaska Stranded Gas Development Act (SGDA) in 1998. The idea of the SGDA was to encourage the development of gas fields on the north slope of Alaska and the construction of a pipeline to bring the natural gas to market. The SGDA puts the potential gas line into a similar category as TAPS with regard to tax. Municipalities and Boroughs would have zero taxing authority on a gas line. Instead, the state will negotiate payments in lieu of taxes for any or all municipal taxes. Currently negotiating with the state are the three major North Slope producers (ConocoPhillips, British Petroleum, and Exxon Mobil), Calgary-based TransCanada, and the Alaska Gasline Port Authority (AGPA).

Impacts of a gas line include economic, revenue, and socio / cultural impacts. Construction of the gas line would put pressure on local and or state government for infrastructure improvements (roads, airports, etc.) to accommodate the influx of people and equipment. On the other side of the equation, gas line construction could provide jobs for many Alaskans. Rural Alaska, in particular, could benefit from this dramatic increase in available jobs, particularly if an all Alaska route is selected. Another benefit of gas line construction could be additional tax revenue for the state and some borough governments. Two possible North Slope Gas Line development scenarios are presented in the following paragraphs.

1) ***Industry Developed Gas Line.*** The North Slope producers and TransCanada are independently evaluating an Alaska route that essentially parallels a portion of TAPS through interior Alaska and connects with existing pipeline infrastructure in Alberta, Canada. A possible option is to route the pipeline across the northern coast of Alaska along the Beaufort Sea to Canada. An all Alaska route would have large ramifications for a local borough government in the Yukon Flats. As with TAPS, boroughs will not be able to tax the gas line directly, but will benefit from state collected revenues. Exact strategies and formulas aren't decided yet,

but it appears reasonable to assume the set up will be similar to that of TAPS when it comes to Borough revenues from taxes.

2) ***Alaska Gasline Port Authority.*** The AGPA plans constructing a new pipeline in the TAPS right of way to Valdez, Alaska, where liquefied natural gas will be produced and shipped to U.S. ports via tanker. The AGPA, which includes the FNSB, City of Valdez, Sempra Energy, and several other partners has proposed to construct, own and contract for operation the components of an All-Alaskan gas pipeline project. The proposed mission of the AGPA is to enable the development of Alaska's North Slope gas to provide the maximum benefit possible to all Alaskans. The organizers propose that ownership of the pipeline by this type of organization will substantially lower the economics of such a venture to a degree necessary to make the development of the North Slope gas resources financially viable. The AGPA anticipates an annual contribution to the State of Alaska of approximately $1 billion. Of this amount approximately $150 million would be divided among incorporated local governments, prorated according to population by a yet-to-be-developed formula. The minimum amount any borough would receive is $50,000 (personal communication, 2005, Jim Whitaker). The AGPA faces significant challenges including purchase of North Slope natural gas from the North Slope oil and gas producers that intend on building their own gas line, and a required act of Congress to allow the use of foreign-built tanks to carry the gas to U.S. Ports. The Jones Act of 1920 protects U.S. shipyards and maritime jobs from overseas competition by requiring the use of U.S.-built and U.S.-owned and U.S.-crewed ships for transport of passengers or goods between domestic ports (Fairbanks Daily News Miner, 2005).

Assessment of potential North Slope natural gas development as a revenue source for a Yukon Flats Borough is critical, but the issues are complicated and beyond the scope of this study. For the purposes of conservatism, any future North Slope gas development scenarios are considered to provide $0 revenue to a Yukon Flats Borough. However, many experts are of the opinion that the North Slope gas will be developed in the relatively near future, and that a likely route for a gas pipeline would be within the TAPS

right-of-way. Doyon and the CATG need to fully assess the potential development scenarios for a North Slope natural gas line since this would provide a significant revenue contribution for a Yukon Flats Borough.

7.1.5.4 Shallow Coal Bed Methane

Another possible development in the region is coalbed methane (Miller, 2002). Shallow gas could potentially be produced and consumed locally to meet local energy needs, which would likely result in an overall long-term energy cost savings to the borough. It is not anticipated that shallow coal bed methane will be developed in the Yukon Flats in the near future. For the purposes of conservatism, shallow coal bed methane development is considered to provide a Yukon Flats Borough with $0 revenues and is eliminated from further consideration.

7.1.6 State Aid to Municipalities for Roads

The state also provides funds for roads per AS 29.60.110 as follows:

1) The department shall pay to a municipality that has power to provide for road maintenance and exercises that power, an entitlement based on each mile of road, street, or highway maintained by the municipality, excluding (1) the official state highway system, (2) roads, streets, or highways not dedicated to public use, (3) roads, streets, or highways maintained under AS 19.30.111 - 19.30.251 (local service road program), and (4) alleyways, in accordance with regulations adopted by the Department of Transportation and Public Facilities. A payment may not be made under this subsection for maintenance of a road that is not used by automotive equipment. If at least $41,472,000 is appropriated for all entitlements under AS 29.60.010 - 29.60.310 for a fiscal year, the entitlement for each municipality under this subsection for that year equals $3,000 per mile. Otherwise, the entitlement equals $2,500 per mile.

2) A frozen waterway and a connection from an inhabited area to a waterway that may be safely used for public transportation by automotive equipment and is so used during a portion of a year is eligible for payment of $1,500 per mile if the

> waterway and connection are maintained during the period of use by a municipality or combination of municipalities. The department, after consultation with the Department of Transportation and Public Facilities, shall determine which waterways and connections qualify and, where the waterways or connections lie outside the corporate limits of a municipality, which municipalities shall receive the payments under this subsection, unless the municipalities involved have agreed in writing to a particular distribution.

In 1985, two main revenue sharing programs of the state, Municipal Revenue Sharing and Safe Communities, provided rural communities with more than $160 million. However, nearly 20 years of budget cuts has eroded the two programs to $25 million in 2002, with further reductions to date (Anchorage Daily News, 2003). As a conservative and realistic planning measure, it is in the best interest of a Yukon Flats Borough to consider the State providing $0 revenue under AS 29.60.110.

7.1.7 Grant Land Entitlement

AS 29.65.030 provides for a "general grant land entitlement of a municipality…is 10% of total (state) acreage of vacant, unappropriated, unreserved (VUU) land within the boundaries of that municipality." Under this provision, a newly formed Yukon Flats Borough would be eligible for approximately 35,000 acres of existing State land within the current model borough boundary. The borough may realize potential revenue opportunities through sale of the land or non-development covenants with FWS. Assuming a possible market value of approximately $100 to $200 per acre, this land could provide the borough with an estimated $3.5 to $7 million in revenue. However, for the purposes of this study, and as a measure of conservatism, the Grant Land Entitlement is assumed to provide $0 revenue for a Yukon Flats Borough, and is eliminated from further consideration.

7.1.8 Miscellaneous Federal and State Grant Opportunities

There would be a multitude of Federal and State grant opportunities available to a Yukon Flats Borough, and an assessment of these opportunities is beyond the scope of this study.

An example is the Bilingual-Bicultural Education Funds sponsored by the Johnson-O'Malley Program, which provides assistance for the unique educational needs of eligible Indian children. Students must be at least ¼ native for these funds to be available.

As previously stated in this section, the developing borough must thoroughly evaluate as many opportunities for grants as is feasible. The proposed Borough Operational Budget presented in Section 8.0 includes a full-time salaried Grants Manager within the Borough Planning Department to direct local government efforts at pursing possible grant funding opportunities that may be available. For the purposes of this study Federal Grants are assumed to provide the borough with $0 revenue.

7.2 Local Revenue Sources

7.2.1 Property Tax – Real and Personal Property

Alaska State law allows boroughs and cities to enact a property tax not greater than 30 mills (3-percent) on real and personal property. The North Slope Borough and Bristol Bay Borough are the only rural boroughs that have enacted a property tax (Cotton, 2004). However, the North Slope Borough property tax base includes the estimated $10.5 billion worth of oil and gas property and the Bristol Bay Borough property tax base includes the areas fish processing plants as well as commercial fishing boats. The Yukon Flats does not contain similar lucrative properties as the North Slope Borough and Bristol Bay Borough; however, this situation may change should oil and gas reserves in the Yukon Flats are proven to be marketable and are ultimately developed.

A borough must at a minimum contribute the equivalent of 4 mills of the property value in the region, as assessed by the State Assessor, to school funding. Any additional revenue that is required for running the borough is above and beyond this value. This amount need not come from a property tax, but divorcing the source of income from the means by which the amount is assessed creates a situation that must be managed carefully to insure that the minimum requirement is met (Cotton, 2004). It should also be noted that all current boroughs fund their schools at more than the minimum 4 mills. The

proposed Yukon Flats Borough contains approximately $24 million of taxable real and personal property (non-oil and gas). Assuming a recommended 10 mill property tax rate, a Yukon Flats Borough would receive an estimated $240,000 in revenue through personal and real property taxes. Doyon and the CATG should thoroughly evaluate the implications associated with a property tax since it will undoubtedly be extremely unpopular with the community residents.

7.2.2 Sales Tax Options

A general sales tax is a very common tax structure in smaller Alaskan communities. The general premise is that all community residents will contribute to local government. However, people with lower income levels may pay a higher percentage of their income in sales taxes than those with higher income levels. The sales tax is generally placed on goods and commodities such as food items, construction materials, fuel, etc. The purchaser pays the tax on good and commodities purchased, while the provider of the goods and commodities collects the tax.

- ***General Sales Tax on Goods and Commodities:*** A general sales tax placed on goods and commodities typically sold at village community stores will likely be very unpopular with area residents, and is not further considered in this study.

- ***Aviation Fuel Sales:*** Sale of aviation fuel at municipal run airports is taxed, and the municipality is entitled to 60% of these funds. Airports within the region are currently State run. Considering the minimalist approach to the proposed borough government, assuming control of the local airports is not feasible. For the purposes of this study, tax on aviation fuel sales is assumed to provide the borough with $0 revenue and is eliminated from further consideration in this study.

- ***Alcohol License Fees:*** Per AS 04.11.610, alcohol license fees will be refunded semi-annually to municipalities. For the purposes of this study, alcohol-related taxes and reimbursement fees are assumed to provide $0 revenue for the borough and is eliminated from further consideration in this study.

- ***Commercial Fisheries***: AS 43.75.130 provides for a borough to receive 50% of tax revenue collected on commercial fisheries within the borough. In lieu of the uncertainty of commercial fishing in the region, revenue from a commercial fisheries tax is assumed to provide $0 revenue for the borough and is eliminated from further consideration in this study.

7.2.3 Employment Tax

An employment tax would consist of all employed persons within the proposed borough having an annual "head tax" automatically deducted from their first paycheck of the year. The tax could be a fixed value, such as $100 per person, or it could be based on a percentage of the previous year's earnings. An employment tax would likely not be supported by the residents of the Yukon Flats, thus for the purposes of this study any revenue associated with an employment tax is considered to be $0 and is eliminated from further consideration.

7.2.4 Mineral/Timber Severance Tax

Exploration efforts to date have not identified any significant mineral deposits within the region, and timber is considered to be of minimal marketable value. For the purposes of this study, any revenue associated with mineral or timber development is assumed to be $0 and eliminated from further consideration.

7.2.5 Industry-Related Payment in Lieu of Taxes

Several boroughs have reached agreements with groups developing resources for a PILT. Such an agreement is in place between the Denali borough and Usibeli Coal Mine, and a similar agreement between the potential Delta borough and Pogo Mine has been discussed. Future non-oil and gas developments within the proposed Yukon Flats that could possibly provide a significant source of income are not known at this time, and none are anticipated.

8.0 FINANCIAL COST ANALYSIS FOR BOROUGH OPERATION FOR YEARS 2005 TO 2015

This section presents a detailed financial cost analysis for the recommended borough structure for years 2005 through 2015, including a summary of all applicable revenue sources and borough operating expenses.

Four scenarios are developed on the following pages as follows:

- Table 8-1 presents the financial cost analysis assuming an 8 mill property tax;
- Table 8-2 presents the financial cost analysis assuming a 12 mill property tax;
- Table 8-4 presents the financial cost analysis assuming a 16 mill property tax; and
- Table 8-5 presents the financial cost analysis assuming a 20 mill property tax.

Table 8-1

Assumptions - Values in Red Font are Input Values and Apply to Calculations in Spreadsheet		
Inflation Rate	***3.3%***	
Borough Residents	***1350***	
TAPS Annual Depreciation	***4.0%***	
2005 Real and Personal Property Value	***$24,120,000***	
Property Tax Rate (mills)	***8***	
Federal Lands PILT - allotted cost per person	***$135***	
Sales Tax	***0.0%***	
Length of Pipeline	***140***	
Value/Mile	$1,900,000	
Value Pipeline Only	$266,000,000	
Pump Station Value	***$50,000,000***	
Total Value TAPS	***$316,000,000***	
Full and True Value	***$94,827***	Ave per capita full and true value, Jan 1, 2004
Maximum TAPS Tax	***$8,641,110***	
Tax Revenue on TAPS	***$2,528,000***	Note: Less than $8.3 Million, 10 mills is acceptable.

Yukon Flats Borough Operating Budget												
		2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
State and Federal Revenue Sources	***Report Section***											
New Borough Organizational Grant	7.1.1	$300,000	$200,000	$100,000	$0	$0	$0	$0	$0	$0	$0	$0
Federal Lands PILT	7.1.2	$177,000	$182,841	$188,875	$195,108	$201,546	$208,197	$215,068	$222,165	$229,496	$237,070	$244,893
Federal PILT for Schools	7.1.3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Power Cost Equalization	7.1.4	$293,000	$302,669	$312,657	$322,975	$333,633	$344,643	$356,016	$367,765	$379,901	$392,438	$405,388
Property Tax - TAPS	***7.1.5***	***$2,528,000***	***$2,444,576***	***$2,363,905***	***$2,285,896***	***$2,210,462***	***$2,137,516***	***$2,066,978***	***$1,998,768***	***$1,932,809***	***$1,869,026***	***$1,807,348***
State Aid to Municipalities for Roads	7.1.6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Property Tax - North Slope Natural Gas	7.1.5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Property Tax - Yukon Flats Oil and Gas	7.1.5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
State and Federal Revenue Subtotal		**$3,298,000**	**$3,130,086**	**$2,965,437**	**$2,803,979**	**$2,745,641**	**$2,690,356**	**$2,638,062**	**$2,588,697**	**$2,542,206**	**$2,498,533**	**$2,457,629**
Local Revenue Sources	***Report Section***											
Property Tax - Real and Personal Propert	***7.2.1***	***$192,960***	***$199,328***	***$205,905***	***$212,700***	***$219,719***	***$226,970***	***$234,460***	***$242,197***	***$250,190***	***$258,446***	***$266,975***
Sales Tax - Goods and Commodities	7.2.2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Utilities - Electric	6.2	$30,000	$30,990	$32,013	$33,069	$34,160	$35,288	$36,452	$37,655	$38,898	$40,181	$41,507
Utilities - Water and Sewer	6.2	$20,000	$20,660	$21,342	$22,046	$22,774	$23,525	$24,301	$25,103	$25,932	$26,788	$27,672
Local Revenue Subtotal		**$242,960**	**$250,978**	**$259,260**	**$267,816**	**$276,653**	**$285,783**	**$295,214**	**$304,956**	**$315,019**	**$325,415**	**$336,154**
TOTAL OPERATING REVENUE		**$3,540,960**	**$3,381,064**	**$3,224,697**	**$3,071,794**	**$3,022,294**	**$2,976,139**	**$2,933,276**	**$2,893,653**	**$2,857,225**	**$2,823,948**	**$2,793,783**
Estimated Borough Expenditures												
Mayor's Office Expenditures		$245,406	$253,505	$261,870	$270,512	$279,439	$288,660	$298,186	$308,026	$318,191	$328,692	$339,538
Assembly Expenditures		$248,750	$256,959	$265,438	$274,198	$283,246	$292,594	$302,249	$312,223	$322,527	$333,170	$344,165
Legal Expenditures		$81,250	$83,931	$86,701	$89,562	$92,518	$95,571	$98,725	$101,982	$105,348	$108,824	$112,416
Finance Department Expenditures		$135,625	$140,101	$144,724	$149,500	$154,433	$159,530	$164,794	$170,232	$175,850	$181,653	$187,648
Planning & Public Works Expenditures		$416,250	$429,986	$444,176	$458,834	$473,975	$489,616	$505,774	$522,464	$539,705	$557,516	$575,914
Tax Assessment Expenditures		$172,500	$178,193	$184,073	$190,147	$196,422	$202,904	$209,600	$216,517	$223,662	$231,043	$238,667
Borough School Contribution		$0	$722,207	$1,045,980	$1,347,122	$1,301,777	$1,258,528	$1,217,300	$1,178,021	$1,140,625	$1,105,045	$1,071,220
Utility Operation and Maintenance Expenditures		$1,771,000	$1,829,443	$1,889,815	$1,952,179	$2,016,600	$2,083,148	$2,151,892	$2,222,905	$2,296,260	$2,372,037	$2,450,314
TOTAL BOROUGH EXPENDITURES		**$3,070,781**	**$3,894,324**	**$4,322,777**	**$4,732,053**	**$4,798,411**	**$4,870,551**	**$4,948,519**	**$5,032,371**	**$5,122,168**	**$5,217,979**	**$5,319,881**
BALANCE OF BOROUGH OPERATIONS		**$470,179**	**-$513,260**	**-$1,098,081**	**-$1,660,259**	**-$1,776,117**	**-$1,894,411**	**-$2,015,243**	**-$2,138,718**	**-$2,264,943**	**-$2,394,031**	**-$2,526,098**

Table 8-2

Assumptions - Values in Red Font are Input Values and Apply to Calculations in Spreadsheet		
Inflation Rate	***3.3%***	
Borough Residents	***1350***	
TAPS Annual Depreciation	***4.0%***	
2005 Real and Personal Property Value	***$24,120,000***	
Property Tax Rate (mills)	***12***	
Federal Lands PILT - allotted cost per person	***$135***	
Sales Tax	***0.0%***	
Length of Pipeline	***140***	
Value/Mile	$1,900,000	
Value Pipeline Only	$266,000,000	
Pump Station Value	***$50,000,000***	
Total Value TAPS	***$316,000,000***	
Full and True Value	***$94,827***	Ave per capita full and true value, Jan 1, 2004
Maximum TAPS Tax	***$8,641,110***	
Tax Revenue on TAPS	***$3,792,000***	Note: Less than $8.3 Million, 10 mills is acceptable.

Yukon Flats Borough Operating Budget											
		2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
State and Federal Revenue Sources	***Report Section***											
New Borough Organizational Grant	7.1.1	$300,000	$200,000	$100,000	$0	$0	$0	$0	$0	$0	$0	$0
Federal Lands PILT	7.1.2	$177,000	$182,841	$188,875	$195,108	$201,546	$208,197	$215,068	$222,165	$229,496	$237,070	$244,893
Federal PILT for Schools	7.1.3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Power Cost Equalization	7.1.4	$293,000	$302,669	$312,657	$322,975	$333,633	$344,643	$356,016	$367,765	$379,901	$392,438	$405,388
Property Tax - TAPS	***7.1.5***	***$3,792,000***	***$3,666,864***	***$3,545,857***	***$3,428,844***	***$3,315,692***	***$3,206,274***	***$3,100,467***	***$2,998,152***	***$2,899,213***	***$2,803,539***	***$2,711,022***
State Aid to Municipalities for Roads	7.1.6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Property Tax - North Slope Natural Gas	7.1.5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Property Tax - Yukon Flats Oil and Gas	7.1.5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
State and Federal Revenue Subtotal		**$4,562,000**	**$4,352,374**	**$4,147,389**	**$3,946,927**	**$3,850,871**	**$3,759,114**	**$3,671,551**	**$3,588,081**	**$3,508,610**	**$3,433,046**	**$3,361,303**
Local Revenue Sources	***Report Section***											
Property Tax - Real and Personal Propert	***7.2.1***	***$289,440***	***$298,992***	***$308,858***	***$319,051***	***$329,579***	***$340,455***	***$351,690***	***$363,296***	***$375,285***	***$387,669***	***$400,462***
Sales Tax - Goods and Commodities	7.2.2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Utilities - Electric	6.2	$30,000	$30,990	$32,013	$33,069	$34,160	$35,288	$36,452	$37,655	$38,898	$40,181	$41,507
Utilities - Water and Sewer	6.2	$20,000	$20,660	$21,342	$22,046	$22,774	$23,525	$24,301	$25,103	$25,932	$26,788	$27,672
Local Revenue Subtotal		**$339,440**	**$350,642**	**$362,213**	**$374,166**	**$386,513**	**$399,268**	**$412,444**	**$426,055**	**$440,114**	**$454,638**	**$469,641**
TOTAL OPERATING REVENUE		**$4,901,440**	**$4,703,016**	**$4,509,602**	**$4,321,092**	**$4,237,385**	**$4,158,383**	**$4,083,995**	**$4,014,136**	**$3,948,725**	**$3,887,684**	**$3,830,944**
Estimated Borough Expenditures												
Mayor's Office Expenditures		$245,406	$253,505	$261,870	$270,512	$279,439	$288,660	$298,186	$308,026	$318,191	$328,692	$339,538
Assembly Expenditures		$248,750	$256,959	$265,438	$274,198	$283,246	$292,594	$302,249	$312,223	$322,527	$333,170	$344,165
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Finance Department Expenditures		$135,625	$140,101	$144,724	$149,500	$154,433	$159,530	$164,794	$170,232	$175,850	$181,653	$187,648
Planning & Public Works Expenditures		$416,250	$429,986	$444,176	$458,834	$473,975	$489,616	$505,774	$522,464	$539,705	$557,516	$575,914
Tax Assessment Expenditures		$172,500	$178,193	$184,073	$190,147	$196,422	$202,904	$209,600	$216,517	$223,662	$231,043	$238,667
Borough School Contribution		$0	$722,207	$1,045,980	$1,347,122	$1,301,777	$1,258,528	$1,217,300	$1,178,021	$1,140,625	$1,105,045	$1,071,220
Utility Operation and Maintenance Expenditures		$1,771,000	$1,829,443	$1,889,815	$1,952,179	$2,016,600	$2,083,148	$2,151,892	$2,222,905	$2,296,260	$2,372,037	$2,450,314
TOTAL BOROUGH EXPENDITURES		**$3,070,781**	**$3,894,324**	**$4,322,777**	**$4,732,053**	**$4,798,411**	**$4,870,551**	**$4,948,519**	**$5,032,371**	**$5,122,168**	**$5,217,979**	**$5,319,881**
BALANCE OF BOROUGH OPERATIONS		**$1,830,659**	**$808,691**	**$186,825**	**-$410,961**	**-$561,026**	**-$712,168**	**-$864,524**	**-$1,018,235**	**-$1,173,443**	**-$1,330,295**	**-$1,488,936**

Table 8-3

Assumptions - Values in Red Font are Input Values and Apply to Calculations in Spreadsheet		
Inflation Rate	***3.3%***	
Borough Residents	***1350***	
TAPS Annual Depreciation	***4.0%***	
2005 Real and Personal Property Value	***$24,120,000***	
Property Tax Rate (mills)	***16***	
Federal Lands PILT - allotted cost per person	***$135***	
Sales Tax	***0.0%***	
Length of Pipeline	***140***	
Value/Mile	$1,900,000	
Value Pipeline Only	$266,000,000	
Pump Station Value	***$50,000,000***	
Total Value TAPS	***$316,000,000***	
Full and True Value	***$94,827***	Ave per capita full and true value, Jan 1, 2004
Maximum TAPS Tax	***$8,641,110***	
Tax Revenue on TAPS	***$5,056,000***	Note: Less than $8.3 Million, 10 mills is acceptable.

Yukon Flats Borough Operating Budget												
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
State and Federal Revenue Sources	***Report Section***											
New Borough Organizational Grant	7.1.1	$300,000	$200,000	$100,000	$0	$0	$0	$0	$0	$0	$0	$0
Federal Lands PILT	7.1.2	$177,000	$182,841	$188,875	$195,108	$201,546	$208,197	$215,068	$222,165	$229,496	$237,070	$244,893
Federal PILT for Schools	7.1.3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Power Cost Equalization	7.1.4	$293,000	$302,669	$312,657	$322,975	$333,633	$344,643	$356,016	$367,765	$379,901	$392,438	$405,388
Property Tax - TAPS	***7.1.5***	***$5,056,000***	***$4,889,152***	***$4,727,810***	***$4,571,792***	***$4,420,923***	***$4,275,033***	***$4,133,957***	***$3,997,536***	***$3,865,617***	***$3,738,052***	***$3,614,696***
State Aid to Municipalities for Roads	7.1.6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Property Tax - North Slope Natural Gas	7.1.5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Property Tax - Yukon Flats Oil and Gas	7.1.5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
State and Federal Revenue Subtotal		**$5,826,000**	**$5,574,662**	**$5,329,342**	**$5,089,875**	**$4,956,102**	**$4,827,873**	**$4,705,040**	**$4,587,465**	**$4,475,014**	**$4,367,559**	**$4,264,977**
Local Revenue Sources	***Report Section***											
Property Tax - Real and Personal Propert	***7.2.1***	***$385,920***	***$398,655***	***$411,811***	***$425,401***	***$439,439***	***$453,940***	***$468,920***	***$484,395***	***$500,380***	***$516,892***	***$533,950***
Sales Tax - Goods and Commodities	7.2.2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Utilities - Electric	6.2	$30,000	$30,990	$32,013	$33,069	$34,160	$35,288	$36,452	$37,655	$38,898	$40,181	$41,507
Utilities - Water and Sewer	6.2	$20,000	$20,660	$21,342	$22,046	$22,774	$23,525	$24,301	$25,103	$25,932	$26,788	$27,672
Local Revenue Subtotal		**$435,920**	**$450,305**	**$465,165**	**$480,516**	**$496,373**	**$512,753**	**$529,674**	**$547,153**	**$565,209**	**$583,861**	**$603,129**
TOTAL OPERATING REVENUE		**$6,261,920**	**$6,024,967**	**$5,794,507**	**$5,570,391**	**$5,452,475**	**$5,340,626**	**$5,234,714**	**$5,134,619**	**$5,040,224**	**$4,951,421**	**$4,868,106**
Estimated Borough Expenditures												
Mayor's Office Expenditures		$245,406	$253,505	$261,870	$270,512	$279,439	$288,660	$298,186	$308,026	$318,191	$328,692	$339,538
Assembly Expenditures		$248,750	$256,959	$265,438	$274,198	$283,246	$292,594	$302,249	$312,223	$322,527	$333,170	$344,165
Legal Expenditures		$81,250	$83,931	$86,701	$89,562	$92,518	$95,571	$98,725	$101,982	$105,348	$108,824	$112,416
Finance Department Expenditures		$135,625	$140,101	$144,724	$149,500	$154,433	$159,530	$164,794	$170,232	$175,850	$181,653	$187,648
Planning & Public Works Expenditures		$416,250	$429,986	$444,176	$458,834	$473,975	$489,616	$505,774	$522,464	$539,705	$557,516	$575,914
Tax Assessment Expenditures		$172,500	$178,193	$184,073	$190,147	$196,422	$202,904	$209,600	$216,517	$223,662	$231,043	$238,667
Borough School Contribution		$0	$722,207	$1,045,980	$1,347,122	$1,301,777	$1,258,528	$1,217,300	$1,178,021	$1,140,625	$1,105,045	$1,071,220
Utility Operation and Maintenance Expenditures		$1,771,000	$1,829,443	$1,889,815	$1,952,179	$2,016,600	$2,083,148	$2,151,892	$2,222,905	$2,296,260	$2,372,037	$2,450,314
TOTAL BOROUGH EXPENDITURES		**$3,070,781**	**$3,894,324**	**$4,322,777**	**$4,732,053**	**$4,798,411**	**$4,870,551**	**$4,948,519**	**$5,032,371**	**$5,122,168**	**$5,217,979**	**$5,319,881**
BALANCE OF BOROUGH OPERATIONS		**$3,191,139**	**$2,130,643**	**$1,471,730**	**$838,337**	**$654,064**	**$470,075**	**$286,195**	**$102,248**	**-$81,944**	**-$266,558**	**-$451,775**

Table 8-4

Assumptions - Values in Red Font are Input Values and Apply to Calculations in Spreadsheet		
Inflation Rate	***3.3%***	
Borough Residents	***1350***	
TAPS Annual Depreciation	***4.0%***	
2005 Real and Personal Property Value	***$24,120,000***	
Property Tax Rate (mills)	***20***	
Federal Lands PILT - allotted cost per person	***$135***	
Sales Tax	***0.0%***	
Length of Pipeline	***140***	
Value/Mile	$1,900,000	
Value Pipeline Only	$266,000,000	
Pump Station Value	***$50,000,000***	
Total Value TAPS	***$316,000,000***	
Full and True Value	***$94,827***	Ave per capita full and true value, Jan 1, 2004
Maximum TAPS Tax	***$8,641,110***	
Tax Revenue on TAPS	***$6,320,000***	Note: Less than $8.3 Million, 10 mills is acceptable.

Yukon Flats Borough Operating Budget												
		2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
State and Federal Revenue Sources	***Report Section***											
New Borough Organizational Grant	7.1.1	$300,000	$200,000	$100,000	$0	$0	$0	$0	$0	$0	$0	$0
Federal Lands PILT	7.1.2	$177,000	$182,841	$188,875	$195,108	$201,546	$208,197	$215,068	$222,165	$229,496	$237,070	$244,893
Federal PILT for Schools	7.1.3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Power Cost Equalization	7.1.4	$293,000	$302,669	$312,657	$322,975	$333,633	$344,643	$356,016	$367,765	$379,901	$392,438	$405,388
Property Tax - TAPS	***7.1.5***	***$6,320,000***	***$6,111,440***	***$5,909,762***	***$5,714,740***	***$5,526,154***	***$5,343,791***	***$5,167,446***	***$4,996,920***	***$4,832,022***	***$4,672,565***	***$4,518,370***
State Aid to Municipalities for Roads	7.1.6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Property Tax - North Slope Natural Gas	7.1.5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Property Tax - Yukon Flats Oil and Gas	7.1.5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
State and Federal Revenue Subtotal		**$7,090,000**	**$6,796,950**	**$6,511,294**	**$6,232,823**	**$6,061,333**	**$5,896,631**	**$5,738,529**	**$5,586,849**	**$5,441,419**	**$5,302,072**	**$5,168,651**
Local Revenue Sources	***Report Section***											
Property Tax - Real and Personal Propert	***7.2.1***	***$482,400***	***$498,319***	***$514,764***	***$531,751***	***$549,299***	***$567,426***	***$586,151***	***$605,494***	***$625,475***	***$646,116***	***$667,437***
Sales Tax - Goods and Commodities	7.2.2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Utilities - Electric	6.2	$30,000	$30,990	$32,013	$33,069	$34,160	$35,288	$36,452	$37,655	$38,898	$40,181	$41,507
Utilities - Water and Sewer	6.2	$20,000	$20,660	$21,342	$22,046	$22,774	$23,525	$24,301	$25,103	$25,932	$26,788	$27,672
Local Revenue Subtotal		**$532,400**	**$549,969**	**$568,118**	**$586,866**	**$606,233**	**$626,238**	**$646,904**	**$668,252**	**$690,304**	**$713,084**	**$736,616**
TOTAL OPERATING REVENUE		**$7,622,400**	**$7,346,919**	**$7,079,412**	**$6,819,689**	**$6,667,566**	**$6,522,869**	**$6,385,434**	**$6,255,102**	**$6,131,723**	**$6,015,157**	**$5,905,267**
Estimated Borough Expenditures												
Mayor's Office Expenditures		$245,406	$253,505	$261,870	$270,512	$279,439	$288,660	$298,186	$308,026	$318,191	$328,692	$339,538
Assembly Expenditures		$248,750	$256,959	$265,438	$274,198	$283,246	$292,594	$302,249	$312,223	$322,527	$333,170	$344,165
Legal Expenditures		$81,250	$83,931	$86,701	$89,562	$92,518	$95,571	$98,725	$101,982	$105,348	$108,824	$112,416
Finance Department Expenditures		$135,625	$140,101	$144,724	$149,500	$154,433	$159,530	$164,794	$170,232	$175,850	$181,653	$187,648
Planning & Public Works Expenditures		$416,250	$429,986	$444,176	$458,834	$473,975	$489,616	$505,774	$522,464	$539,705	$557,516	$575,914
Tax Assessment Expenditures		$172,500	$178,193	$184,073	$190,147	$196,422	$202,904	$209,600	$216,517	$223,662	$231,043	$238,667
Borough School Contribution		$0	$722,207	$1,045,980	$1,347,122	$1,301,777	$1,258,528	$1,217,300	$1,178,021	$1,140,625	$1,105,045	$1,071,220
Utility Operation and Maintenance Expenditures		$1,771,000	$1,829,443	$1,889,815	$1,952,179	$2,016,600	$2,083,148	$2,151,892	$2,222,905	$2,296,260	$2,372,037	$2,450,314
TOTAL BOROUGH EXPENDITURES		**$3,070,781**	**$3,894,324**	**$4,322,777**	**$4,732,053**	**$4,798,411**	**$4,870,551**	**$4,948,519**	**$5,032,371**	**$5,122,168**	**$5,217,979**	**$5,319,881**
BALANCE OF BOROUGH OPERATIONS		**$4,551,619**	**$3,452,595**	**$2,756,635**	**$2,087,635**	**$1,869,155**	**$1,652,318**	**$1,436,914**	**$1,222,731**	**$1,009,555**	**$797,178**	**$585,387**

9.0 RECOMMENDATIONS AND CONCLUSIONS

Preliminary cost analyses suggest it may be in the borough's best economic interest to incorporate; however, a local government may not be in the best interest of the communities from a social perspective. Should the region decide to incorporate, the recommended borough government structure is Non-unified Home Rule. The proposed borough government should most likely be a minimalist government and provide the basic services of education, taxation, and planning. This type of government will provide the people of the Yukon Flats with the greatest degree of self-determination available under the Alaska Constitution. The broad charter powers of a home rule borough would offer significant flexibility for accommodation and interaction with the tribal government, as is the case in the Northwest Arctic Borough and North Slope Boroughs.

Assuming the new borough is created in 2005, a 16-mill property tax is implemented, and North Slope natural gas and Yukon Flats oil and gas are never developed, the excess borough revenue during the initial years of operation is significant and exceeds $3 million annually. If this revenue is invested with an assumed 7.5-percent annual rate of return, the borough would have sufficient revenue to operate to year 2033 (see Table 9-1). Assuming either North Slope Natural Gas or Yukon Flats Oil and Gas is developed in approximately 2020, and a conservative $4 million in revenue is assumed for that year, the economic situation vastly improves (see Table 9-2). Note Tables 9-1 and 9-2 do not consider income tax on investments.

In conclusion:

- This preliminary planning exercise suggests that a local borough government is economically and socially feasible and for the communities of the Yukon Flats.
- Industry sources indicate North Slope Gas Development is probable, which would only improve the fiscal situation of the borough government.
- Doyon and CATG should obtain/allocate funding and retain professional expertise for a detailed social-economic feasibility of a local borough government in the Yukon Flats.

Table 9-1

Assumptions:
Borough incorporates in 2005, tax rate 16 mills
Sinking Fund increases at 7.5% annually
North Slope Natural Gas Never Developed
Yukon Flats Oil & Gas Never Developed

	2005	2010	2020	2030	2033	2034
TOTAL BOROUGH EXPENDITURES	$3,070,781	$4,881,314	$5,931,100	$6,914,438	$7,621,806	$7,873,325
INVESTED IN SINKING FUND	$3,239,139	$499,898	-$1,371,396	-$2,668,758	-$3,378,693	-$3,621,832
BALANCE OF BOROUGH OPERATIONS	$3,239,139	$11,663,435	$18,205,093	$8,766,483	$783,388	-$2,779,690

Table 9-2

Assumptions:
Same as above with…
$4M annual revenue source in 2020
Either North Slope Natural Gas or Yukon Flats Oil Development

	2005	2010	2020	2030	2040
TOTAL OPERATING REVENUE	$6,309,920	$5,381,212	$8,559,704	$9,779,987	$12,056,444
TOTAL BOROUGH EXPENDITURES	$3,070,781	$4,881,314	$5,931,100	$6,914,438	$9,566,655
BALANCE (INVESTED IN SINKING FUND)	$3,239,139	$499,898	$2,628,604	$2,865,549	$2,489,788
TOTAL BALANCE OF SINKING FUND	$3,239,139	$11,663,435	$22,205,093	$83,659,272	$210,002,667

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20 U.S.C. §§7701-7714 (Federal PILT for Schools)

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Kathy Campbell received her B.S. in Geology from the University of Arizona, and her M.S. in Geology from the University of Alaska, Fairbanks. She is currently the Operations Preparedness Manager with Alyeska Pipeline Service Company.

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Michelle Desrochers, P.E., received her B.S. in Electrical Engineering in 1993 at the University of Alaska, Fairbanks, and has 14 years of professional experience in electrical engineering planning and design, project management, and construction administration. She currently serves as an electrical engineer with Design Alaska, Inc., in Fairbanks, Alaska.

Peter Hewko received his B.S. in Civil Engineering in 2001 at the University of Alaska, Fairbanks, and has 4 years of professional experience in structural engineering design and construction administration. He is currently employed with Design Alaska, Inc., in Fairbanks, Alaska.

Michael Schmetzer, P.E, is a 24-year resident of Alaska. In 1981 he accepted an athletic scholarship at the University of Alaska Anchorage, and completed his B.S. in Civil Engineering in 1986. He currently has 18 years of professional experience in civil and environmental engineering planning and design, project management, and construction administration, and serves as a civil and environmental engineering project manager with USKH, Inc., in Fairbanks, Alaska. His wife Jennifer (also a civil engineer) and 22-month-old daughter Emily share their home with 20 Alaska Husky sled dogs.