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Yukon-Kuskokwim Region

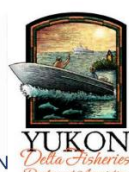
Comprehensive Economic Development Strategy

2018 – 2023

Prepared for the Yukon-Kuskokwim Region with funding from the United States Department of Commerce, Economic Development Administration



CALISTA CORPORATION



Yunt 'Elitnaurviat

Acknowledgements

Thank you to all the Y-K residents, communities, businesses, organizations and other local, state and federal partners who contributed to this 2018-2023 Y-K Region Comprehensive Economic Development Strategy Update, including Y-K Region CEDS survey respondents.

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NOTE: consider adding additional CEDS Committee members during CEDS implementation, to potentially include municipal, tribal and village corporation representatives.

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The U.S. Economic Development Administration

- Shirley Kelly
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2018 Y-K Economic Summit

- Y-K Economic Summit participants, presenters and panelists
- Location host: Yupiit Piciryarait Cultural Center
- Summit sponsors: GCI, Alaska Commercial Company, Donlin Gold, Grant Aviation, Ravn Alaska



**AGNEW
::BECK**

The CEDS was developed by Y-K regional partners, communities, tribes, businesses and residents, with the assistance of Agnew::Beck Consulting.

List of Acronyms

A+P	Airframe and power plant
ADF+G	Alaska Department of Fish and Game
AEA	Alaska Energy Authority
AHFC	Alaska Housing Finance Corporation
AIDEA	Alaska Industrial Development and Export Authority
AVCP	Association of Village Council Presidents
ANSEP	Alaska Native Science and Engineering Program
ANTHC	Alaska Native Tribal Health Consortium
AVCP RHA	Association of Village Council Presidents Regional Housing Authority
AVEC	Alaska Village Electric Cooperative
AVTEC	Alaska Vocational Technical Center
BBNA	Bristol Bay Native Association
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CDQ	Community Development Quota
CEDS	Comprehensive Economic Development Strategy
CEMAI	Calista Energy Management Assistance Initiative
CVRF	Coastal Villages Region Fund
DCCED	Alaska Department of Commerce, Community and Economic Development
DOE	U.S. Department of Energy
DOLWD	Alaska Department of Labor and Workforce Development
DOT+PF	Alaska Department of Transportation and Public Facilities
EDA	Economic Development Administration
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
GED	General education diplomas
IGAP	Indian Environmental General Assistance Program
IRS	Internal Revenue Service
IRT	Innovation Readiness & Training
LEO	Local Environmental Observer (ANTHC program)
LNG	Liquefied natural gas
MSA	Middle School Academy (ANSEP program)
NEPA	National Environmental Policy Act
PCE	Power Cost Equalization
PFD	Permanent Fund Dividend
RHA	Regional Housing Authority
STEM	science, technology, engineering and math
SWOT	Strengths, Weaknesses, Opportunities and Threats
TANF	Temporary Assistance for Needy Families
TERO	Tribal Employment Rights Ordinances
TIGER	Transportation Investment Generating Economic Recovery (federal grant opportunity)
UAF	University of Alaska Fairbanks
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture

USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VPSO	Village Public Safety Officer
YDFDA	Yukon Delta Fisheries Development Association
YE	Yuut Elitnaurviat
Y-K	Yukon-Kuskokwim
YKEDC	Yukon Kuskokwim Economic Development Council
YKHC	Yukon-Kuskokwim Health Corporation

Table of Contents

Y-K Region Economic Vision.....	7
Y-K Region Economic Development Goals and Strategies.....	7
1. Introduction	9
What is a CEDS?	9
Who developed this CEDS?	10
Development of the CEDS	10
Structure of the CEDS.....	11
About the Project Area: the Yukon-Kuskokwim (Y-K) Region	12
2. Regional Socioeconomic Data.....	15
Demographics	17
Industries	24
Employment and Income.....	29
3. Cluster Descriptions	39
Communications.....	39
Education, Workforce Development and Training.....	40
Energy	44
Commercial Fishing	45
Health Care.....	47
Housing.....	47
Mining	48
Subsistence and Harvesting.....	49
Timber.....	51
Tourism.....	51
Transportation (includes Aviation and Maritime)	52
4. SWOT Analysis	55
Strengths	56
Weaknesses/ Constraints	59
Opportunities	62
Threats.....	65
5. Regional Future Direction	67

Y-K Region: Economic Vision..... 67
Goals and Strategies 67
6. Action Plan and Performance Measures73
Appendices

Executive Summary

Y-K Region Economic Vision

A strong, innovative, self-reliant Yukon-Kuskokwim economy supported by our resilient culture and regional collaboration.

Y-K Region Economic Development Goals and Strategies

Goal A – Grow Our Own: Develop an educated and well-trained regional workforce and group of future leaders

1. Encourage businesses, communities and organizations to engage youth earlier and more often: bring young residents to conferences, meet with them in classrooms, invite to board meetings; encourage them to vision for their future and engage them in career conversations earlier.
2. Connect regional corporations with local school districts on a regular basis to inform school boards of workforce needs and increase recruitment of local graduates.
3. Improve college readiness of local students by supporting Alaska Native Science and Engineering Program (ANSEP) pre-college components (middle and high school).
4. Grow the local aviation workforce.
5. Work with children and youth, potentially ages three to 25, to develop basic skills to operate within workplace culture.
6. Identify and meet training needs for local people to be prepared to work during construction and operation of Donlin Gold mine.

Goal B – Address Critical Housing Needs

7. Expand regional water and sewer infrastructure projects; allow regional housing authorities to be eligible for water and sewer infrastructure funds to help offset installation costs for new homes.
8. Construct 3,000 homes in the Y-K region to address the housing shortage.
9. Support local lumber, sawmill, and home manufacturing efforts such as a truss manufacturing plant to reduce the cost of building materials and increase local employment opportunities.
10. Develop programs to educate residents and local agencies on how to finance a new home.

Goal C – Support and Grow Local Business Development and Entrepreneurship

11. Conduct finance, business basics, and life management skills education in communities to help residents understand credit, loans, insurance and banking opportunities, starting with youth in junior and senior high schools, and including young and older adults.
12. Collectively invest in regional community and economic development.
13. Promote farm-to-table and seafood-to-table commercial and export opportunities for locally grown and harvested goods, including value-added processing.
14. Establish a tanning operations company or factory in the region to process harvested furs for export, local use and arts/crafts.

Goal D – Expand and Improve Regional Communications, Energy and Transportation Infrastructure

15. Construct the Yukon-Kuskokwim Freight Corridor (connect communities along the Yukon and Kuskokwim Rivers via a 44-mile overland route).
16. Construct the Lower Yukon River Regional Port Development Project in Emmonak.
17. Implement needed upgrades at airports around the region, including resurfacing, taxiways, airport lighting and other infrastructure.
18. Bring natural gas from Cook Inlet to the region, either in bulk shipments or via pipeline.
19. Increase connectivity in the region by connecting Bethel to other parts of the state via a fiber optic telecommunications cable.
20. Construct a gravel pit at Pilcher Mountain, along with a road and port for exporting gravel.
21. Complete upgrades to the City of Bethel dock.
22. Construct a new Petroleum Port/Cargo Dock in Bethel.

Goal E – Improve the Health, Wellness and Safety of the Region’s People and Communities

23. Improve success of those reentering communities from correctional facilities by providing treatment for addictions, increasing education, job training, and life skills, to increase workforce and improve public safety.
24. Address substance abuse challenges (including alcohol, opioids and methamphetamine) through increased programs and treatment options.
25. Replace village health clinics, including replacements in Kongiganak, Quinhagak, and Akiachak, and clinic expansion in Kwigillingok.
26. Continue to support YKHC’s clinic and hospital expansion, including identifying funding to meet YKHC staffing needs.
27. Design and construct a Regional Family Services Center.
28. Expand the Yukon-Kuskokwim Qavartarvik Hostel, YKHC’s lodging facility for patients.

Goal F – Create Resilient and Prepared Communities

29. Establish a Western Alaska Emergency Response Center in Bethel.
30. Participate in Adapt Y-K action planning to identify community-supported responses to climate change to protect natural resources for subsistence and environmental integrity.

Goal G – Cultivate Regional Coordination and Planning

(no priority strategies associated with this goal, but this CEDS effort, and the associated infrastructure priorities developed Fall 2017, is a clear demonstration of regional coordination and planning happening today)

Goal H – Protect Natural Resource Harvests and Subsistence

(see strategy #30)



Source: AVCP

I. Introduction

What is a CEDS?

A Comprehensive Economic Development Strategy (CEDS) is a tool for community based and regionally driven economic planning, with strategies and an implementation plan for creating stronger and more resilient communities and economies. CEDS are an important part of the U.S. Department of Commerce Economic Development Administration (EDA) programs, and are often required to be eligible for EDA and other federal and state funding opportunities.

The CEDS is the guiding document for economic development in the Y-K region and seeks to align efforts between different regional entities and businesses. The goals and priority strategies in this document provide regional leaders, funders and partners with the background and direction they need for allocating funding and prioritizing efforts that support economic development in the Y-K region.

The EDA recommends communities consider the concept of economic resilience when creating a CEDS. Building economic resilience requires a proactive approach to identify and mitigate current and potential threats and disruptions to a community or region's economy. Examples of ways to build resilience include diversifying the economy, enhancing business and workforce development supports, strengthening infrastructure and conducting pre-disaster recovery planning.

Regional CEDS documents must go through a comprehensive, robust update every five years. The Association of Village Council Presidents (AVCP) last conducted a full update in 2012; this document represents the full update. In the years between full updates, AVCP, in partnership with regional partners, conducts a shorter, less intensive update process. The annual update focuses on the following three questions:

- How are we doing? What have we accomplished over the past year?
- What has changed in the region? What data needs to be updated to better tell the story of the region?
- What can we do better? Are there strategies and actions that should be added or adapted?

Who developed this CEDS?

AVCP has overseen the CEDS process, in close collaboration with the following regional partners:

- AVCP Regional Housing Authority (AVCP RHA)
- Calista Corporation
- Coastal Villages Region Fund (CVRF)
- Yukon Delta Fisheries Development Association (YDFDA)
- Yukon Kuskokwim Health Corporation (YKHC)
- Yuut Elitnaurviat (YE)

The CEDS was developed with detailed input from regional leaders, organizations, businesses, residents and agency partners. For a detailed list of the individuals and organizations involved, please see the Acknowledgements page.

Funding for this effort comes from the U.S. Department of Commerce, Economic Development Administration.

Development of the CEDS

The CEDS was developed with assistance from Agnew::Beck Consulting. Outlined below is a summary of the efforts used to develop the Y-K Region CEDS:

- Created a project overview flyer introducing the project and schedule. Established a project webpage on the AVCP website and uploaded project information.
- Hosted teleconferences with regional partners throughout the planning period to get their input on process, outreach and draft materials and to help plan the Y-K Region Economic Summit.
- Compiled background data on the community and the region from various local, state and federal data sources.
- Conducted interviews with stakeholders and community leaders. Overall, more than 15 interviews were completed during the planning process.
- Created a short project survey for residents to contribute ideas and suggestions. Residents could respond online or via hard copy or fax. The survey opened in early February and was available through mid-May, 2018. Fifty-six residents responded to the survey.
- Traveled to and hosted three sub-regional meetings in Aniak, Bethel and Hooper Bay to share and discuss preliminary findings and talk with residents about economic constraints, opportunities and sub-regional needs.

- Planned for and hosted the 2018 Y-K Economic Summit. At the Summit, the project team shared project information, facilitated discussion on the region’s constraints and opportunities and conducted a strategy prioritization exercise with over 60 participants.
 - For a copy of the Summit slides, see Appendix A.
 - For a copy of Summit participants, see Appendix B.
- Created the Y-K Region CEDS Committee and met via teleconference with the Committee to review the vision, goals and proposed list of strategies. The CEDS Committee then distributed the proposed list to each of their boards/colleagues/networks to get additional feedback on the vision, goals and strategies.
- On June 27, 2018 the draft CEDS was released for a 30-day public comment period. During this window, the CEDS Committee worked with regional, state and federal partners to develop action plans for priority strategies. These action plans will be further refined as implementation moves forward.
- The final CEDS was completed at the end of July 2018.

Structure of the CEDS

- **Part 1: Introduction** provides an overview of CEDS planning, the project area and the process used to develop this CEDS.
- **Part 2: Regional Socioeconomic Data** gives a summary of demographic and economic data that showcases community and regional trends.
- **Part 3: Cluster Descriptions** offers summary information for existing and emerging economic clusters in the region.
- **Part 4: SWOT Analysis** provides an analysis of the strengths, weaknesses/constraints, opportunities and threats facing the Y-K region and sub-regions. This includes a discussion of the internal and external factors that support and contribute to the region’s economic development, and factors that limit and threaten the region’s economy.
- **Part 5: Regional Future Direction** outlines a regional vision, with goals and strategies that support the economic vitality of the Y-K region.
- **Part 6: Action Plan and Performance Measures** describes a subset of “priority” strategies (programs, projects and activities) that leverage the region’s strengths and potential opportunities, while also mitigating known challenges and potential threats to regional and economic development activity. The action plan is a five-year roadmap with guidance on how to make progress on the priority strategies and projects. The action plan includes estimates on costs, number of jobs created and performance measures to track progress on the CEDS.

About the Project Area: the Yukon-Kuskokwim (Y-K) Region

Geographic Description

The Yukon-Kuskokwim Delta (“Y-K region”) is in western Alaska. The region, which is approximately 58,000 square miles in size, is named for the two large rivers that flow through the region, the Yukon River and the Kuskokwim River; these rivers offer connectivity between communities and are an important source of fish resources for many residents. Most communities are either located along one of these rivers or along the coastline. The region is characterized by low-lying landscapes, expansive tundra, lakes, ponds, unending skylines and persistent winds. The landscape is very dynamic in the region; nearly all Y-K communities experience some form of riverbank or coastal erosion from melting permafrost, seasonal flooding and constantly changing river channels. Communities in the region are only accessible via air and water.

AVCP’s 56 member tribes are spread across 48 communities and two U.S. census areas: the Bethel Census Area and the Kusilvak Census Area (formerly the Wade Hampton Census Area). The regional hub, Bethel, is located approximately 400 miles west of Anchorage; other hub communities include Aniak, St. Mary’s, Emmonak and Hooper Bay.

For the purposes of this economic development planning process, the Y-K Region CEDS project team divided the region into four economically-distinct sub-regions, listed below and identified in Figure 1:

- Coastal
- Lower Kuskokwim
- Lower Yukon
- Middle Kuskokwim

These sub-regions align with how residents and communities identify themselves and work together.

Figure I: Y-K Economic Sub-Regions



Map produced by Agnew::Beck Consulting

Seasonal Cycles

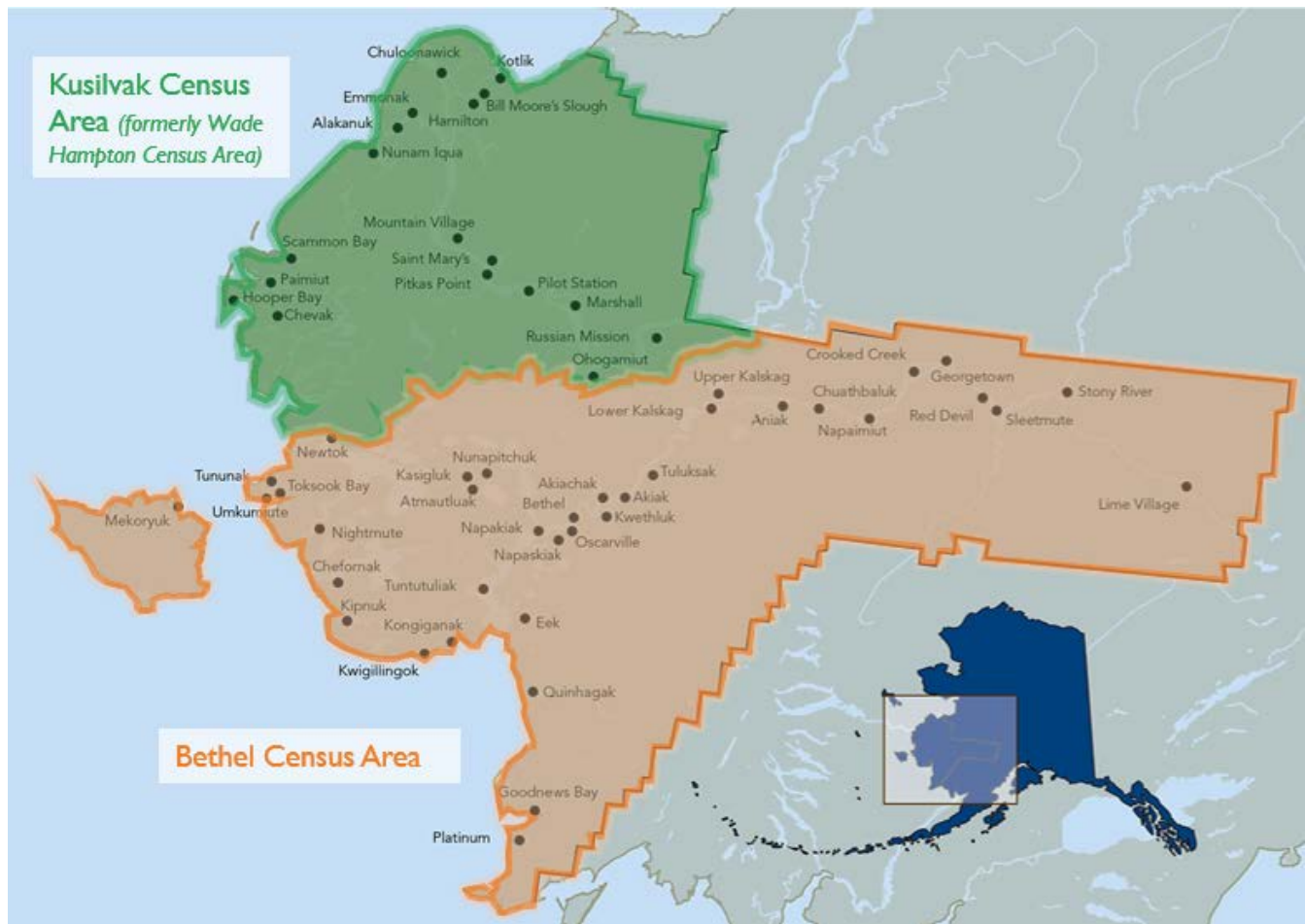
Summer	Winter
<p>The region has short, ice-free summers beginning in early June through the end of August. Summer is the most productive season of the year with long daylight hours and seasonal economic and subsistence opportunities. This is the most important time for gathering subsistence foods. Salmon and herring begin their annual runs soon after the winter ice melts on the rivers and coast. Salmon and herring are harvested, dried, smoked and stored for use all year long.</p>	<p>From November through March, the temperature can range from 40 above to 40 below zero. The land, rivers, and lakes are frozen. When there is enough snow cover, travel is possible in any direction by snowmachine. Subsistence activities include ice-fishing for pike, burbot and tomcods and catching whitefish and blackfish with nets and traps set under the ice. Moose, caribou, ptarmigan and rabbits are also hunted during the winter. Fox, mink and beaver are trapped and the fur is used to make beautiful winter garments like parkas, hats and gloves.</p>
Fall	Spring
<p>People begin gathering berries in August. September and October bring cooler days, rain, snow, and rapidly declining daylight hours; most residents are subsistence gathering and storing the last of their fish and hunting for moose, caribou and bear to supplement their diet. Coastal communities harvest marine mammals. Migratory birds begin their journey south. The temperatures begin dipping below freezing and ice forming on lakes and rivers in October. During the 2-3 week freezing period, the rivers are unsafe for travel.</p>	<p>From March through May the temperature warms and daylight increases dramatically. There is a two-week period when the ice is rotting and breaking up down when travel is by land and water are impossible. Spring is an important time for harvesting migrating waterfowl and marine mammals.</p>



2. Regional Socioeconomic Data

This section identifies compelling data, trends and indicators that help define the economy of the Yukon-Kuskokwim (Y-K) region. Given the availability and format of socioeconomic data on the region, in most cases, the project team uses census areas to identify general socioeconomic trends in the region. In other instances, the team has included sub-regional summaries and analysis to better inform planning and implementation for sub-regional leaders and communities. The 56 member tribes of Y-K are spread across 48 communities and two U.S. census areas: the Bethel Census Area and the Kusilvak Census Area (formerly the Wade Hampton Census Area). Eight of the tribes are associated with communities that no longer have permanent residents; some of these communities are still visited seasonally. Figure 2 below shows an outline of the Y-K region, with the two census areas separately identified.

Figure 2: Y-K Regional Boundaries and Census Areas



Source: AVCP, with census area overlay added by Agnew::Beck Consulting

Throughout the background chapter, data is typically collected and summarized using information for these two census areas, and compared against state and federal data. This methodology is used because individual community-level data is often not available for communities with such a small population. In some cases, data is presented by community.

Overview of Data Sources and Limitations

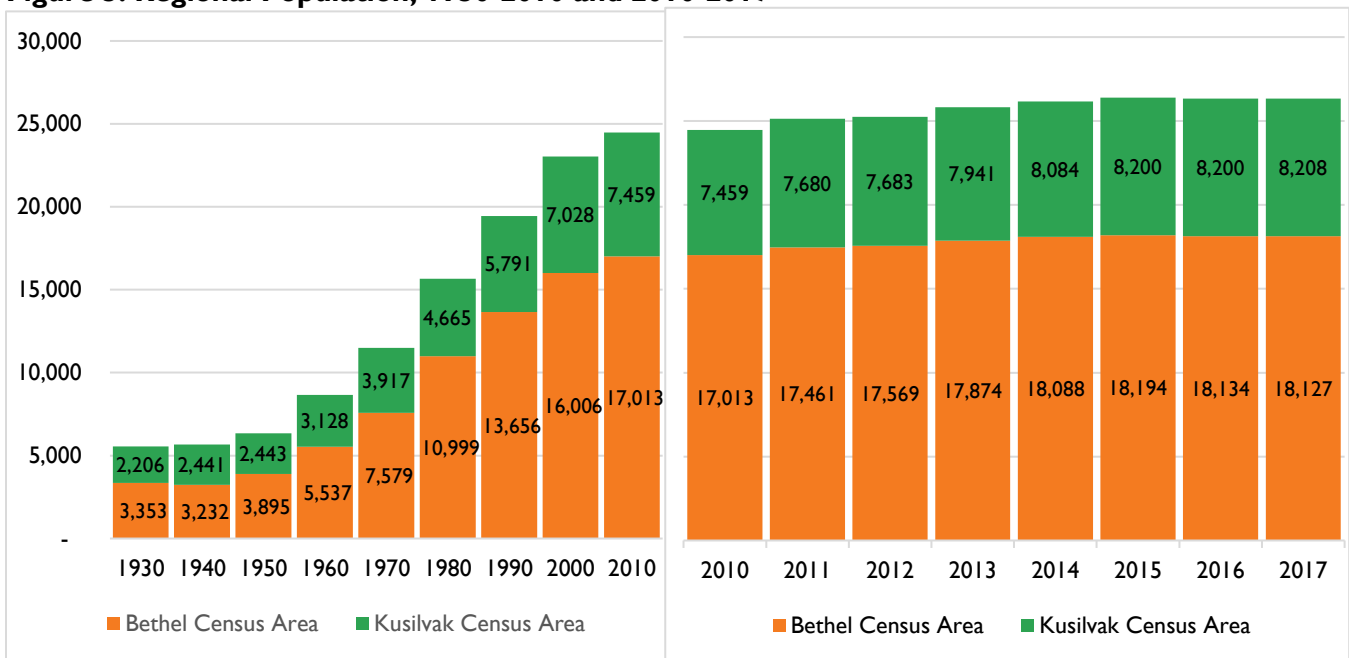
Information in this chapter comes from a combination of federal data sources such as the U.S. Census Bureau, as well as state resources from the Alaska Department of Labor and Workforce Development. There are some important limitations to this data. Like other parts of rural Alaska, the Y-K region includes many communities with small populations spread across a large geography, which makes data collection a challenge. As a result, data is somewhat limited for the region and even when available, it often has high error margins due to the small sample size. In addition, there are important aspects of the regional economy such as subsistence that are not captured in standard economic indicators such as employment or income.

Demographics

Population

According to the Alaska Department of Labor and Workforce Development (DOLWD), the 2017 population of the Y-K region is 26,335 people. This includes 18,127 in the Bethel Census Area and 8,208 in the Kusilvak Census Area (see Figure 3). According to decennial Census data, both areas have grown significantly over the past 80 years; in 1930, the U.S. Census counted only 5,559 residents in the combined area. These increases reflect statewide trends. Between 2010 and 2017, the Bethel Census Area grew by seven percent and the Kusilvak Census Area grew by ten percent for an average growth of eight percent; Alaska grew at a smaller rate of four percent.

Figure 3: Regional Population, 1930-2010 and 2010-2017



Source: U.S. Census (decennial numbers on left); Alaska Department of Labor and Workforce Development, Research and Analysis Section (annual estimates on the right); updated January 2018

Figure 4 and Figure 5 summarize the population for each Y-K community during the 2010 Census, the 2017 DOWLD estimate, and the percent change since 2010. The percent change column uses a red-green gradient to show the magnitude of change; darker green cells indicate higher rates of growth, while darker red cells indicate losses. The following are some notable trends:

- Communities with the highest growth (more than 15 percent) between 2010 and 2017 include Kwigillingok (24 percent), Kongiganak (21 percent), Scammon Bay (21 percent), Pitkas Point (20 percent), Eek (19 percent), Nunapitchuk (16 percent), Kwethluk (15 percent), Tuntutuliak (15 percent) and Pilot Station (15 percent).
- Communities with the largest population losses (more than 15 percent) include Platinum (-26 percent), Red Devil (-43 percent) and Stony River (33 percent).

- Communities with stars are unpopulated or seasonal use areas and correspond with a federally-recognized tribe. These include Georgetown, Napaimute, Umkumiut, Andreafsky, Bill Moore's Slough, Chuloonawick, Hamilton, Ohogamiut, and Paimiut.

Figure 4: Population of Bethel Census Area Communities

Community	2010 (Census, April)	2017 (DOWLD, July)	% change, 2010-2017
Total Bethel Census Area	17,013	18,127	7%
Akiachak	627	712	14%
Akiak	346	394	14%
Aniak	501	498	-1%
Atmautluak	277	311	12%
Bethel	6,080	6,151	1%
Chefornak	418	432	3%
Chuathbaluk	118	118	0%
Crooked Creek	105	95	-10%
Eek	296	353	19%
Georgetown	*	*	*
Goodnews Bay	243	277	14%
Kasigluk	569	631	11%
Kipnuk	639	691	8%
Kongiganak	439	532	21%
Kwethluk	721	830	15%
Kwigillingok	321	398	24%
Lime Village	29	26	-10%
Lower Kalskag	282	275	-2%
Mekoryuk	191	208	9%
Napaimute	*	*	*
Napakiak	354	363	3%
Napaskiak	405	454	12%
Newtok	354	376	6%
Nightmute	280	282	1%
Nunapitchuk	496	577	16%
Oscarville	70	60	-14%
Platinum	61	45	-26%
Quinhagak	669	734	10%
Red Devil	23	13	-43%
Sleetmute	86	94	9%
Stony River	54	36	-33%
Toksook Bay	590	673	14%
Tuluksak	373	367	-2%
Tuntutuliak	408	471	15%
Tununak	327	362	11%
Umkumiut	*	*	*
Upper Kalskag	210	235	12%
Balance	51	53	4%

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, updated January 2018

Figure 5: Population of Kusilvak Census Area Communities

Community	2010 (Census, April)	2017 (DOWLD, July)	% change, 2010-2017
Kusilvak Census Area	7,459	8,208	10%
Alakanuk	677	706	4%
Andreafsky	*	*	*
Bill Moore's Slough	*	*	*
Chevak	938	1,033	10%
Chuloonawick	*	*	*
Emmonak	762	845	11%
Hamilton	*	*	*
Hooper Bay	1,093	1,243	14%
Kotlik	577	640	11%
Marshall	414	449	8%
Mountain Village	813	811	0%
Nunam Iqua	187	201	7%
Ohogamiut	*	*	*
Paimiut	*	*	*
Pilot Station	568	651	15%
Pitkas Point	109	131	20%
Russian Mission	312	331	6%
St. Mary's	507	566	12%
Scammon Bay	474	573	21%
Balance	28	28	0%

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, updated January 2018

Migration

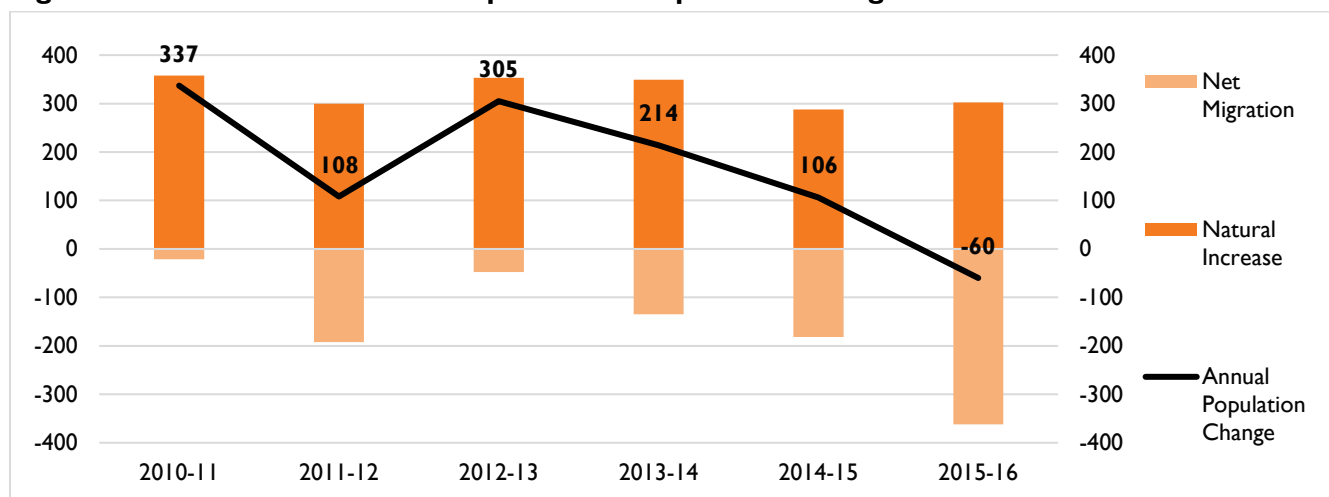
The State of Alaska tracks the overall migration trends of residents around the state using Permanent Fund Dividend (PFD) and Internal Revenue Service (IRS) tax information. This data shows the number of people moving to and from a community and region each year, the number of new applicants to the PFD (including births and new Alaska residents), and those who did apply for a PFD (including deaths and out-of-state departures) for each community. The numbers are a helpful tool to understand what is driving regional population changes.

Overall, both the Bethel and Kusilvak Census Areas are seeing an increase in residents; the population went from a combined 25,141 in 2011 to 26,334 in 2016, an increase of 1,193 people. Both areas are experiencing a net outmigration (more people leaving than moving to the region each year); between 2010 and 2016, an average of 215 people migrated out of the region each year. The region is also experiencing natural increases due to more births than deaths; on average the natural increase is approximately 500 residents per year. Because the natural increases are higher than the losses to outmigration, the overall population is increasing most years.

The components of population change for the Bethel Census Area are shown in Figure 6. Since 2010, the region experienced a net outmigration (more people leaving than moving to the region each year), shown in

light orange; over the six-year period the Bethel Census Area lost 940 residents due to outmigration. At the same time, the region experienced a natural increase due to more births than deaths, shown in dark orange (a gain of 1,950 people over the six-year period). Between 2010 and 2015, the region experienced an overall increase in population, since the rate of natural increase was higher than the numbers lost to outmigration. However, between 2015 and 2016, more people moved out of the region than were born to the region, resulting in a 60-person decrease in overall population.

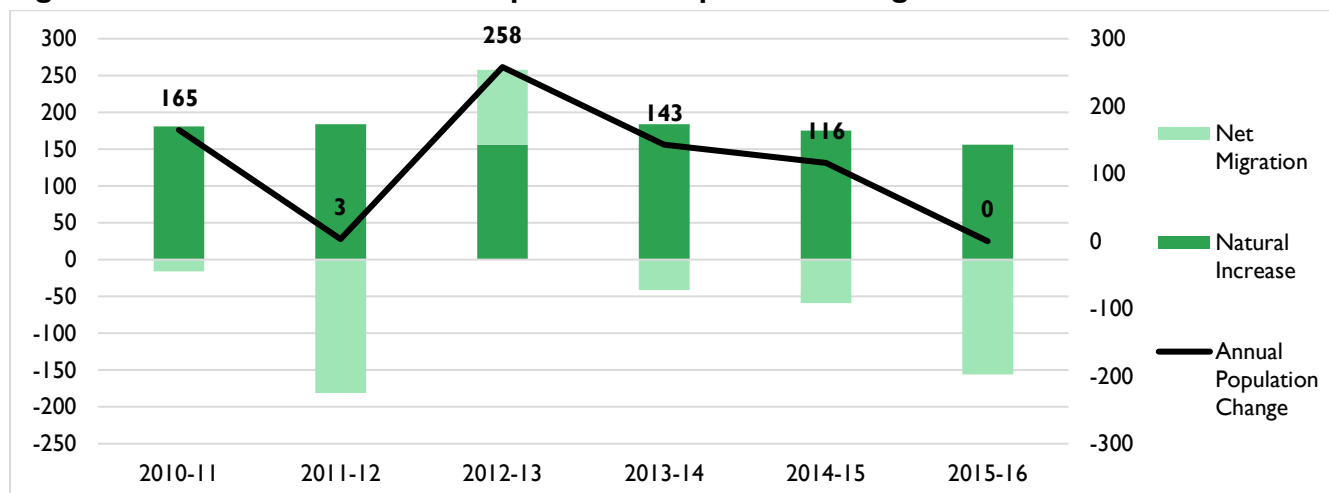
Figure 6: Bethel Census Area Components of Population Change



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, accessed January 2018

The components of population change for the Kusilvak Census Area are shown in Figure 7. Since 2010, the region has experienced natural increases due to higher births than deaths (a gain of 1,036 people over the six-year period). Most years there is a net loss of residents due to outmigration for a combined loss of 351 residents over the six-year period, although between 2013 and 2014 there was a net influx of in-migration of 102 new residents to the region. Overall natural increases outpace migration losses, so the population continues to increase.

Figure 7: Kusilvak Census Area Components of Population Change

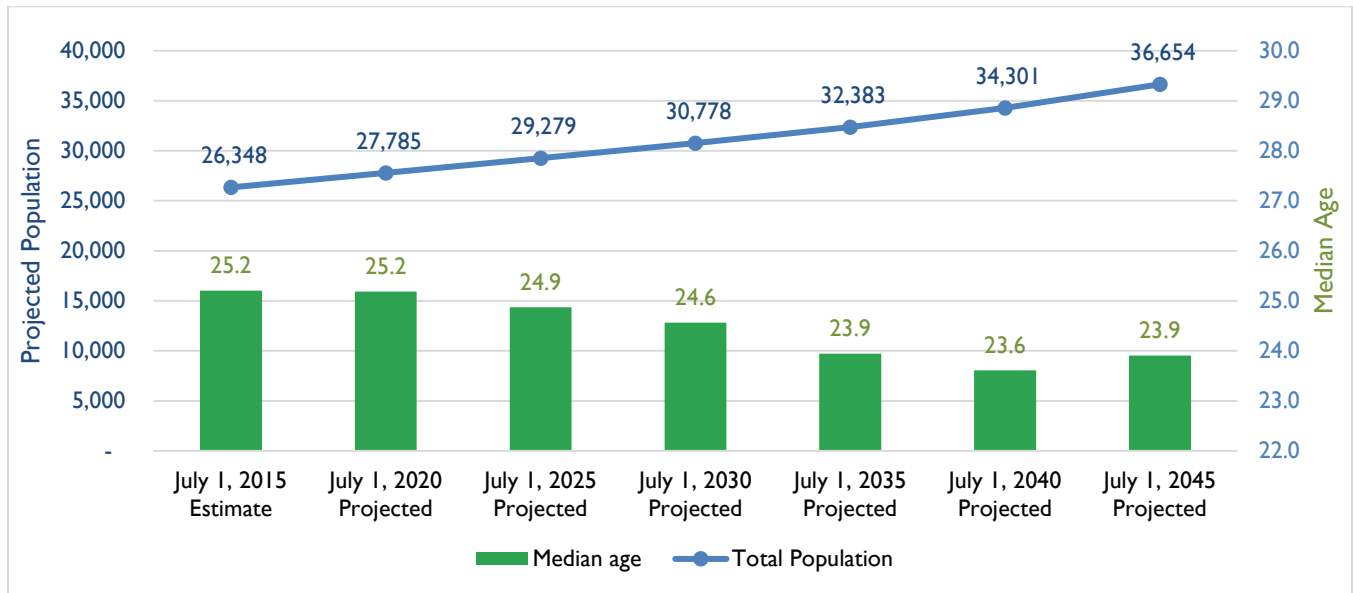


Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, accessed January 2018

Population Projections

DOLWD releases population with populations estimates for the next 30 years. These projections are available at the borough/census area level. The forecasts project a continued population increase for both the Bethel and Kusilvak Census Areas through 2045, from a combined 26,348 in 2015 to an estimated 36,654 people in 2045 (see Figure 8). The median age is expected to decrease as more young people are born, from 25.2 years old in 2015 to 23.9 years old in 2045.

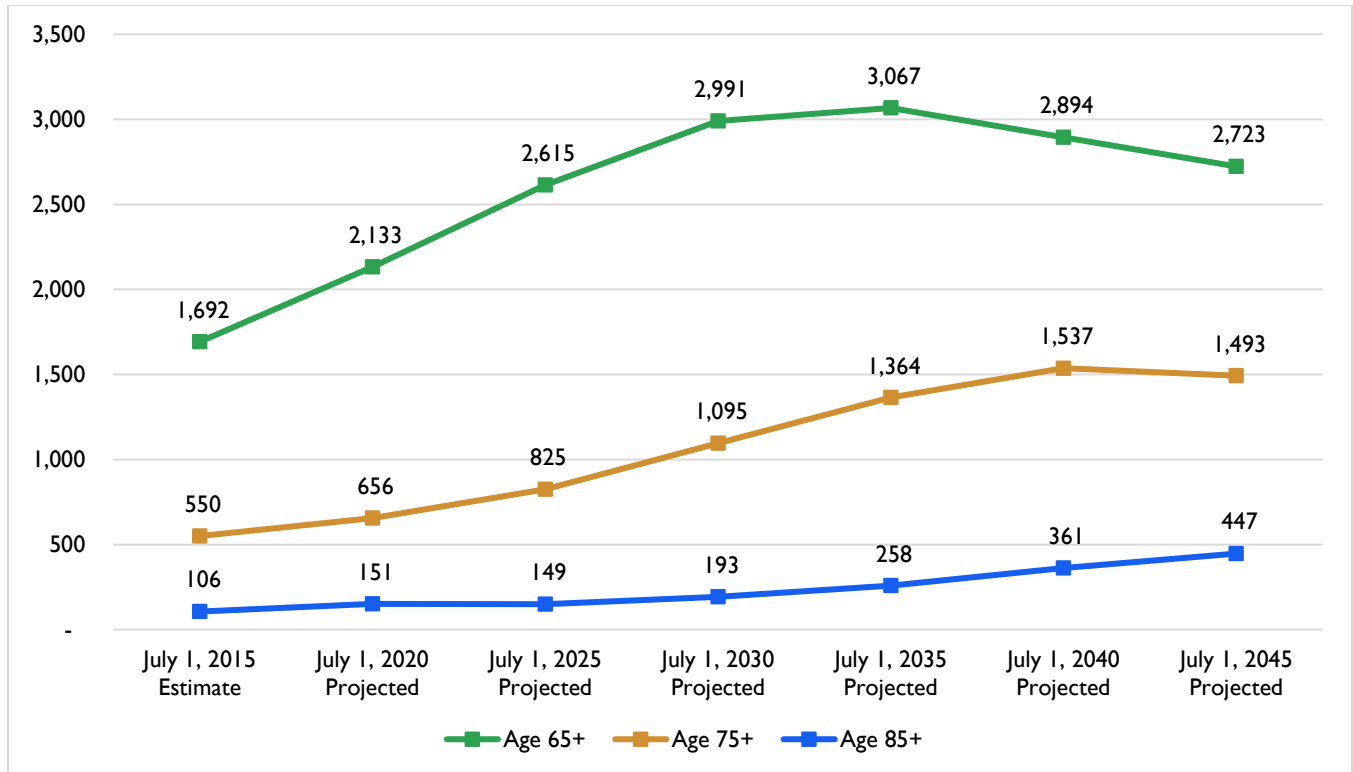
Figure 8: Population Projections and Median Age



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

The projections also reflect statewide trends showing an aging population; residents 65 and older are expected to increase from 1,692 in 2015 to 3,067 in 2035, while residents age 75 and older are forecast to increase fourfold between 2015 and 2015 from 106 to 447 (Figure 9). As populations age, the region must prepare for an increased demand for senior housing, including assisted living and related services.

Figure 9: Population Projections for Residents Age 65 and Older (Combined Data for Bethel Census Area and Kusilvak Census Area)

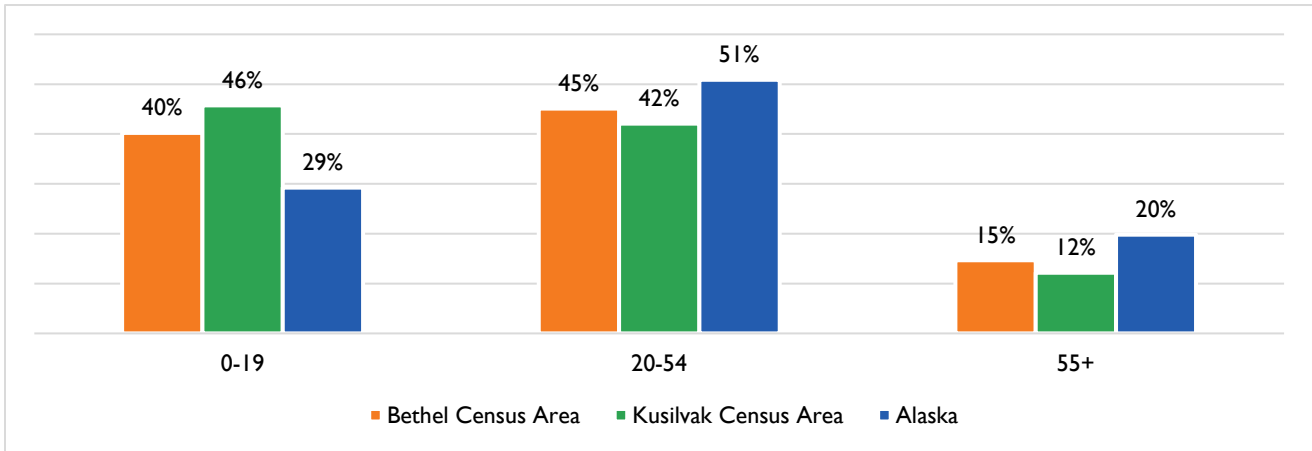


Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Age and Gender

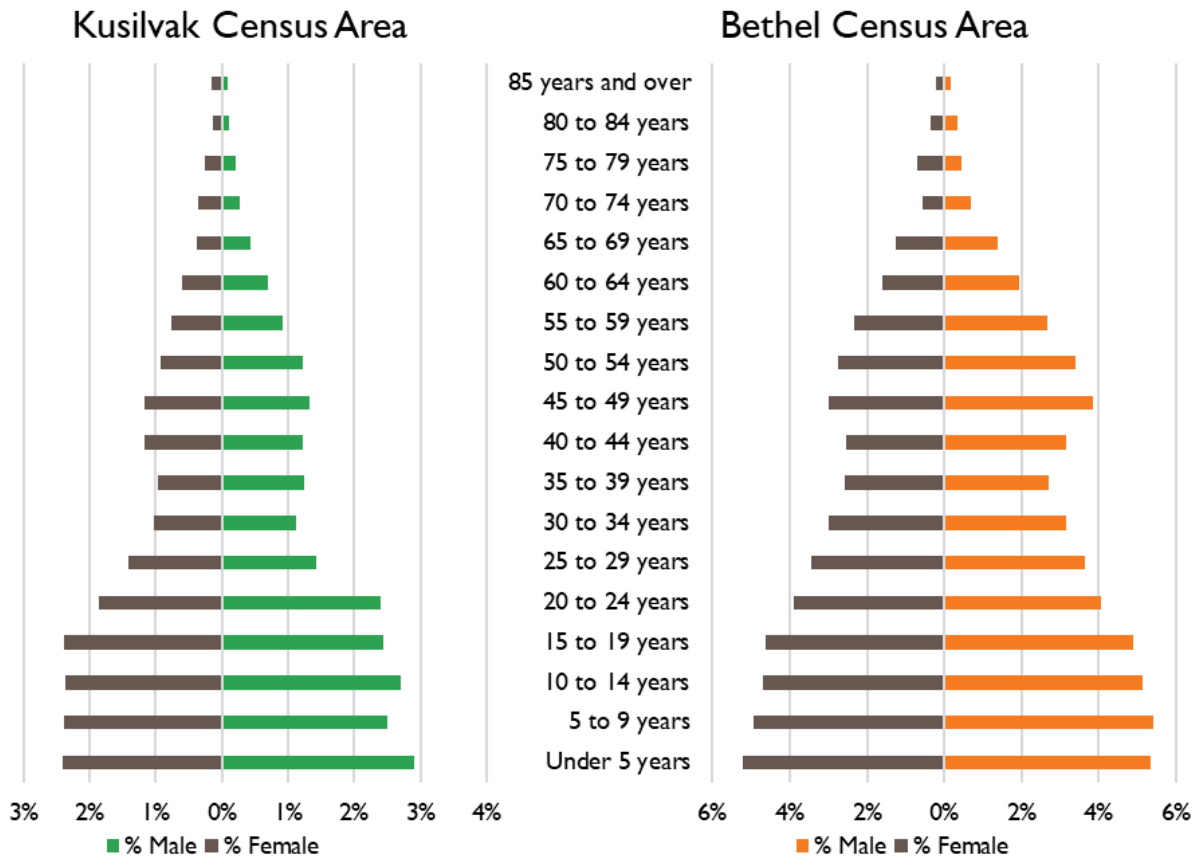
According to 2010 Census data, the median age is 26.2 years in the Bethel Census Area and 21.9 years in the Kusilvak Census Area, significantly younger than the statewide median age of 34 years. Median ages for both census areas decreased between 2000 and 2010, while the statewide median age increased by two years. Figure 10 shows the distribution of population by age in the region compared with Alaska; both the Bethel Census Area and Kusilvak Census Areas have a higher percentage of young people and lower percentage of working age residents when compared with Alaska. A distribution of residents by age and sex is available in Figure 11, which shows a similar trend. The region has slightly more men than women: 52.3 percent of the Bethel Census Area and 52.9 percent of the Kusilvak Census Area are male, closely matching the Alaska percentage of 52 percent.

Figure 10: Distribution of Population by Age, 2010 Census



Source: U.S. Census 2010

Figure 11: Age and Sex Pyramid, 2010

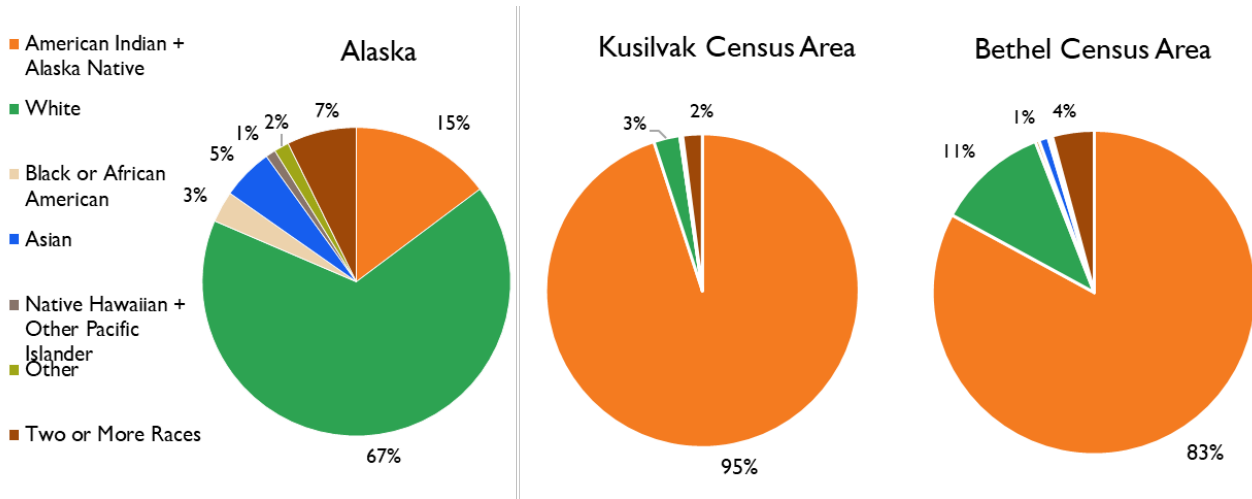


Source: U.S. Census 2010

Race

The Y-K region is predominantly Alaska Native, with 95 percent of Kusilvak Census Area and 83 percent of Bethel Census Area residents identifying as American Indian and Alaska Native in the 2010 Census (Figure 12). The second largest category of race is white, with higher numbers in Bethel Census Area than the Kusilvak Census Area: 11 percent compared with three percent. These numbers remain largely unchanged from the 2000 Census numbers. The region has a higher concentration of Alaska Native residents when compared with Alaska statewide, where 15 percent of residents identify as American Indian and Alaska Native and 67 percent identify as white.

Figure 12: Race by Census Area, 2010



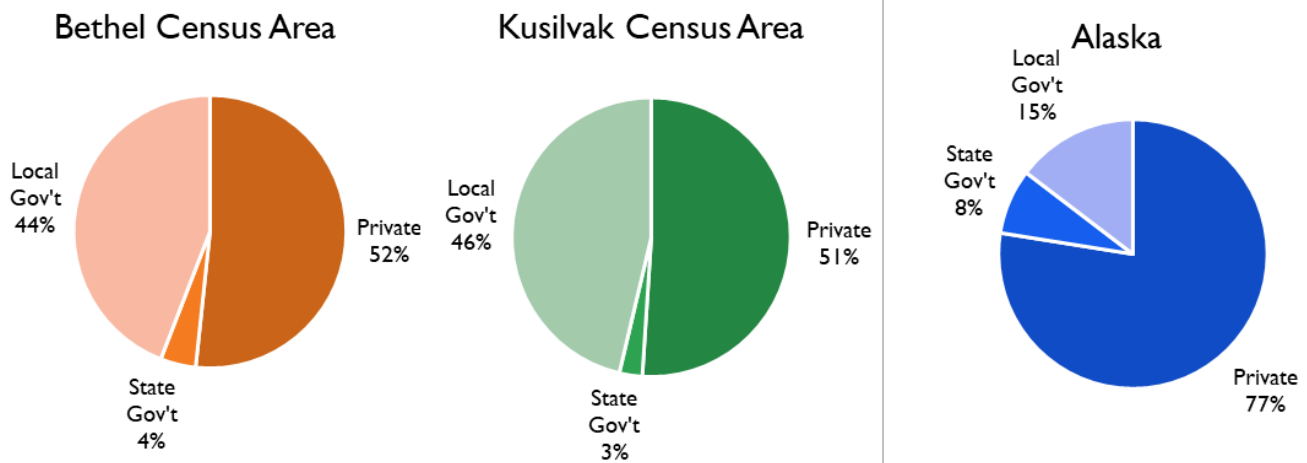
Source: U.S. Census 2010

Industries

Top Employers by Sector and Industry

The Y-K region has less private sector employment than the rest of Alaska. About half (52 percent) of all employment is in the private sector, compared with 77 percent statewide (Figure 13). Local government is the largest sector (44 percent in the Bethel Census Area and 46 percent in the Kusilvak Census Area), which includes tribes and school districts. The percentages of those working in local government has remained constant in the region over the past ten years.

Figure 13: Employment by Sector, 2016



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

Figure 14 shows total employment by industry in 2010 and 2016, along with the percent change over that period. This information comes from DOLWD’s occupational database. The numbers are based on worker resident location and not the location itself. For example, if a Y-K resident commutes to the North Slope every few weeks, they will be counted in the table under Natural Resources and Mining, whereas an employee working at a seafood processing plant will not be counted unless their primary residence is in the Y-K.

Employment by industry is displayed in pie chart form in Figure 15. As discussed above, local government is the largest employment category in both Bethel and Kusilvak Census Areas. The second-largest category is Trade, Transportation and Facilities, accounting for 17 percent of the Bethel Census Area’s employment and 15 percent of Kusilvak Census Area’s population, both smaller than the statewide composition of 21 percent. The next largest categories in the Bethel Census Area are Educational and Health Services with 15 percent of employment and then Financial Services with eight percent. The next largest category in the Kusilvak Census Area is Manufacturing (12 percent) followed by Educational and Health Services (six percent).

- Industries with increasing employment between 2010 and 2016:
 - Bethel Census Area: Financial Activities grew by 48 percent, and both Trade, Transportation and Utilities and Professional and Business Services grew by 10 percent.
 - Kusilvak Census Area: Manufacturing increased by 76 percent, State Government grew by 58 percent and Construction grew by ten percent.
- Industries with decreasing employment between 2010 and 2016:
 - Bethel Census Area: State Government declined by 29 percent, reflecting declines in state spending throughout Alaska; educational and health services declined seven percent. The declines in health services employment will likely reverse as YKHC continues with its hospital expansion project. The “Other” category, which combines many smaller industries, also declined; almost half of this decline can be attributed to a decline in Manufacturing.

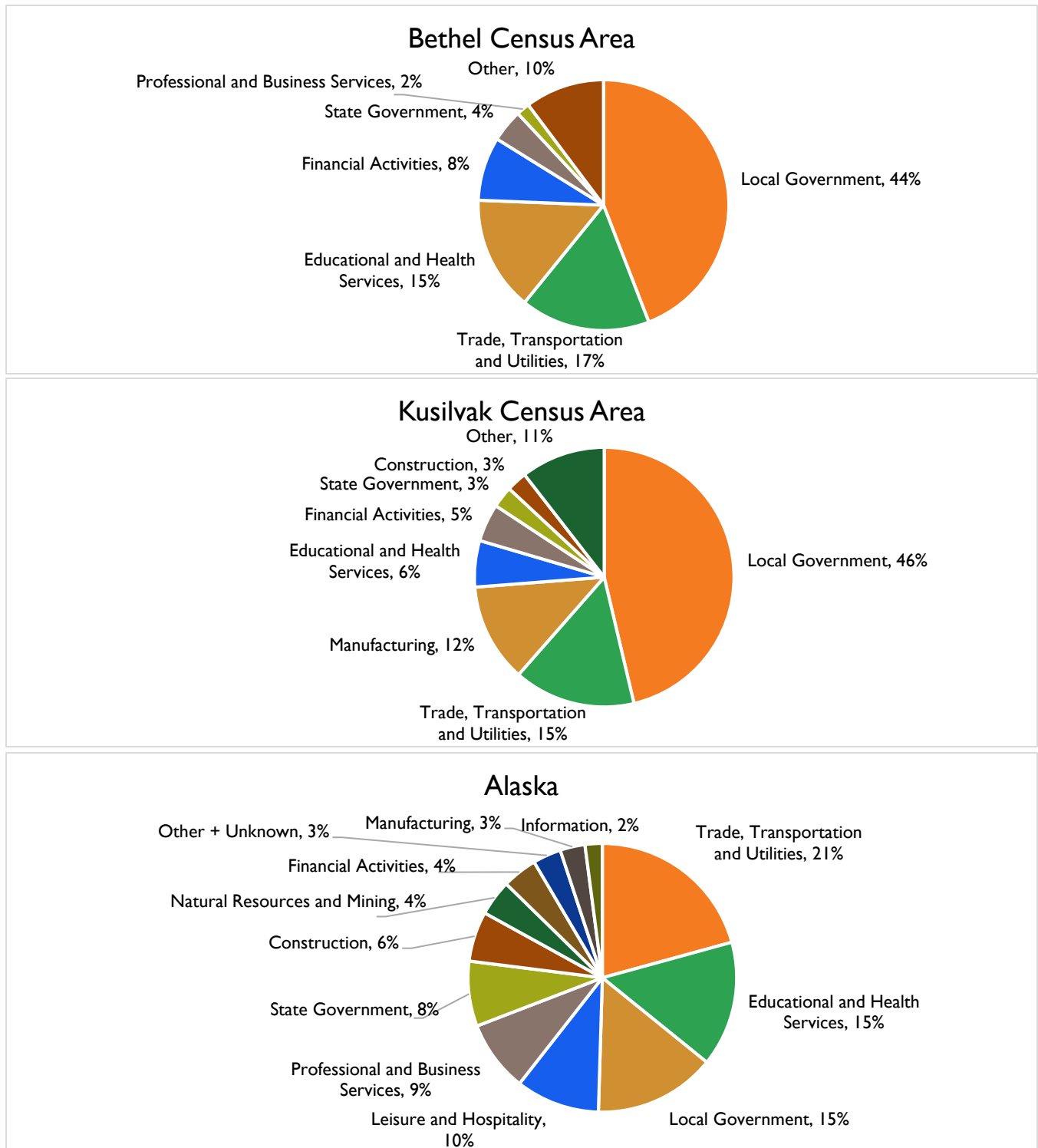
- Kusilvak Census Area: Financial Services declined by 21 percent. The “Other” category also declined, which reflects small cumulative declines in many smaller industries.

Figure 14: Employment by Industry, 2010 and 2016

	Total employed		Percent by industry, 2016	percent change, 2010-2016
Bethel Census Area Industries	2010	2016	% by industry	Change, 2012-2016
Local Government	3,441	3,448	44%	0%
Trade, Transportation and Utilities	1,193	1,308	17%	10%
Educational and Health Services	1,239	1,155	15%	-7%
Financial Activities	435	642	8%	48%
State Government	370	328	4%	-11%
Professional and Business Services	122	134	2%	10%
Other <i>(includes Construction, Leisure and Hospitality, Information, Manufacturing, Natural Resources and Mining, Other [DOLWD category])</i>	1,126	801	10%	-29%
TOTAL	7,926	7,816	100%	-1%
Kusilvak Census Area Industries	2010	2016	% by industry	Change, 2012-2016
Local Government	1,676	1,619	46%	-3%
Trade, Transportation and Utilities	535	530	15%	-1%
Manufacturing	244	430	12%	76%
Educational and Health Services	210	202	6%	-4%
Financial Activities	209	165	5%	-21%
State Government	59	93	3%	58%
Construction	81	89	3%	10%
Other <i>(includes Professional and Business Services, Leisure and Hospitality, Information, Natural Resources and Mining, Other [DOLWD category])</i>	400	368	11%	-8%
TOTAL	3,414	3,496	100%	2%
Alaska Industries	2010	2016	% by industry	Change, 2012-2016
Trade, Transportation and Utilities	62,560	63,143	21%	1%
Educational and Health Services	41,955	45,947	15%	10%
Local Government	45,589	44,613	15%	-2%
Leisure and Hospitality	29,879	30,783	10%	3%
Professional and Business Services	27,116	26,146	9%	-4%
State Government	25,110	23,857	8%	-5%
Construction	19,708	18,333	6%	-7%
Natural Resources and Mining	14,502	13,084	4%	-10%
Financial Activities	13,243	12,821	4%	-3%
Other + Unknown	10,220	10,377	3%	2%
Manufacturing	8,729	9,141	3%	5%
Information	6,533	6,311	2%	-3%
TOTAL	305,144	304,556	100%	0%

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

Figure 15: Workers by Industry, 2016



“Other” includes industries with two percent or less of total employment. For Bethel Census Area, this includes Construction, Leisure and Hospitality, Information, Manufacturing, Natural Resources and Mining, Other (DOLWD category) and Unknown. For the Kusilvak Census Area, the “Other” category includes Professional and Business Services, Leisure and Hospitality, Information, Natural Resources and Mining, Other (DOLWD category) and Unknown.

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

The top individual employers in the Y-K region by census area in 2010 are summarized in Figure 16. This data comes from the Alaska Department of Labor and Workforce Development; the information is no longer released due to concerns about business confidentiality, so 2010 is the last year for which data is available. As a result, these lists may have fluctuated someone in the eight years since they were released.

The largest employer in the Bethel Census Area is the Yukon Kuskokwim Health Corporation, followed by the Lower Kuskokwim School District and the Association of Village Council Presidents. The largest employer in the Kusilvak Census Area is the Lower Yukon School District, followed by the Yukon Kuskokwim Health Corporation and Kwik’pak Fisheries. AVCP Regional Housing Authority is the fourth largest employer in both census areas.

Figure 16: Top Employers in the Y-K Region, 2010

Bethel Census Area	Kusilvak Census Area
1. Yukon Kuskokwim Health Corporation	1. Lower Yukon School District
2. Lower Kuskokwim School District	2. Yukon Kuskokwim Health Corporation
3. Association of Village Council Presidents	3. Kwik’pak Fisheries
4. AVCP Regional Housing Authority	4. AVCP Housing Authority
5. State of Alaska (excludes U of A)	5. Rural AK Community Action Program
6. Coastal Villages Seafoods Inc	6. Kashunamiut School District
7. Akiachak Native Community	7. The Alaska Commercial Company
8. Yupiit School District	8. Asa’Carsamiut Tribal Council
9. Kuspuk School District	9. Association of Village Council Presidents
10. City of Bethel	10. Hooper Bay City Council

Source: Alaska Department of Labor and Workforce Development, as reported in the 2011 AVCP CEDS

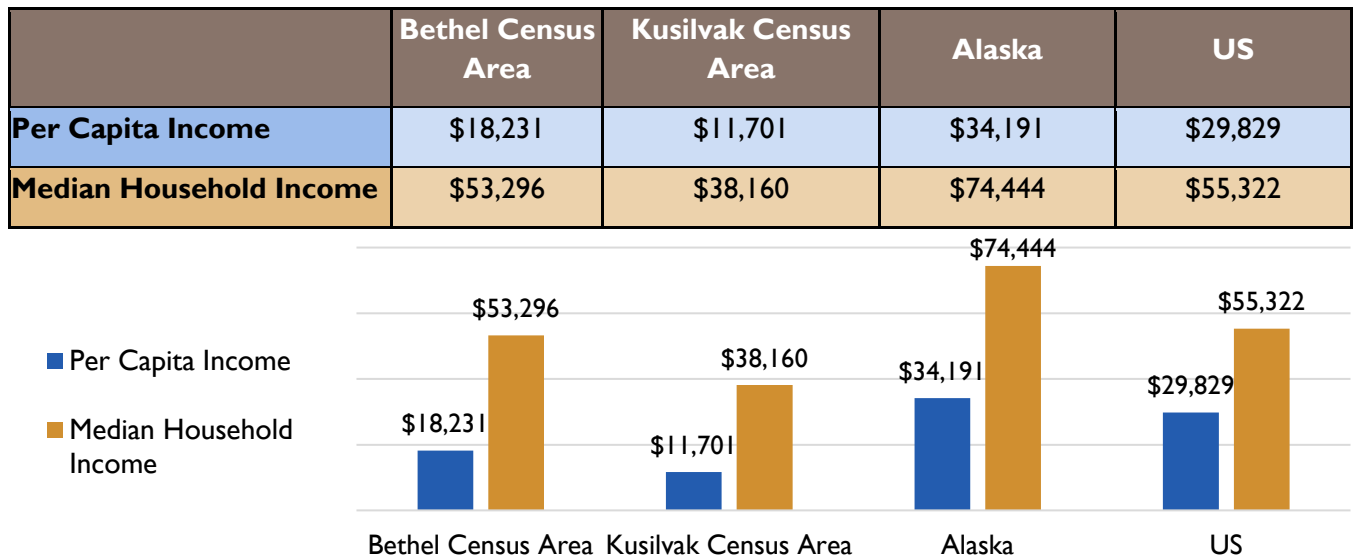
Employment and Income

NOTE: See Appendix C for a breakdown of key economic indicators (income, employment and poverty) by economic sub-region.

Income

Individual, household and family income are important measures of the economic health of a community. Economic development not only includes generating new businesses and new jobs; it should also aim to create higher wages and improve the retention of dollars that circulate within a region and its community. Per capita income in the Bethel Census Area is \$18,231, almost half the average per capita income for Alaska of \$34,191 (Figure 17). In the Kusilvak Census Area, per capita income is \$11,701, or approximately one-third Alaska’s per capita income. Median household incomes are also lower than state and federal averages, although the gap is smaller: \$53,296 for Bethel Census Area and \$38,160 for Kusilvak Census Area compared with \$74,444 for Alaska and \$55,322 for the U.S.

Figure 17: Per Capita and Median Household Income

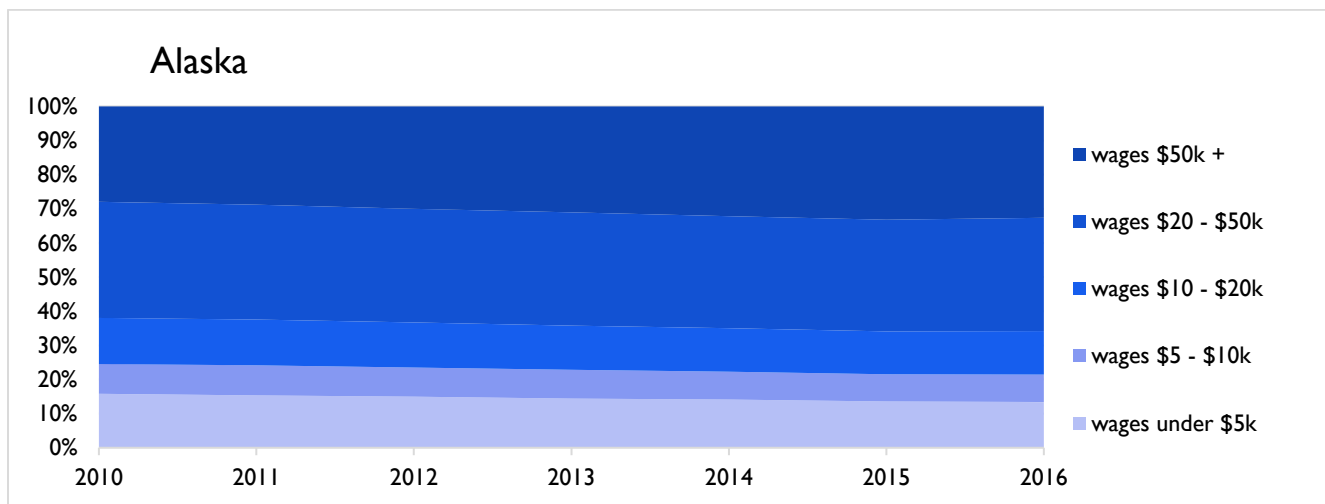
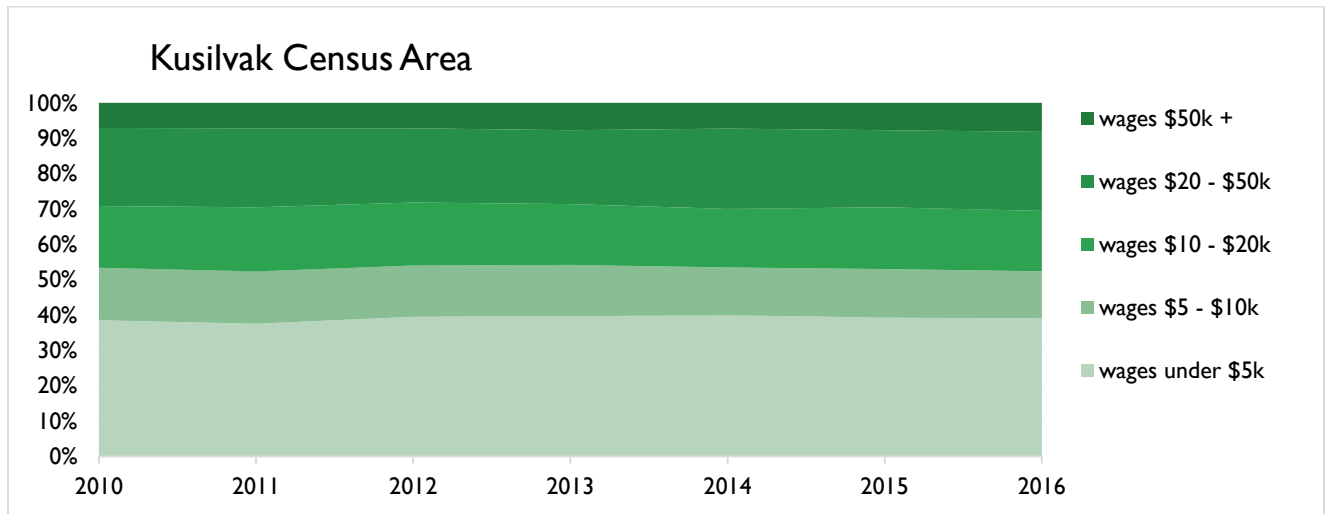
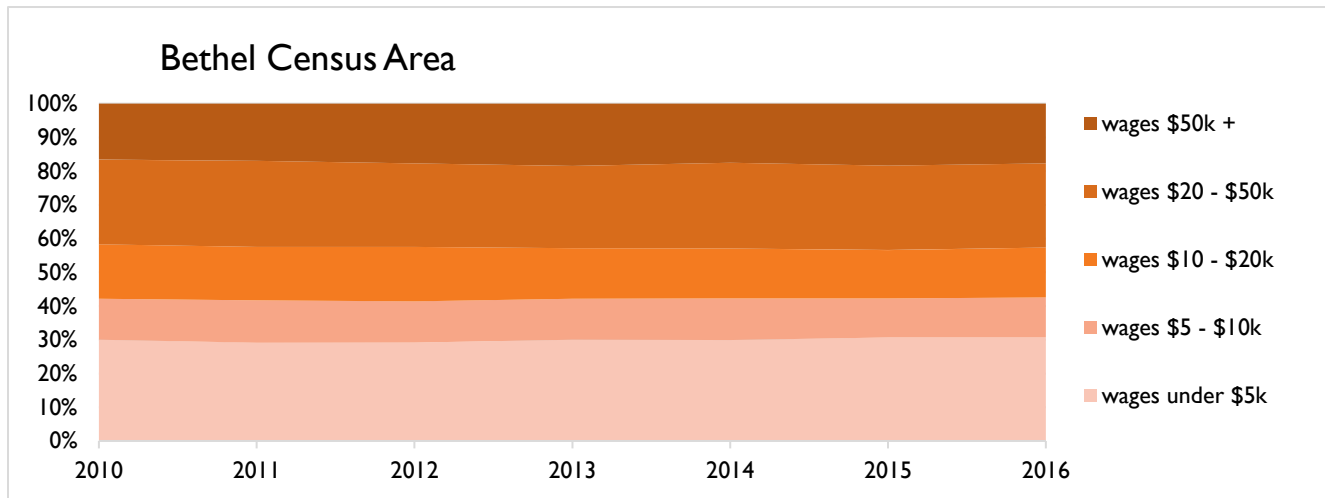


Source: American Community Survey Five-Year Averages, 2012-2016 (adjusted for inflation)

Wage Range of Workers

Wages in the Y-K region are much lower than the rest of the state. In both the Bethel and Kusilvak Census Areas, the lowest wage range (wages under \$5,000) included the largest portion of workers (Figure 18). In 2016, 31 percent of workers from the Bethel Census Area and 39 percent of Kusilvak Census Area workers were in the lowest bracket, compared with only 13 percent in Alaska. In Alaska overall, 33 percent of workers are in the upper wage range – wages \$50,000 and over – but only 18 percent of Bethel Census Area workers and eight percent of Kusilvak Census Area workers are in this category.

Figure 18: Percentage Distribution of Workers by Wage Range, 2010-2016



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

Poverty

The U.S. Census Bureau uses a set of income thresholds that vary by family size to define poverty. If the total income for an individual or a family falls below the poverty threshold, then the family or individual is classified as “below the poverty level.” Families living in poverty are more likely to experience increased crime rates, substance abuse, domestic violence and fewer opportunities for education and economic opportunity¹. Figure 19 shows the percentage of individuals and families living below the poverty line for Bethel Census Area, Kusilvak Census Area, Alaska and the United States. The data comes from income-related questions on the American Community Survey and is shown in five-year average increments; the table compares the average poverty rate between 2007 through 2011 with the rate from 2012 through 2016.

The average poverty rate for families over the five-year period between 2012 and 2016 is 33.1 percent for the Kusilvak Census Area and 23.8 percent for the Bethel Census Area, both much higher than Alaska’s rate of seven percent and the national rate of 11 percent. Numbers for individuals and youth are even higher; in Kusilvak Census Area; approximately 42 percent of people under age 18 are below poverty. When comparing the two five-year periods, poverty rates have increased in all categories for both Bethel and Kusilvak Census Areas.

Figure 19: Poverty Rates, Five-Year Averages

	Bethel Census Area	Kusilvak Census Area	Alaska	US
Below Poverty Families				
2007-2011 Five-Year Average	17.5%	26.7%	6.5%	10.5%
2012-2016 Five-Year Average	23.8%	33.1%	7.0%	11.0%
Percent Change	6.3%	6.4%	0.5%	0.5%
Below Poverty People				
2007-2011 Five-Year Average	19.8%	30.0%	9.5%	14.3%
2012-2016 Five-Year Average	26.6%	36.0%	10.1%	15.1%
Percent Change	6.8%	6.0%	0.6%	0.8%
Below Poverty Under 18				
2007-2011 Five-Year Average	25.0%	36.1%	12.8%	20.0%
2012-2016 Five-Year Average	32.7%	41.8%	14.4%	21.2%
Percent Change	7.7%	5.7%	1.6%	1.2%

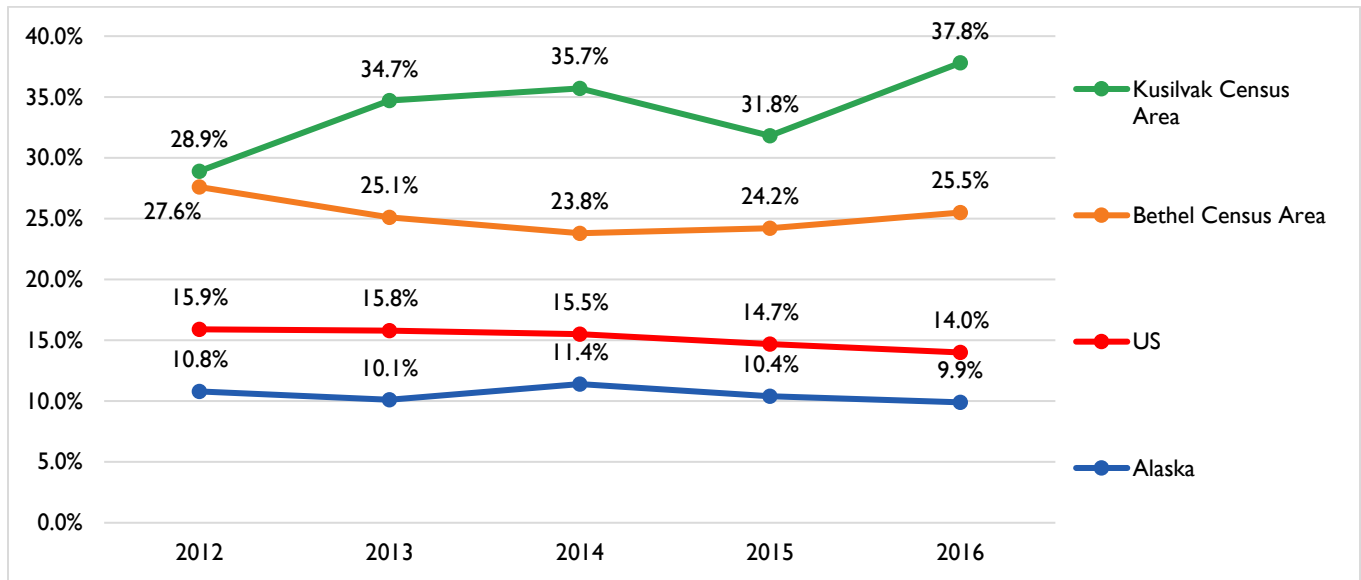
Source: U.S. Census Bureau, American Community Survey Five-Year Estimates

Another source of poverty statistics is the U.S. Census Bureau’s Small Area Income and Poverty Estimates, which provide annual poverty estimates for all U.S. counties. These estimates are compiled from multiple sources including the American Community Survey, tax returns, the Bureau of Economic Analysis and others. They have relatively high error margins for counties/census areas with smaller populations, so should be considered approximate. Results for the Bethel and Kusilvak Census Areas are shown in Figure 20, along with comparative information for Alaska and the U.S. Alaska’s poverty rate is lower than the nationwide rate; Alaska ranks six out of 50 states for the lowest poverty rate. When compared with the 3,000 counties/census areas in the United States, however, Kusilvak Census Area is in the top one percent and

¹ *Economic Profile System*. Headwaters Economics with support from the Bureau of Land Management and the U.S. Forest Service.

Bethel Census Area is in the top seven percent for highest poverty rate; by comparison, the Municipality of Anchorage has one of the lowest poverty rates and is in the 95% when compared with other U.S. counties.

Figure 20: Poverty Rates, 2012-2016



Source: U.S. Census Bureau Small Area Income and Poverty Estimates

A limitation of using census area information for summarizing the area’s economic trends is data for the City of Bethel. As the Y-K region’s population and employment hub, figure for the City can inflate Bethel Census Area numbers. Specifically, the population of the City of Bethel represents approximately one-third of the Bethel Census Area’s population, but has significantly higher incomes and lower poverty. This means the numbers for the Bethel Census Area may not be fully representative of the economic realities of the more rural communities in the region. For example:

- The median household income of Bethel is \$77,631 compared with the Bethel Census Area’s median household income of \$53,296.
- The poverty rate for the City of Bethel is approximately 14 percent and the poverty rate for the Bethel Census Area is 27 percent. When the population for the City of Bethel is removed from the calculation, the poverty rate for other communities in the Bethel Census Area is 33 percent, equivalent to the poverty level of Kusilvak Census Area.

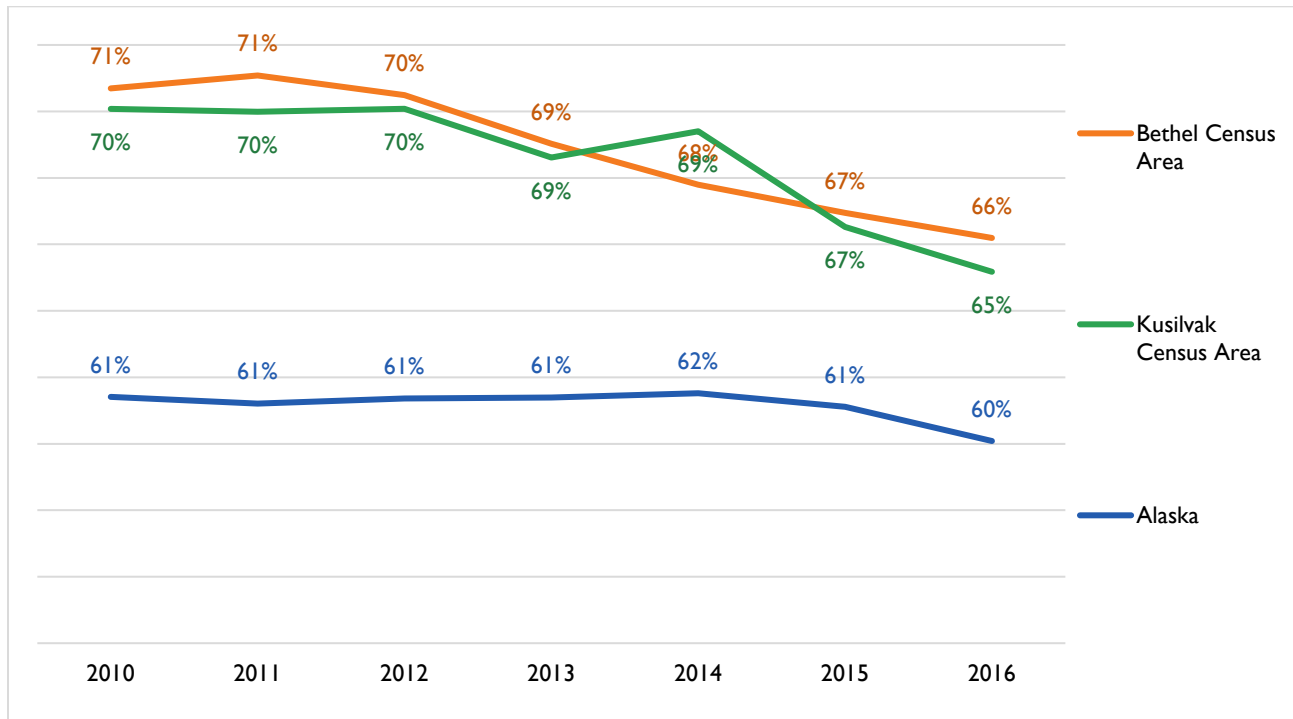
Please see Appendix C for a more detailed analysis of the economics of the Y-K by the four economic sub-regions.

While the Y-K region experiences very high poverty rates, most economic measures do not capture non-cash sources of income such as regionally important subsistence activities. For example, approximately 370 pounds of annual wild food is produced on average per person each year in the Y-K region; if replaced with non-wild foods, this would be valued at between \$36 million and \$82 million each year.

Employment Rate

According to DOLWD, both the Bethel and Kusilvak Census Areas have a higher percentage of residents over 16 who are employed when compared with overall numbers for Alaska: 66 percent for the Bethel region and 65 percent for the Kusilvak region, compared with 60 percent for the state (Figure 21). The employment rate for both Bethel and Kusilvak Census Areas have declined five percent over the past six years, while the Alaska rate has declined one percent over the same period.

Figure 21: Percentage of Residents Over 16 Who Are Employed, 2010-2016



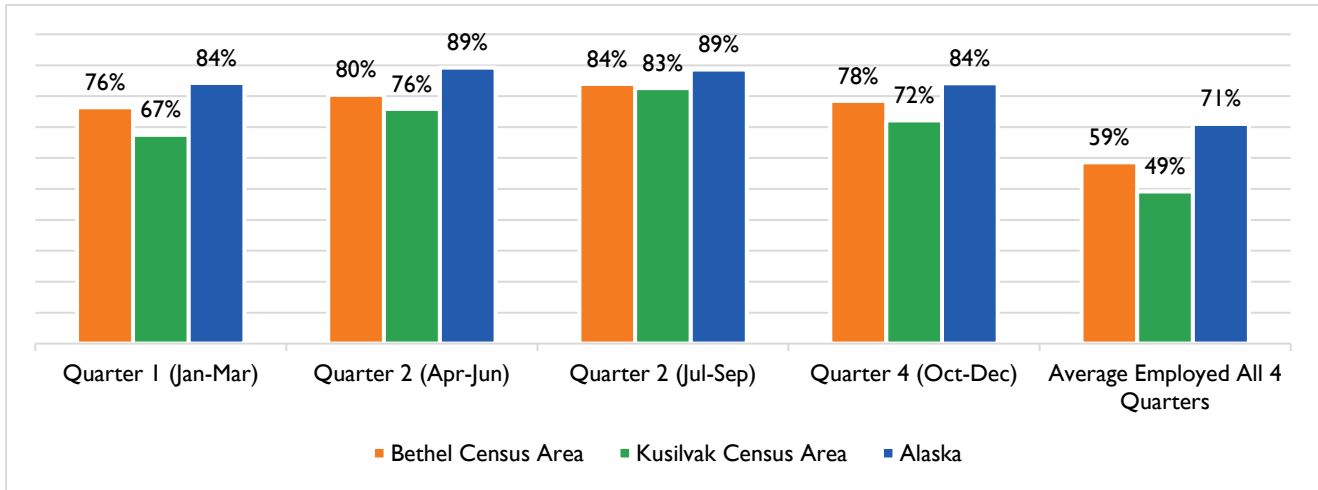
Note: this data source excludes self-employed and federal government workers (including military and fish and wildlife service employees); as a result it undercounts actual employment in the region.

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

Seasonality and Employment

Figure 22 shows the average percentage of workers who are employed each quarter, averaged for years 2010 through 2016. Overall, 71 percent of workers in Alaska are employed all four quarters. However, these numbers are much lower in the Y-K region: only 59 percent of workers in the Bethel Census Area and 49 percent in the Kusilvak Census Area are employed all four quarters. Year-to-year comparisons over the same time period show little fluctuation over the six-year time period.

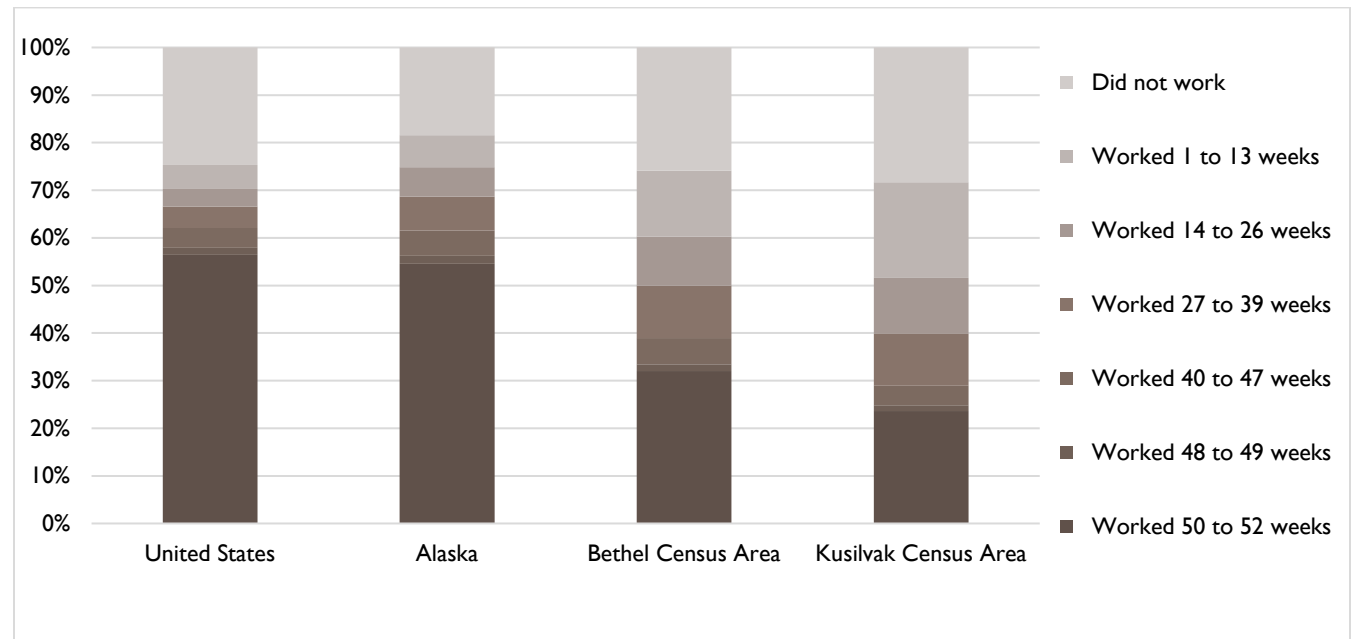
Figure 22: Average Employment by Quarter, 2010-2016



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

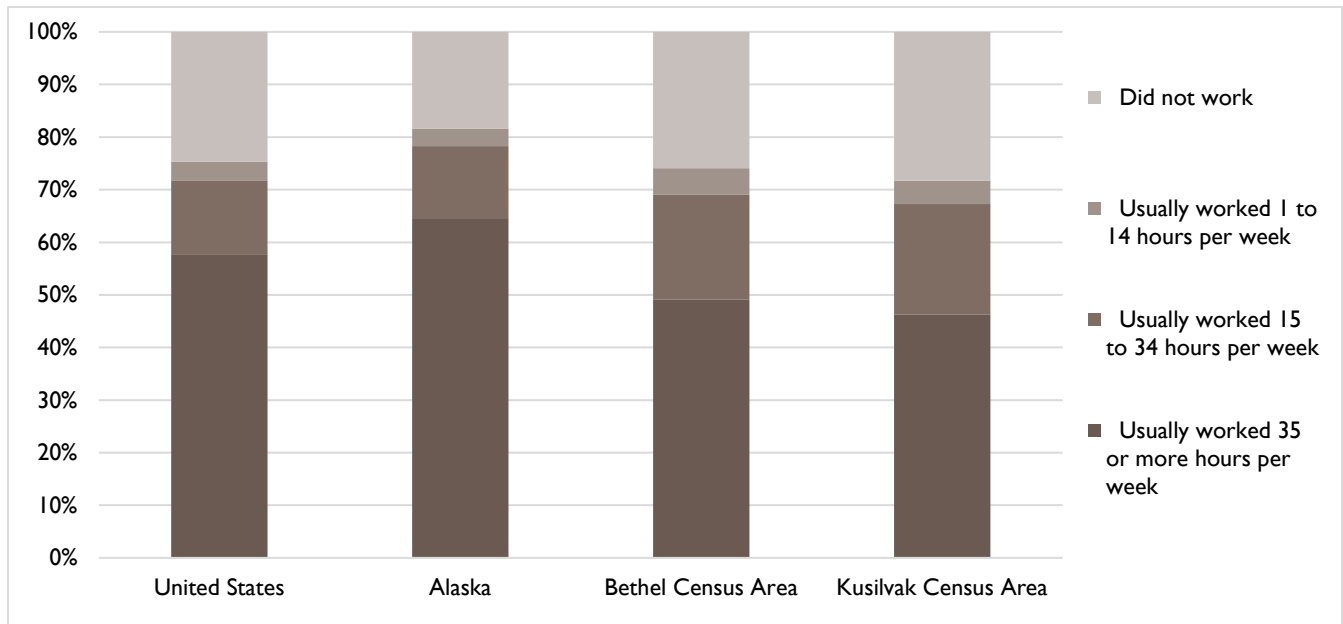
The American Community Survey asks respondents a series of employment-related questions, including the total weeks worked each year (Figure 23) and the average number of hours worked per working week (Figure 24). Overall, both Bethel Census Area and Kusilvak Census Area saw fewer total weeks worked throughout the year and fewer hours worked per working week. The lower number of both working weeks and working hours likely contributes to the lower incomes and higher poverty rates in the Y-K region.

Figure 23: Total Weeks Worked (includes full and part time employment)



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Figure 24: Usual Hours Worked Per Week



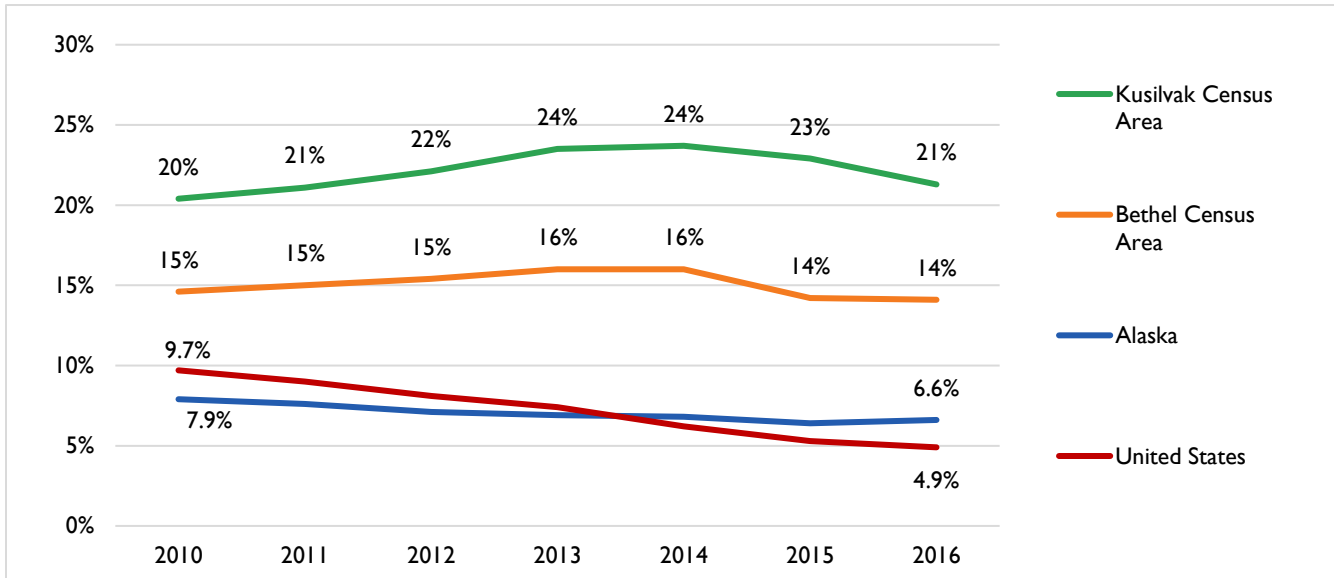
Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Unemployment

In the past six years the unemployment rate in the United States has been declining as the economy recovers from the 2009-2010 housing crash; Alaska’s unemployment rate has gone down as well but at a slower pace. In 2014 the U.S. unemployment rate dipped below that of Alaska and Alaska continues to experience higher unemployment than the U.S. average; rural areas in particular continue to see fewer employment opportunities and high unemployment (Figure 25). Y-K region has some of the highest poverty and unemployment rates in the nation. In 2016, the Kusilvak Census Area’s employment rate was 21 percent, down slightly from a high of 24 percent in 2013 and 2014 but still more than three times larger than the state unemployment rate of 6.6 percent. The Bethel Census Area is lower at 14 percent, but still more than twice the state rate.

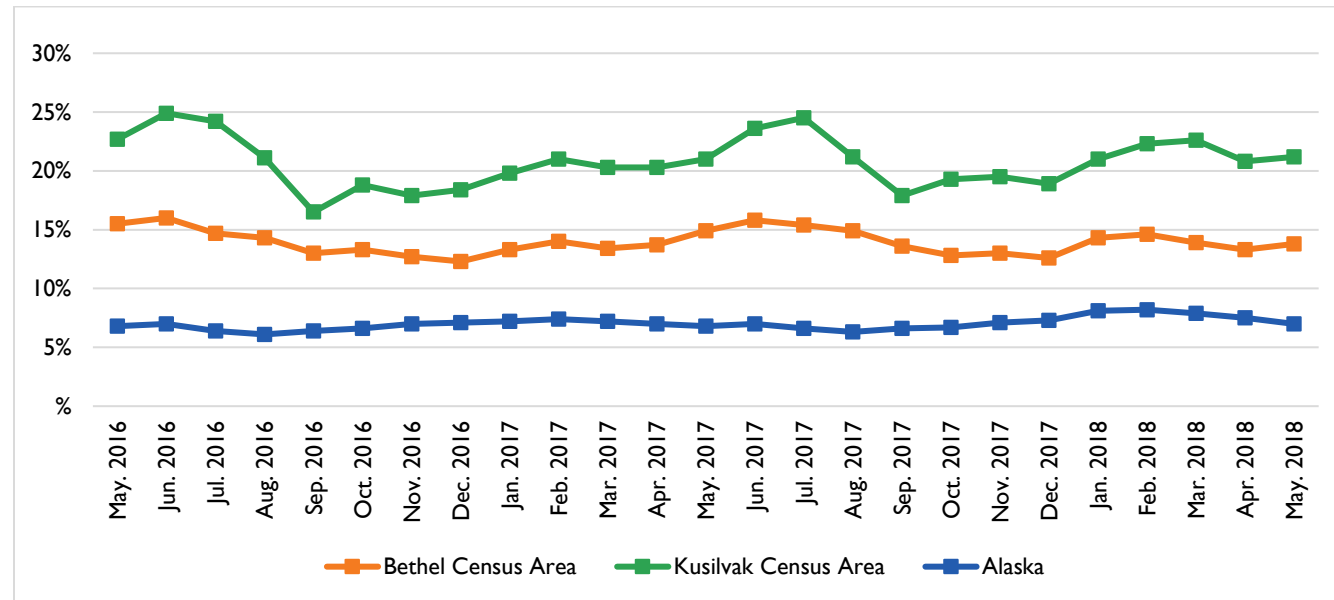
The Y-K region also has more pronounced seasonal employment fluctuations than the state overall (Figure 26). Over the past two years, unemployment in the Kusilvak Census Area was lowest in September 2016 at 16.5 percent and peaked at 24.9 in June 2016. Unemployment in the Bethel Census Area was lowest in December 2016 at 12.3 percent and highest in June 2016 at 16 percent. Unemployment peaks in summer; this likely corresponds with the busy subsistence season, when households are conducting hunting and fishing activities and not in the workforce.

Figure 25: Average Annual Unemployment Rate, 2006-2015



Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics

Figure 26: Monthly Unemployment, May 2016 - May 2018



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

Education

School Districts and Enrollment

There are seven school districts whose boundaries overlap with the Y-K region. District enrollment totals from 2012-2017 are summarized in Figure 27. Two of the school districts only have one school each: Kashunamiut School District and St. Mary’s School District. These are the two districts with the most rapid growth in enrollment over the past five years, at 15 percent and ten percent. Lime Village is excluded from

the table; the community is in the boundaries for the Iditarod Area School District based in McGrath, but the school closed in 2007 when enrollment dropped below the minimum state threshold of ten students.

Figure 27: Enrollment by School District, 2012-2017

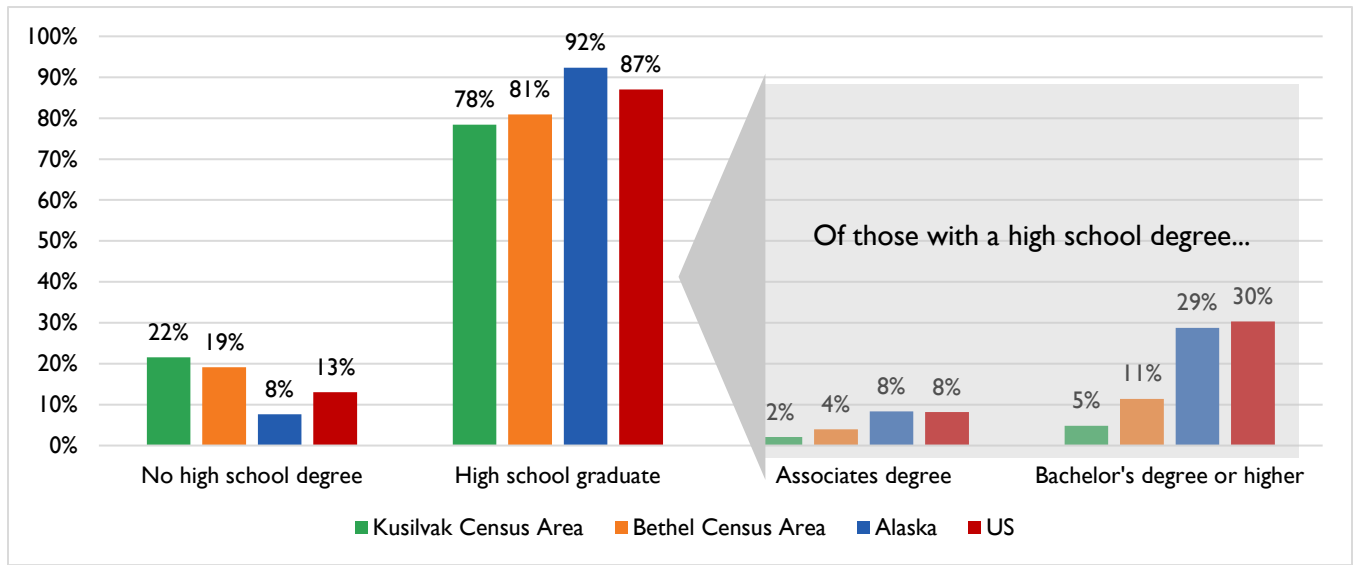
School District Name	# of Schools	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	Change 2012-2017	Communities Served
Kashunamiut School District	1	309	321	325	333	355	15%	Chevak
Kuspuk School District	8	379	371	387	410	396	4%	Aniak, Chuathbaluk, Crooked Creek, Lower Kalskag, Upper Kalskag, Red Devil, Sleetmute and Stony River
Lower Kuskokwim School District	22	4152	4296	4285	4294	4269	3%	Atmautluak, Bethel, Chefornak, Eek, Goodnews Bay, Kasigluk, Kipnuk, Kongiganak, Kwethluk, Kwigillingok, Mekoryuk, Napakiak, Napaskiak, Newtok, Nightmute, Nunapitchuk, Oscarville, Platinum, Quinhagak, Toksook Bay, Tuntutuliak and Tunuak.
Lower Yukon School District	10	1999	1971	2054	2032	2015	1%	Alakanuk, Emmonak, Hooper Bay, Kotlik, Marshall, Mountain Village, Nunam Iqua, Pilot Station, Russian Mission and Scammon Bay
St. Mary's School District	1	196	211	213	195	216	10%	St. Mary's.
Yupiit School District	3	443	439	457	461	464	5%	Akiachak, Akiak and Tuluksak

Source: Alaska Department of Education and Early Development Data Center

Educational Attainment

Education is one of the most important indicators for individual and community economic success. Figure 28 shows educational attainment information for the two Y-K census areas, along with information for Alaska and the United States. As shown, educational attainment in the region is lower than state and national averages, with a larger proportion of Y-K residents not completing high school and a smaller number of residents with college degrees compared with statewide and national averages. However, the graph only includes traditional collegiate programs; many vocational education programs and related certifications may not be included in the data. While not captured here, vocational education and training certifications can be valuable workforce development tools by building individual employment skills and expanding local capacity to engage relevant industries and employers.

Figure 28: Educational Attainment, 2012-2016 Five-Year Average



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates



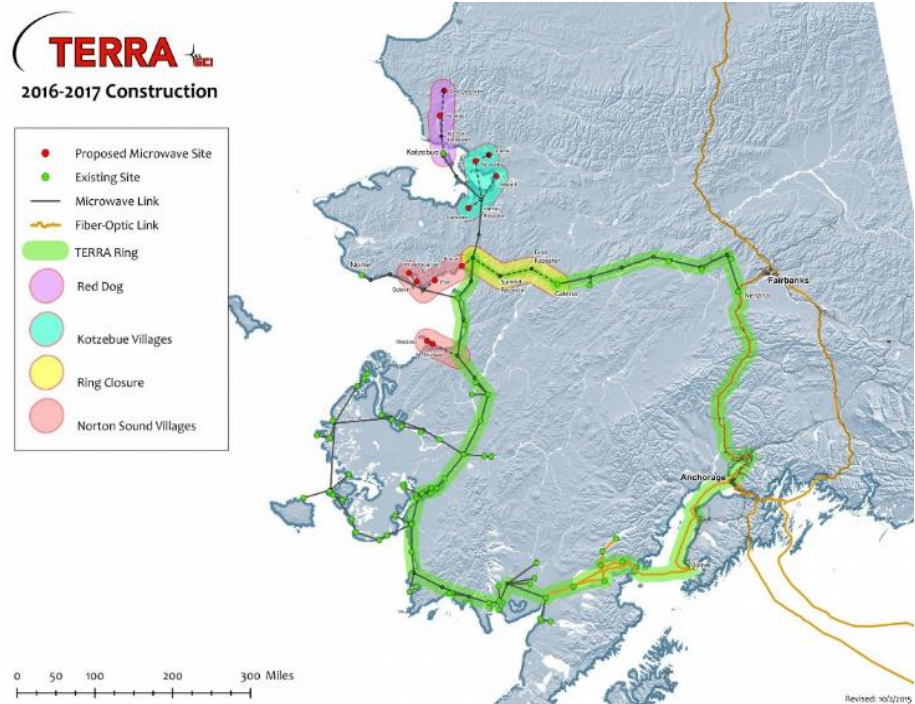
Source: AVCP

3. Cluster Descriptions

This section summarizes key industry trends and regional clusters. Clusters are economic sectors made up of interconnected businesses, suppliers and organizations in a related field.

Communications

Connectivity within the Y-K region has improved significantly over the past five years. Most Y-K community data networks have gone from 2G to 3G service, with some communities transitioning to satellite 4G in hard-to-reach locations. Over the same period, demand and use for data transmission has also increased. Various upgrades have improved the speed and reliability of the system in rural Alaska, although it remains slower and more expensive than the state’s



Source: GCI TERRA website

urban centers given the high costs of construction and operations and the wide geographic spread of the region.

GCI is one of the primary telecommunications providers in the region, with a rural operations center in Bethel and a team of 230 workers in the region. GCI has been increasing its focus on local recruitment for its regional workforce. In the summer of 2017, GCI spent \$115 million completing its TERRA network, creating a 2,000-mile ring around western and interior Alaska. Communication infrastructure is most reliable when done in rings; this mitigates service disruption when there is line break. It also allows for increased bandwidth. Improved communication infrastructure makes it easier for rural residents to access health care through telehealth technology, improves business communications, and creates new opportunities for residents to remotely access web-based education and job opportunities.

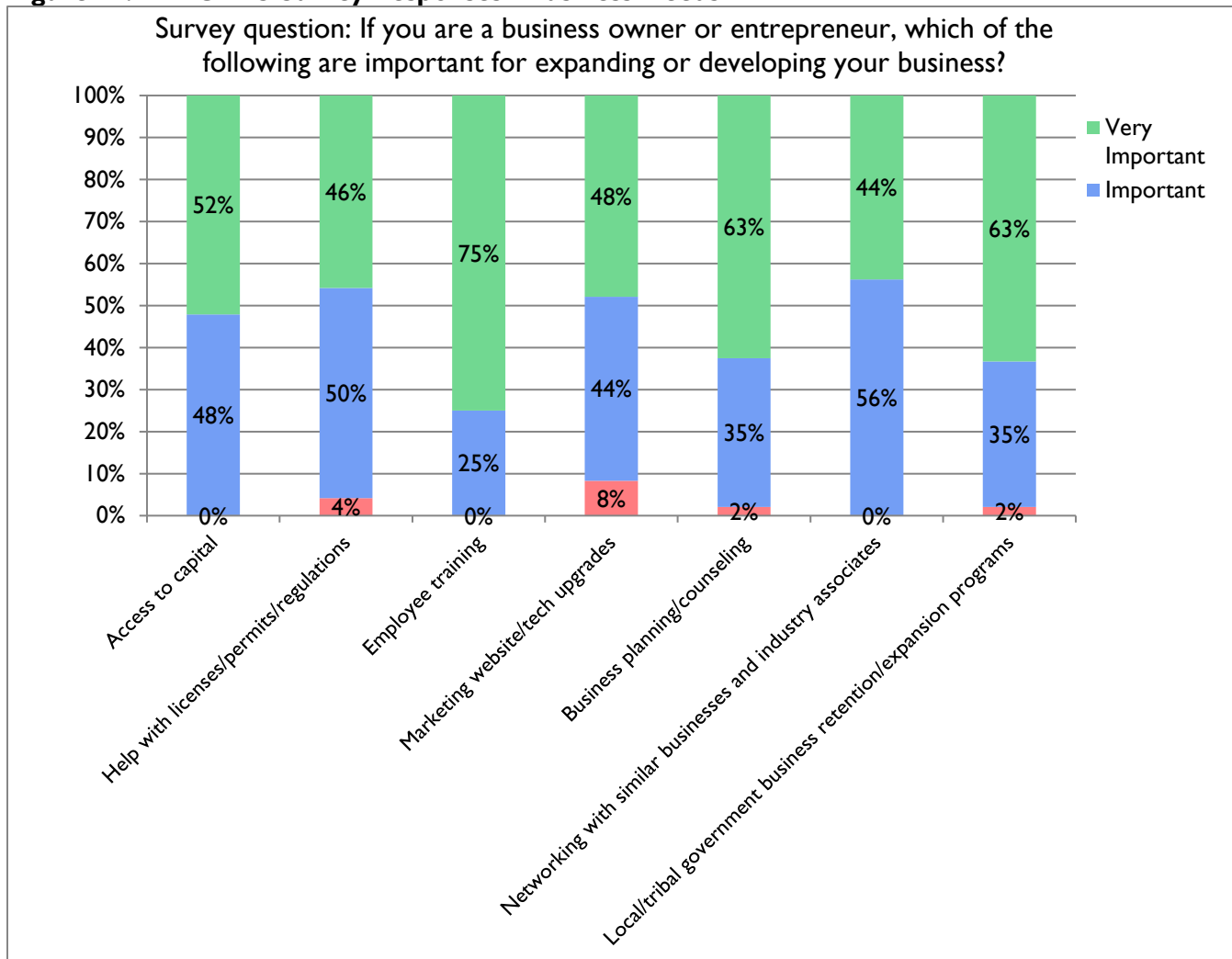
“Where has the growth been in the past 20 years? A lot of it driven by e-commerce. It can be hard to sell products out here but people can sell services, applications and technology.”

– CEDS interview

Education, Workforce Development and Training

Education, workforce development and training are the Y-K region’s biggest priorities. Residents who responded to the Y-K CEDS survey were asked what is needed for developing or expanding a business (Figure 29). The top survey response was employee training (75 percent rated this “Very Important”), followed by a tie for local/tribal government business retention/expansion programs (63 percent rated this “Very Important”) and business planning counseling (also 63 percent).

Figure 29: Y-K CEDS Survey Responses - Business Needs



There are many organizations helping residents develop marketable skills to secure employment. The Association of Village Council Presidents (AVCP) recently established a Tribal Workforce Development Department and has 25 job centers in communities throughout the region. The job centers serve clients and families participating in Temporary Assistance for Needy Families (TANF) program, and youth who are 24 and under. The job centers provide help with preparing job applications and resumes, identifying career paths, researching and applying for scholarships, and more. Job centers also help eligible residents identify and register for training and help pay for training expenses.

Yuut Elitnaurviat, “the people’s learning center”, was established in 2000 and is the result of regional organizations and businesses collaborating together around a shared need. The organization offers courses ranging from adult basic education and general education diplomas (GED) to construction and public safety. In response to demand from employers in the region, the school added a commercial driving program, and offers many one-time trainings based on regional needs, such as a boiler burner troubleshooter class for the AVCP Regional Housing Authority (RHA) and a welding course for upcoming AVCP transportation projects. Yuut is at capacity and is currently undergoing a \$13 million campus expansion. In fiscal year 2017, Yuut served 760 individual students with 1,191 different services/courses. In fiscal year 18, Yuut plans to offer 23 different training programs.

Yuut Yaqungviat, AVCP’s flight school, closed due to unsustainable operating costs. AVCP hopes to re-open the school in the coming years, possibly by consolidating the school with another organization. The Regional Aviation Maintenance School (also known as an Airframe and Powerplant program, or A+P) was certified by the Federal Aviation Administration (FAA) in July 2015 but also remains closed due to unfeasible operating costs; Yuut is working with the FAA and other federal agencies to open the school in the coming years.

Alaska Native Science and Engineering Program (ANSEP) has a strong presence in the Y-K region, and has grown in recent years to include more programs and participants. ANSEP’s objective is to effect systemic change in the hiring patterns of Alaska Natives in science and engineering professions. The organization begins with students in the sixth grade and prepare them socially and academically to be hyperadvanced when they arrive at the University for science and engineering degrees. ANSEP activities prepare students academically and socially with the skills they need to be successful in college, employment and beyond. In 2016, 136 middle school students, 40 high school students or recent high school graduates, and 41 university students from the Y-K region participated in ANSEP programs. ANSEP partners with participating school districts to offer opportunities and enroll students. The programs are highly competitive, and ANSEP gets more applications than there are spots available. In summer 2018, ANSEP is hosting a Science, Technology, Engineering and Math (STEM) career exploration camp in Bethel, which will be the organization’s first time traveling to and conducting a program in the Y-K region.

“Yuut Elitnaurviat has done amazing work to educate and train people from the YK Delta and they are located at the hub of Y-K region. Another facility for the Yukon area would be a good idea.”

– Emailed CEDS comment

“I would like to see more local youth go and receive training to take these certified/professional jobs...the more we put into our local workers, the more they put into our local economies.”

– CEDS survey response

“Not every person that leaves for an education will come back, but some do, and there is a lot of potential for new jobs, new companies, new organizations.”

- CEDS interview

The University of Alaska Fairbanks (UAF) – Kuskokwim Campus also offers a variety of post-secondary education opportunities through both its on-site campus in Bethel or via distance delivery. The Kuskokwim Campus is the largest rural campus in the UAF system and is part of the College of Rural and Community Development. Students can participate in occupational and certificate programs, as well as associate, bachelor and master’s degrees. The Kuskokwim Campus also has a satellite office in the village of Hooper Bay.

“When you have a skilled workforce, you are improving the economy because the workers have better paying jobs and that money stays in the region.”

– CEDS interview

Alaska Department of Labor and Workforce Development (DOLWD)’s Division of Employment and Training Services maintains the YK Delta Job Center, located in Bethel, which serves all job seekers and employers in the Y-K region. Job Center staff provide in-person and telephonic support and maintain the Alaska Labor Exchange System (ALEXsys) which lists local, regional and statewide job openings. The YK Delta Job Center provides access to computers with internet, a fax machine, Unemployment Insurance via phone or internet, photocopier/scanner/printer, Assistive Technology and proctored testing services. Staff conduct one-on-one consultative services and work with job seekers in areas of job search and job development, resume writing, application submission, interviewing skills, and connecting customers to the division’s training and supportive service funding through the Workforce Innovation and Opportunity Act and State Training and Employment Program. Staff also connect customers to financial assistance and self-sufficiency programs, veteran’s services, vocational rehabilitation, and work with the reentry population at Yukon Kuskokwim Correctional Center and Tundra Center to promote successful transition upon release. Job Center staff work with employers to assist in recruitments, job matching and referrals, promote Registered Apprenticeship and other job training programs, and provide information on a variety of hiring incentives such as Veteran Tax Credit, Work Opportunity Tax Credit, Fidelity Bonding, and partial wage reimbursement for on-the-job training.

Many businesses and organizations in the region also have their own workforce development programs in place for employees, such as the AVCP RHA building mechanics and repair program, which trains local people to work for AVCP RHA on projects where the force account method is used to maximize local hire. In addition, Calista is establishing a series of apprenticeship programs, including the recently created Alaska Maritime Apprenticeship Program. This effort seeks to increase Alaskan hire in the maritime industry by working with maritime companies, and was created in partnership with the U.S. Department of Labor, State of Alaska Department of Labor and the Alaska Vocational Technical Center (AVTEC).

“In order to plan, develop and implement a viable economic infrastructure you must invest in one of the most underutilized resources - our young people.”

– CEDS survey response

Energy

Energy costs in the Y-K region remain high. The state-funded Power Cost Equalization (PCE) program continues to help residential households reduce electricity costs and balances out large energy investments in more urban parts of the state. Nuvista Light and Electric Cooperative, a nonprofit organization in the region dedicated to helping communities develop and implement energy solutions, completed a Yukon-Kuskokwim Delta Regional Energy Plan in June 2016; the plan highlighted some of the recent accomplishments and ongoing challenges of affordable energy in the region. Heating fuel costs remain high: in 2014, #2 diesel fuel rates averaged between \$4.78 per gallon to \$6.75 per gallon, with prices as high as \$11.00 per gallon. AVCP communities are increasingly considering alternative energy sources, especially wind. The energy plan identifies 15 communities in the region with meteorological towers to measure wind potential, 12 with a wind feasibility report in place, seven with a final wind generation design in place, and 14 with operating wind energy generation projects. In the long term, Nuvista is working toward wind and regional energy connections; in the shorter term, the organization is helping establish microgrids connecting nearby communities and helping with energy efficiency improvements.

Organizations and businesses in the region have been using bulk fuel purchasing to keep costs down by grouping orders to pay a lower wholesale price and share shipping costs; for example, Alaska Village Electric Cooperative (AVEC) consolidates fuel purchases for all 58 communities they serve. There is potential to further expand this practice, although coordinated purchases require additional time and planning, and the purchaser must be able to afford the upfront cost of a bulk order.

In the longer term, there are at least two projects with the potential to reduce energy costs in the region: the proposed Yukon-Kuskokwim Energy and Freight Corridor (discussed under Transportation below) could reduce freight and fuel delivery costs, and the Donlin Gold mining project (discussed under Mining below) could bring natural gas to the region through a buried pipeline from Cook Inlet. Another project that was being considered in the region, a proposed hydroelectric dam at Chikuminuk Lake, was ruled out due to limited funding prospects and mixed regional support.

Organizations in the region are taking steps to address and mitigate the high costs of energy. Under a grant from the U.S. Department of Energy, the Alaska Native Tribal Health Consortium (ANTHC) conducted energy audits of public facilities throughout the region. ANTHC and community/regional partners are using

“Cost of energy is the center of our universe. Energy drives transportation costs, grocery costs and subsistence costs.”
– CEDS interview

“I would like to see a region that has a modern, intertied economic infrastructure. Having an economic infrastructure is essential to lay the foundation for any future economic activity and growth in the region.”
– CEDS survey response

“If the Donlin Gold natural gas pipeline is put in place it could be a kick start to reduce the diesel fuel reliance which straps the economy of our region.”
– CEDS interview

the audit results to secure funding for emergency efficiency upgrades of clinics, water-sewer plants and other important community facilities. AVCP worked with the AVEC to purchase and install 856 networked metering systems in homes throughout the region to help residents better understand and reduce energy use. Some homes reported a 15-20 percent decline in electricity consumption. AVEC has also been instrumental in helping study and install wind power in Y-K communities. In partnership with the Department of Energy, AVCP completed ten community energy plans. A village leadership team in each community will work on implementation, including seeking project funding. The regional housing authority, AVCP RHA, has programs to help with home renovation and weatherization, which helps reduce energy use.

In 2016, Calista initiated a new project called the Calista Energy Management Assistance Initiative (CEMAI), which provides technical assistance to tribes in the region with the overarching goal of reducing energy costs and improving reliability of energy operations. The CEMAI project includes capacity building and training, efforts to reduce the cost of energy used in subsistence harvesting, integration of existing regional and local energy plans and exploring ways to cluster and consolidate services between adjacent villages through shared transmission lines, power plants and possibly even roads, schools and airports.

“If cheap power is brought in, that would make business easier. People should not have to decide between food and fuel.”
– CEDS interview

Some communities have succeeded in taking steps to address the high cost of energy. The Chaninik Wind Group, an innovative wind energy partnership between Kongiganak, Kwigillingok, Tuntutuliak, and Kipnuk, installs and manage its own energy system. The partnership has helped bring energy costs down in the region, and has also created new jobs for operators and maintenance technicians.

Commercial Fishing

Salmon populations in the region’s rivers have gone into serious decline in recent years, resulting in decreased fishing limits and reduced subsistence catches for residents.

Some commercial processors have closed, leaving some commercial fishers without a buyer for their catch. The Yukon River Inter-Tribal Fish Commission and Kuskokwim River Inter-Tribal Fish Commission are working with U.S. Fish and Wildlife Service toward co-management of regional fisheries. In 2016, king salmon runs were slightly larger than in the previous year, a potential indication the population is stabilizing or rebounding, but then declined again in 2017 and 2018 on the Kuskokwim (salmon runs on the Yukon River were better in 2017).² Ongoing

“I used to see the impact of commercial fishing in our region, it used to be really strong. I don’t see that anymore.”
- Regional Economic Summit participant

² Sources: KYUK Articles, “Yukon King Run Slows;” June 21, 2018. Accessed here: <http://kyuk.org/post/yukon-king-run-slows> and “Kuskokwim Tribes Urge Feds to Take Over Lower River to Block Incidental King Harvest.” May 29, 2018. Accessed here: <http://kyuk.org/post/kuskokwim-tribes-urge-feds-take-over-lower-river-block-incidental-king-harvest>

concerns about climate change, bycatch and other factors create uncertainty around the long-term viability of the region's fish stocks.

While the future performance of salmon runs in the region's rivers is uncertain, fishing in the nearby Bering Sea remains strong. Coastal Villages Region Fund (CVRF) and Yukon Delta Fisheries Development Association (YDFDA) are two of six Alaska-based Community Development Quota (CDQ) groups, created through the 1976 Magnuson-Stevens Act. CVRF and YDFDA receive harvest allocations for a mix of groundfish, halibut and crab through the CDQ program. Since most CDQ group revenues come from fisheries, the ability of a CDQ to provide programs and employment in communities is tied to the health and success of the fishing industries. By revenue, pollock, pacific cod and crab are the most significant harvests for the two CDQs in the region. Crab populations and catch limits in the Bering Sea have fluctuated in recent years, but both pollock and pacific cod have stayed relatively constant. During the State's most recent performance review of CDQ groups, the Decennial Review Report (completed in 2013), both YDFDA and CVRF met or exceeded performance standards for all four evaluation criteria: socioeconomic conditions, financial performance, workforce development and community development plan. In addition, both CDQ groups have achieved steady growth of assets and revenues, which enables them to reinvest more into the region.

As the Lower Yukon CDQ group, YDFDA oversees Kwikpak Fisheries, a processing plant that employs residents in fish processing and purchases salmon from local fishers. Over the past few seasons, Kwikpak Fisheries has been the only salmon buyer on the Lower Yukon. While Kwikpak Fisheries has been unable to purchase king salmon since 2010 due to the crash in salmon stocks, the processing facility successfully transitioned to purchasing and processing chum salmon. YDFDA also employs local welders to build and repair boats at Yukon Marine Manufacturing, and started a gravel and rock operation in 2010. YDFDA also has a successful Youth Employment Program, which provides summer employment to students between the ages of 14 and 17. In 2016, YDFDA paid \$10.2 million in wages to 1,439 residents, including 273 youth through the Youth Employment Project, and purchased salmon from 490 local fishers through its Kwikpak processing plant located in Emmonak. Kwikpak also purchased 5,565 furs from 214 trappers, making Kwikpak the largest raw fur buyer in Alaska.³

CVRF does not currently operate land-based seafood processing and is now expanding its harvesting and processing capabilities in the Bering Sea, including purchasing and managing its own fleet. These investments have resulted in CVRF's assets growing from \$61 million in 2009 to over \$270 million today. CVRF owns and operates a fleet of seven vessels and harvests over 120 million pounds of cod, pollock and crab annually. The organization operates community service centers in 19 of its 20 communities, each of which have meeting space, an internet café, shops with mechanic/welding services and staff who help coordinate local programming. CVRF is also fostering the next generation of leaders and productive workers through its Youth-to-Work program. This program provides summer employment for youth ages 14 to 19 to build skills and habits for succeeding in the workplace, while inspiring young people to contribute to their communities, learn culturally relevant skills, and explore potential career paths in the

³ Source: Yukon Delta Fisheries Development Association: 2016 Annual Report.

region. CVRF paid over \$4.1 million in wages to 842 residents in 2016, including 698 youth who participated in the Youth to Work program.⁴

Health Care

The Yukon Kuskokwim Health Corporation (YKHC) is the region’s tribal health organization and oversees health care delivery in all AVCP communities, operating a network of village and sub-regional clinics and a regional hospital, which provide physical health, dental health, substance abuse treatment, and mental health services, and programs for environmental health, disease prevention and more. YKHC is currently the largest employer in the region, with 1,380 full time equivalent employees on their payroll.⁵ The organization prioritizes local hire, and partners with regional entities to offer a range of health care and management training programs. YKHC is undergoing a large expansion to renovate the Bethel hospital and construct a new primary care facility. The expansion will create 600 new positions at YKHC and is called the Paul John Calricaraq Project, named after Toksook Bay elder Dr. Paul John. YKHC has been expanding its community health aide training program to help meet the demand for new health aide hires and reduce the training backlog. YKHC also recently implemented a new behavioral health model, offering Calricaraq counseling, a holistic treatment option grounded in Yup’ik traditions of survival and health.⁶

“Alcohol and drugs are a huge impediment to workforce development and to helping young people grow up to be productive adults.”

– Regional Economic Summit participant

“We need to address historical trauma and provide sustainable treatment options to end cycles of abuse and addiction.”

– CEDS survey response

Housing

Lack of affordable housing in the Y-K region remains an ongoing challenge for regional residents and employers. The AVCP Regional Housing Authority (RHA) is the tribally-designated housing entity for 51 tribes in the region, and constructs, modernizes and weatherizes homes. The demand for new houses in the region is estimated to be over 1,000 units; the Alaska Housing Finance Corporation (AHFC)’s 2017 Housing Assessment counted 2,514 overcrowded housing units (40 percent of occupied units) and 655 housing units with one-star energy ratings in the region (10 percent of occupied homes), two key indicators of housing need. AVCP RHA constructs an average of 10-20 new homes each

“If you want healthy families, for children to do well in school, for people to be safe, you need a house, a good house.”

– Regional Economic Summit participant

⁴ Source: Coastal Villages Region Fund: 2016 Annual Report.

⁵ YKHC presentation at the Y-K Region Economic Summit, March 2018

⁶ Yukon-Kuskokwim Health Corporation, “Report to the People 2017.” Available at <https://www.ykhc.org/wp-content/uploads/2018/04/AR17-spreads.pdf>

year; this number has been decreasing because costs have increased while funding has stayed the same. The Y-K region has the highest percentage of overcrowded housing units in the state; 40 percent of occupied homes are overcrowded. Many homes in the region also lack essential characteristics such as a complete kitchen (26 percent) and complete bathrooms (34 percent); this is largely due to insufficient or absent water and sewer infrastructure in many rural Y-K communities.⁷

One of the barriers to meeting demand for housing is the high cost of construction: houses in the region are expensive to build, averaging \$420,000 per unit; about \$150,000 of this cost goes toward logistics and freight. In addition, there is minimal private sector investment in housing due to a combination of high construction costs, low wages, and limited access to land and financing.

AVCP RHA uses the force accounting method and partners with regional and state organizations such as Yuut to train and hire local workers for construction projects. The resulting homes are energy efficient, which helps families save fuel and reduce their expenses.

Mining

Donlin Gold, LLC is exploring the potential of an open pit gold mine about 10 miles north of Crooked Creek, an area with an estimated 33 million ounces of gold.

Calista Corporation owns the sub-surface rights at the mine site and The Kuskokwim Corporation, a consortium of 10 middle Kuskokwim River Village corporations, owns the surface rights at the mine site. If developed, the mine would likely use on-site power generation with natural gas from Cook Inlet transported to the site in a 315-mile buried pipeline. Excess gas from the pipeline could potentially be used by local communities for heating and electrical generation. There is no current road or rail access to the proposed mining site, although the project developers anticipate putting in a 30-mile road from the mine site to a new barge landing on the Kuskokwim River near Crooked Creek, upgraded dock facilities in Bethel, a 5,000-foot airstrip, a man camp, a mill and a natural gas pipeline and fiber optic cable to Cook Inlet.

“With the current economic outlook, I believe the only way we will have a strong regional economy is if the Donlin Gold project goes forward. Otherwise, with budget cuts both State and Federal, I cannot foresee people staying in our region.”

– CEDS survey response

⁷ Alaska Housing Finance Corporation, 2017 Alaska Housing Assessment.” Available at <https://www.ahfc.us/efficiency/research-information-center/alaska-housing-assessment/2018-housing-assessment/>

According to a presentation by Donlin Gold at the Y-K Regional Summit, the mine would significantly increase employment opportunities in the region. Construction of the mine will require approximately 3,000 workers and a \$300 million annual payroll; production will require 800-1,200 workers and \$100 million annual payroll. Because the mine is being developed in partnership with local and regional Alaska Native corporations, the number of local hire jobs for the development and operation of the mine will be significant. Donlin currently has scholarships available for training and education to encourage young people to seek training for the jobs that will be needed. If mine development moves forward, Donlin anticipates partnering with AVCP, Yuut Elitnaurviat and other workforce and training providers to ensure residents are trained and ready to fill the newly created jobs.

Donlin Gold is preparing the final Environmental Impact Statement (EIS) for the mine, forecast for completion in early 2018. The proposed project would take approximately three to four years to construct with a projected mine life of approximately 27.5 years.

Construction and transportation projects in the area typically require gravel to build foundations and for surfacing. Rock and high-grade gravel are scarce in the Y-K region and are important resources in the Y-K region. Calista owns extraction sites in the region, including rock quarries in Kalskag, Platinum and Goodnews Bay and gravel pits in Aniak and Platinum. An additional gravel site, Pilcher Mountain, has been identified as a potentially viable extraction site near Marshall.

Subsistence and Harvesting

Subsistence harvesting of animals, plants, and sea creatures provides a critical economic resource for Y-K communities. These healthy and plentiful local foods form the main part of many residents' diets. Subsistence foods replace purchased imported foods, which are often expensive and less healthy, due to the need for long shelf-lives. Artists and craftspeople use materials gained through subsistence harvesting for carving ivory, weaving grass baskets and creating other items and works of art. Subsistence harvesting is one of the ways the region's Athabaskan, Cup'ik and Yup'ik peoples maintain the traditional relationship between people, land and animals; it is fundamental to the area's cultural traditions, maintaining traditional language and sustaining communities.

The Alaska Department of Fish and Game, Division of Subsistence, reported in December 2016 that about 70 percent of households in western Alaska participate in harvesting game, while 98 percent participate in harvesting fish. The same report estimates households in western Alaska produced an average of 370 pounds of annual wild food per person each year; if replaced with non-wild foods, this regional harvest

"In the next 10 to 40 years, the Donlin gold mine would be able to provide the region with the base economy that we need to jump start the private sector. That base economy is very much lacking with no remaining commercial fishing."

– CEDS Interview

"The challenge to constructing Donlin will be finding the 3,000 workers needed for construction. The region is not yet ready to meet this need."

– CEDS Interview

would be valued at between \$36 million and \$82 million total each year, assuming the replacement value of the food was between \$4 and \$8 per pound. Subsistence activities require cash resources to purchase fuel, bullets, snowmachines, skiffs and other equipment, which must be factored in to replacement value.

Some communities such as Mekoryuk have taken steps to further support and encourage subsistence harvesting and create additional economic opportunities for the region’s hunters and gathers to process and export products. The Native Village of Mekoryuk received Economic Development Administration funding to repair the fencing around their 2,000-head reindeer herd, and are working on plans for a new reindeer processing facility. Once the facility is completed (summer 2018), the tribe’s subsidiary, Nuniwarmiut Reindeer and Seafood Products, will be able to process and export reindeer meat.

The region’s reliance on the fishing industry leaves communities vulnerable to impacts from bycatch, climate change and other disruptions. Closures to subsistence harvests by federal agencies limit a key resource for households in the region; this hurts families who struggle to afford replacement foods when access to subsistence is closed or limited. Yukon and Kuskokwim River salmon populations have been declining drastically since 1998, resulting in declines in allowable subsistence and commercial catch. In 2015, the region experienced a dramatic total shutdown of subsistence fishing for Chinook (King) salmon, and

“What we need to invest in now is teaching young people their Yup’ik-ness. We’re not Yup’ik just because of our blood, we need to go through Yuuyaraq, the training and learning of how to live. When we were growing up we were taught to succeed both in our traditional system and the western system. We need to do that again, teach young people to succeed in both.”

– Regional Economic Summit participant

salmon harvests have remained low since.

The Yukon River Inter-Tribal Fish Commission and Kuskokwim River Inter-Tribal Fish Commission are working with U.S. Fish and Wildlife Service on co-management of regional fisheries. This has allowed residents the opportunity to participate in decision-making and contribute input into management decisions, including identifying steps to protect critical salmon populations.

Some residents in the region have successfully established agricultural operations. Meyers Farm in Bethel grows food for local sale and export to nearby villages and has a biweekly farmer’s market.⁸ While growing seasons can be short, the region has rich, fertile soil and potential for increased agricultural use, and tools such as tunnels and hoop houses can help extend the season and protect against early or late frost. YKHC’s Diabetes Prevention and Control program includes a community garden component, and various villages around the Y-K have created community

“People of the Y-K have been here longer than the state or federal government. They tell us when to fish, when to hunt.”

– Regional Economic Summit participant

⁸ Alaska Dispatch News. “Tilling Alaska’s tundra at Meyers Farm in Bethel.” Published June 21, 2015.

gardens, including Bethel, Emmonak, Oscarville and Aniak.⁹ Increasing the consumption of locally-grown and locally-harvested foods could help lower the high cost of living, increase access to healthy foods and create economic opportunities for residents in the region.

Timber

The Y-K region has limited forestry resources throughout the area, including white and black spruce and areas of birch. The timber industry, while currently modest in size, has potential to expand to reduce heating and building costs in the Y-K region. The Native Village of Napaimute operates a successful, growing timber harvest near Kalskag; they are purchasing a sawmill and hope to increase firewood sales and produce lumber for home construction, and are also working on a reforestation effort to support long-term sustainability of the resources.

The former Yukon Kuskokwim Economic Development Council (YKEDC) received funding from the State of Alaska to study the viability of a commercial sawmill and truss manufacturing plant in Bethel in 2015. Locally-manufactured building trusses could lower construction costs in the region and create a market for local timber. This study was conducted with assistance from the Fairbanks Cold Climate Housing Research Center. YKEDC developed a business plan, economic impact analysis and preliminary design and cost estimates for the plant; however, the effort has stalled over the past year.

Tourism

Tourism in Alaska is growing; according to a report from the Alaska Tourism Industry Association, statewide visitation reached a peak of 1,857,500 people in 2016. Tourism in the Y-K region is, however, hampered by high transportation costs, and limited accommodation and infrastructure for hosting visitors. In summer 2016, only four percent of Alaska visitors (approximately 84,000 people) traveled to the southwest region; this rate has remained flat over the past five years¹⁰. The region has unique qualities to attract additional visitors. The Yukon Delta National Wildlife Refuge is the largest wildlife refuge in the country and could appeal to eco-tourists, birders and adventurers. The region has a rich traditional culture and language. Visitors are welcome at the Yupiit Piciryarait Cultural

“We should work with Calista to use native allotments as tourism sites – especially the western tundra from Bethel.”

– Regional Economic Summit participant

“Hunting and fishing can be a source of income for bringing in visitors and supporting our families. Bethel is the base for bringing in hunters to our region and it’s creating conflict with our villages. But that’s income we need to bring into our region. Skilled, knowledgeable residents could be excellent guides.”

– Regional Economic Summit participant

⁹ Yukon-Kuskokwim Health Corporation, “Community Activity and Garden Awards:” <https://www.ykhc.org/diabetes/community-activity-and-garden-awards/>

¹⁰ The Alaska Visitor Statistics Program divides Alaska into five regions for reporting purposes; the southwest Alaska region includes the Y-K Delta, Bristol Bay, Kodiak and the Aleutian Islands.

Center, on the Kuskokwim campus of the University of Alaska Fairbanks. The Cultural Center has a museum, operated by AVCP, to celebrate and share Yup'ik culture. In the winter, Bethel is home to a sled dog race in January, the Kuskokwim 300, and the Camai Dance Festival in March. The region also offers hunting, biking, hiking, fishing and flightseeing tours.

Transportation (includes Aviation and Maritime)

High transportation costs continue to be one of the biggest challenges to economic development in the Y-K region. The region can only be accessed by boat or plane. In summer, boats and barges are used along the region's rivers, while in winter, most travel is by snow machine or passenger vehicle along ice roads and winter trails. Residents use a combination of snowmachines, boats and ATVs for subsistence hunting, fishing and trapping.

There are 52 airports located in the Y-K region; Bethel is the largest in terms of flights, passengers and cargo and is the third busiest airport in Alaska, and the only community in the region that has regularly scheduled jet service. Flights around the region are expensive and weather dependent. According to the Yukon Kuskokwim Delta Transportation Plan, the average cost for a plane ticket within the region is approximately \$400 round trip, with a round trip ticket to Anchorage costing \$500. The Y-K Delta Transportation Plan, updated in March 2018, has detailed additional information about existing and needed transportation infrastructure in the region:

http://www.yktransportationplan.org/documents/3_YK%20Report%203-29%20FINAL.pdf

According to reports from air carriers at the Y-K Economic Summit, the Y-K region is being impacted by a shortage of pilots and other aviation-related positions, resulting in higher personnel costs and an increase in fares. Air carriers prefer hire locally; pilots from the region are familiar with the weather extremes of the region, appreciate the dangers of flying in Western Alaska and are less likely to leave the Y-K region for other employment because it is their home. However, residents need to go through the training and certification process to be hired on with air carriers.

Time-sensitive shipments such as perishable food are typically sent via air, contributing to the high cost of goods in the area. Barge service to the region is available during summer months and is typically used for larger purchases such as heating fuel, diesel, gasoline, construction supplies, cars, dry goods and more. Materials shipped by barge are often routed to hub communities like Bethel and then distributed onto smaller vessels and shipped up or down river, further adding to the cost for outlying communities. When compared to air cargo, shipping freight by barge is the least expensive method for moving goods, although still significantly more expensive

“The Yukon and Kuskokwim rivers are our highways.”

– Regional Economic Summit participant

“The very high cost of living makes even a trip into Bethel from outlying villages a burden.”

– CEDS survey response

“We are currently having to import pilots from the Lower 48, but we would rather have locals in those positions...most money in aviation right now gets exported out of the region and we need to turn that around.”

– Regional Economic Summit participant

than freight costs to larger hub communities such as Anchorage. A proposed deep-water port in Emmonak could help reduce barge costs for communities along the Yukon River

To help address the high costs of freight and fuel delivery, AVCP is in the planning process for the Yukon-Kuskokwim Energy and Freight Corridor; a map of potential routes is included in Figure 30. The corridor will connect communities along the Yukon River with those in the upper Kuskokwim River region via a 44-mile overland route to ease mobility of goods around the region. AVCP is working on phase three of the project, expected to take approximately two years and includes public involvement, corridor preservation/ securing the right-of-way, and cataloging existing barge landings, cultural and subsistence land uses in the project area.

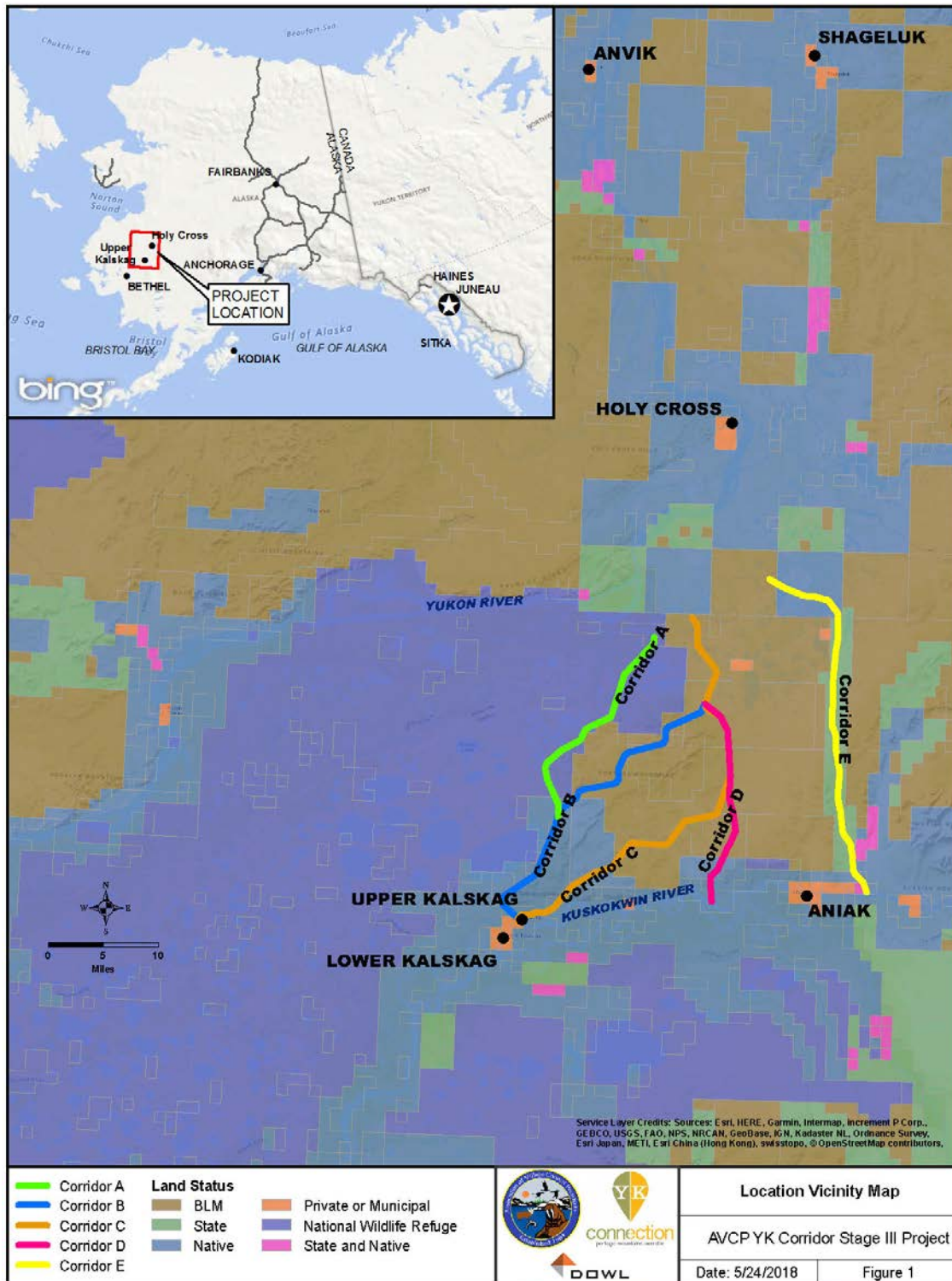
“We have to do on-going educational outreach for big projects like the Y-K Corridor. This has to include engaging the communities and doing educational pieces justifying why need to do this.”

– CEDS interview

The proposed Donlin gold mine, if developed, would also bring transportation infrastructure upgrades to the region, including a barge port and access road; for more details, see the Mining description.

In addition to inter-region travel, communities along the region’s coasts are seeing an increase in vessel traffic as travel through the Northwest Passage becomes more frequent due to globalization, melting sea ice, and natural resource discoveries. As Arctic travel and shipping increases, there will be more demand for maritime services, fuel and emergency response capabilities along the western coast of Alaska, where very little infrastructure exists today. The Bering Sea Elders Group, an association of elders from 39 tribes along Alaska’s western coast, provides local input to federal agencies and has been focusing on subsistence, vessel traffic, and the need for increased emergency response capabilities along Alaska’s western coastline.

Figure 30: Yukon-Kuskokwim Energy and Freight Corridor



Source: Association of Village Council Presidents and DOWL Engineering, Accessed June 2018 from <http://www.avcp.org/services/transportation/>



Source: AVCP

4. SWOT Analysis

To increase quality of life and support economic development, it is important to have a clear understanding of a region’s existing conditions, including those factors that contribute or detract from economic growth. In this document, an analysis of Strengths (S), Weaknesses (W), Opportunities (O) and Threats (T), or “SWOT Analysis,” is used to create a picture of where the economy of the Y-K region is today. The weaknesses and threats can also be viewed as constraints to economic development, which must be addressed and/or mitigated for the region to achieve economic growth and resiliency. By understanding the key concepts in the SWOT, Y-K communities, organizations, businesses and partners can move strategically toward a stronger economy.

	Internal	External
Advantages: What resources and strengths will help us create jobs and grow businesses so more wealth comes to and stays in the region?	Strengths	Opportunities
Disadvantages: What are our economic constraints? What makes it hard to do business, start a business, get a job or hire employees in the Y-K?	Weaknesses	Threats

The project team identified the top five features/characteristics within each of the categories, listed at the top of each subsection. These top five lists were selected based on input from the Y-K CEDS survey, the Y-K Regional Economic Summit, interviews with stakeholders and a review of background data about the region.

Strengths

Top five strengths of the Y-K region:

- YK residents have a strong culture and history of being resilient and adaptable in the face of change.
- Subsistence harvests are an essential economic resource for many Y-K residents and preserve important cultural traditions.
- The region’s population is growing, with many young residents.
- The Y-K region has extensive natural resources, including timber/forestry/biomass, minerals, wildlife, berries and fishing.
- Y-K communities benefit from significant state and federal partner investment in the region.

“We are blessed with natural resources that we can explore. When we go seal hunting or berry picking, when we don’t accomplish what we are looking for we do not give up. We keep going until we obtain that resource. We need to teach people that education is the same way – if you don’t succeed the first time, it’s okay to try again. It’s part of the learning experience. Our people should not be afraid to make any mistakes. We need to keep going.”

- Stakeholder interview

Other Strengths

- Organizations and businesses in the region are investing in workforce development through targeted training courses, certification programs, force account hiring, job centers and more.
- Communities in the region are acting to increase access to affordable energy and reduce dependence on diesel fuel, by investing in wind energy, establishing consortiums, and completing community energy plans with the Department of Energy (DOE), Office of Indian Energy Policy and Programs. The non-profit Nuvista Light and Electric Cooperative was formed to help communities develop and implement energy solutions, including interties, microgrids and efficiency upgrades.

“We are good at looking for solutions in our own selves, from within the region.”

- Regional Economic Summit participant

“This is one of the most beautiful spots in the world.”

- Regional Economic Summit participant

“We have a rather robust outlook compared to the rest of the state. We are a transportation and medical hub. Combined with mining we are in for a positive outlook. This will benefit all of our businesses.”

- Private sector interviewee

- The Yukon Kuskokwim Health Corporation (YKHC)’s \$336 million hospital expansion is creating additional employment opportunities in construction and health care fields and increasing access to health care in the region. There are already 1,380 full time equivalent positions on YKHC payroll, including many residents.
- Communities in the region are strengthening their emergency plans. The villages of Emmonak, Akiachak, Newtok, Kotlik, and the City of Bethel developed Local Hazard Mitigation Plans after participating in a regional emergency disaster conference with the Federal Emergency Management Agency (FEMA).
- The Kuskokwim River and Yukon River ice roads provide critical transportation linkages in winter, and are used for water transportation in summer.
- Telecommunication services continue to expand and become more reliable in the region.
- The Y-K economy includes an active bartering system that has been practiced for centuries. Under this system, communities trade one local good for another, between individuals and between communities.
- The region has strong tribal governance systems, including organized tribes and village corporations; tribes can control the future of their communities.
- The region’s Alaska Native Corporation, Calista, has 6.5 million acres of land and approximately 23,000 shareholders.¹¹ Calista invests in the region, funds education programs and distributes annual dividends to shareholders. They are focusing on building a strong foundation for businesses by addressing housing, workforce and infrastructure needs in the Y-K, with a concentration on energy and transportation.
- Alaska’s statewide Power-Cost Equalization (PCE) program helps reduce the cost of electricity in rural communities for residential homes and eligible community buildings.

“If we can understand our historic bartering system, we can use it as a base for economic development.”

- Regional Economic Summit participant

¹¹ Source: Calista Corporation: <http://www.calistacorp.com/shareholders/shareholder-portal/shareholder-information/>

- Tribal members and businesses in the region can benefit from Tribal Employment Rights Ordinances (TERO), which give preference to tribally owned businesses and tribal members.
- Local schools have high local involvement and control; many schools have cross-cultural education and language revitalization programs.
- The tribal court program in Alaska is expanding and villages are establishing their own tribal courts.
- There are strong and active regional organizations who are increasingly collaborating, with activities overseen by local leaders and governance boards.
- AVCP Regional Housing Authority (AVCP RHA) is working to address the housing shortage by building new, energy efficient homes, and provides short term support to prevent eviction. These new homes are constructed at an average of 10 units annually.
- Private businesses and public agencies are researching other Arctic countries to learn about innovative ways to overcome energy, transportation and health care challenges in remote environments.
- The Y-K region has strong legislative representation at the state level.
- The region has excellent soils and some residents are growing produce for local sale and regional export. The soils could support additional agricultural production.
- Regional organizations came together to plan and organize the Y-K Region Economic Summit and are developing this CEDS in concert with one another, which lays the groundwork for coordinating efforts to strengthen the economy.
- The telecommunications infrastructure in the region continues to be upgraded and expanded, and local provider GCI is increasing local recruitment for their workforce.
- The Y-K region has extensive, well-protected flora and fauna and beautiful landscapes. The Yukon Delta National Wildlife Refuge attracts modest visitation, provides employment, protects wild resource harvests and offers recreation opportunities.
- The State of Alaska’s annual Permanent Fund Dividend (PFD) provides supplemental income and helps offset the high cost of living in rural areas.
- Between 2010 and 2017, the Bethel Census Area grew by seven percent and the Kusilvak Census Area grew by ten percent for an average growth of eight percent; Alaska grew at a smaller rate of four percent.
- Overall enrollment in six of the seven school districts in the Y-K is increasing.

“St. Mary’s school has a great model that integrates subsistence into education programs and evaluation.”

- Regional Economic Summit participant

“From the changes I’ve seen since moving to Bethel in 1984, the Y-K region faced many challenges and the people are resilient and very innovative with solutions.”

- CEDS interview

Weaknesses/ Constraints

Top five biggest challenges and constraints to economic growth in the Y-K region:

- The Y-K region has a small population and lacks economies of scale for many businesses and industries, at both the community and regional level.
- There is a shortage of housing throughout the region; approximately 40 percent of homes are considered overcrowded and an additional 3,000 homes are needed to meet the demand.
- The region lacks basic transportation infrastructure, with very few roads, limited connectivity and no land connection to the “Railbelt” communities; as a result, transportation and shipping costs are expensive and residents have more difficult access to health care, training, employment and other resources and services. This is especially true for communities far from regional hubs such as Bethel.
- The Y-K region has some of the lowest incomes and highest poverty rates in the country.
- Y-K communities experience high energy costs, including the cost of gasoline/heating fuel.

Other Challenges/Constraints

- Many communities lack sufficient land for new housing; acquisition of land is costly and getting a conventional loan for constructing a house on village corporation lands is challenging.
- The existing housing stock needs repair; many homes have ventilation problems, mold, heating inefficiencies and other issues.
- The region has an underdeveloped/unorganized timber/forestry industry.
- The region has an underdeveloped agriculture/farming industry.
- There are virtually no manufacturing/processing companies in the Y-K outside of the commercial fishing industry.
- Many high-achieving students migrate out of the region, resulting in a “brain drain” of young and capable individuals leaving the regional workforce. There may be jobs available in the region but they do not always align with the skills sets of young people who have achieved advanced degrees.
- King salmon populations are declining, with negative impacts to both subsistence and commercial fisheries.
- Residents have limited access to and knowledge of financial services and systems, making it harder to get loans, develop business plans and access the capital necessary to start a business.

“We lack job opportunities and so when young people get trained they take jobs elsewhere.”

- Regional Economic Summit participant

“Freight often costs more than the item itself.”

- Coastal sub-region meeting attendee

- Many communities lack sufficient public safety response personnel; one of the primary reasons is because communities do not always have the housing capacity needed to host Village Public Safety Officers (VPSOs).
- Many communities in the region are located within a wildlife refuge, which introduces regulatory barriers to certain types of development.
- Employers throughout the region experience high turnover, high vacancies and low retention rates. Some of this is driven by the desire to conduct cultural activities that can be inadvertently restricted due to structured school and work environments.
- Most of the region’s economic activity, training opportunities and organizations are based in Bethel; residents in other Y-K communities are not always able to access or utilize Bethel-centric resources.
- Some communities and organizations face challenges with nepotism.
- Managing waste, sewage and recycling is expensive and challenging in Y-K communities due to limited infrastructure and expensive freight costs.
- Federal agency requirements are not always appropriate or realistic when applied in rural Alaska; for example, U.S. Department of Agriculture requirements of having multiple licensed and bonded contractors do assessments can eat up large portions of project dollars.
- Many of the region’s highest paying jobs are filled by people outside the region, including doctors, teachers, administrators and pilots.
- There is no National Guard base in the region.
- Regional organizations do not always coordinate with one another and sometimes compete for people, resources and projects.
- Many communities struggle with high rates of substance abuse.
- Residents with criminal backgrounds experience barriers to entering the workforce and finding employment.
- Weather reporting in villages can be inconsistent or unavailable, negatively impacting the safety and reliability of air transportation. In addition, poor infrastructure at village airports makes it harder to travel, limits flight operations and discourages tourism-related visitation.
- Upriver tundra villages are not included in community development quota (CDQ) groups and do not receive many of the financial or employment benefits of downstream villages.
- Communities in the Coastal Village Region Fund (CVRF) region feel they have a disproportionately smaller share of CDQ catch limits than other CDQ groups.

“Residents value a subsistence lifestyle. This limits the availability for long-term, full-time work.
 – Regional Economic Summit participant

“If the regional organizations work together and collaborate under one direction we can build a resilient economy in our region.”
 - Regional Economic Summit participant

“We have some political barriers in the region... We need that mentality of true partnership and “working for the good of all,” and we need to focus on the solutions and not the barriers.”
 – CEDS interview

- On the Lower Kuskokwim, many commercial fish permit holders are inactive because there is no local buyer to purchase and export the salmon; existing fish plant infrastructure is unused.
- Residents sometimes have hands on experience but not formal certification paperwork, so they are not eligible for certain jobs in industries like construction even if they have the appropriate skills.
- AVCP and other partner organizations are often less involved and engaged in the Lower Yukon region, in part due to the distance from Bethel.
- Tribes are sometimes prevented from partnering with state/federal agencies or securing grants because they are not in good standing with the Internal Revenue Service (IRS) due to financial/bookkeeping or other challenges; this can limit local economic development, partnering and infrastructure investment.
- The leaders of many regional and local organizations, tribes and corporations are nearing retirement age, with little to no succession planning in place for the next generation to move into leadership roles.
- Workers in the Y-K region work fewer total weeks and fewer total hours than the rest of Alaska and the U.S., contributing to the low incomes and high poverty rates in the region.
- The Y-K region has some of the highest poverty and unemployment rates in the nation. In 2016, the Kusilvak Census Area's employment rate was 21 percent, down slightly from a high of 24 percent in 2013 and 2014 but still more than three times larger than the state unemployment rate of 6.6 percent. The Bethel Census Area is lower at 14 percent, but still more than twice the state rate.

"We have an aging workforce. Those people will need to be replaced, and we need to train young people and let them in - train them for leadership positions and as board members.

- CEDS survey response

Opportunities

Top five external and upcoming opportunities for the Y-K region's economy:

- The potential Donlin gold mine could bring new employment opportunities and new infrastructure investment that could help lower energy and transportation costs. If the project moves forward, initial construction will require 3,000 workers and normal production will require 800-1,200 workers; infrastructure would include a port in Bethel, a small river port, a camp, a timber mill, a natural gas pipeline and a fiber optic cable.
- Entities in the region are increasing the amount of investment in and opportunities for vocational education and culturally-relevant education to better prepare students earlier for jobs in the region, including higher-paying jobs as health care professionals, teachers, pilots and skilled tradesmen that are currently often filled by residents from outside the region.
- Strengthening community and regional collaboration to achieve shared goals and coordinate resources.
- Many communities in the region have renewable energy potential, ranging from biofuels (wood), hydroelectric from river currents, geothermal and wind. Technology is advancing and it is becoming easier to integrate renewable energy into existing electric grids; there are innovative projects in Northwest Alaska and on the North Slope that could be applied to the Y-K region. With potential loss of Power Cost Equalization (PCE) funding, there is an additional incentive to lower energy costs.
- Improved telecommunication technology increases access to online and e-commerce jobs and outside markets for services and for unique regional products like arts and crafts.

Other opportunities:

- The proposed Yukon-Kuskokwim Transportation Freight Corridor could increase connectivity in the region and help lower transportation costs.
- The current U.S. presidential administration has prioritized infrastructure investment, which may introduce new funding opportunities to expand infrastructure in rural Alaska.
- Increases in Arctic shipping will likely result in increased traffic in the region and an associated increase in the demand for marine support services, especially in coastal communities.
- Creating interties between communities could further reduce energy costs.

“We need a base industry. When you look at successful regions, they have an anchor industry. We haven’t had that but we have the opportunity with Donlin Creek. We need a year-round industry to give hope to our young people.”

- Regional Economic Summit participant

- Collaborative land use planning between cities, tribes and village corporations could help address community challenges such as subsistence and housing.
- There is room to increase youth engagement in governance and decision-making on commissions, boards and councils.
- There is growing state and national interest in language immersion schools and culturally relevant learning, which could be used to attract stronger teachers and attract local residents for employment in education fields.
- Regional organizations and businesses support the Best in the West annual competition, which provides start-up funding for new businesses and support for local entrepreneurs.
- Many residents have deep hunting and fishing knowledge and could serve as skilled guides in the tourism industry.
- Calista and village corporations could partner with the U.S. Fish and Wildlife Service to use or develop Native allotments within the Y-K Delta National Wildlife Refuge as tourism/visitation sites.
- Quality soils in the region could support additional agricultural production; local produce grown in Bethel is sold locally and exported around Alaska.
- Military enrollment, including U.S. Coast Guard enrollment, could employ eligible residents while still allowing them to live in the region part-time.
- Import substitution – developing local products to replace import products – could help reduce the cost of living and doing business, especially because of the region’s high freight costs. For example, a truss plant using locally milled timber could help reduce the cost of constructing a new home, while simultaneously creating jobs and keeping more money in the region.
- Chevak is being explored as regional hub community to reduce transportation and freight costs and improve access to health care and services.
- Changes to CDQ allocations could bring additional revenue to CVRF communities in the Coastal sub-region.
- Increasing youth education about survival tactics could help reduce the high rate of injuries and accidents that occur in rural communities and help make subsistence activities safer.
- Donlin is providing scholarships for training and education to encourage young people to be trained for the jobs that will be needed; they are also conducting outreach to communities and schools.
- The Alaska Industrial Development and Export Authority (AIDEA), a state-funded agency, can provide project financing for large project investments such as infrastructure. In addition, low interest loans are available through many federal agencies.

“We are bringing in millions of dollars into our region but it is going back out again.”
 - Regional Economic Summit participant

“Village corporations need to think bigger. We were not made just to run village stores.”
 - CEDS interview

“The only way to reduce poverty is to create jobs. And in order to create jobs there has to be a viable product that you wish to sell or the market demands to sell, basics of economy.”
 - CEDS interview

- The U.S. Small Business Development Administration has a staff of 12 in Alaska and is currently focusing on rural development, including working with private lenders to provide backing for higher risk loans.
- Federal Transportation Investment Generating Economic Recovery (TIGER) grants are available for transportation/infrastructure projects.
- The 2018 federal omnibus bill includes many funding opportunities and money for Alaska, including water and sewer improvements.
- The U.S. Economic Development Administration has varied funding sources available, including planning grants, technical assistance, capital improvement grants, economic adjustment grants for severely distressed communities and more.
- There is an increasing focus on and availability of funding for climate change resiliency efforts through the Denali Commission, Alaska Native Tribal Health Consortium (ANTHC)'s Local Environmental Observer (LEO) network and many other private, state and federally managed efforts.

“In a recent all-staff meeting, when I asked what innovations started at the Y-K delta that could share with the rest of the world, my staff came up with 34 things in five to ten minutes. The innovation is here, the way to think about it and create projects that change lives and create communities are here.”

- Regional Economic Summit participant

Threats

Top five external and potential threats to the Y-K region's economy:

- The region lacks a diverse economy.
- Declines in state funding due to Alaska's fiscal challenges and lack of a fiscal plan could result in additional losses of financial investment and resources for schools, infrastructure and programs.
- The region is heavily dependent on federal funding; declining Environmental Protection Agency (EPA) funding for programs such as the Indian Environmental General Assistance Program (IGAP) threaten the viability of many tribal programs and activities, and potential cuts to the Bypass Mail program would increase the cost of transportation for goods and people.
- Many communities in the region are experiencing impacts from climate change, such as erosion, melting permafrost, flooding and increasing storm intensity.
- The region's reliance on the fishing industry leaves communities vulnerable to impacts from bycatch, climate change and other disruptions. Closures to subsistence harvests by federal agencies limit a key resource for households in the region; this hurts families who struggle to afford replacement foods when access to subsistence is closed or limited.

Other threats:

- Increases in vessel traffic along Alaska's western coasts could negatively harm subsistence and commercial activities.
- Mining and resource extraction efforts in the region are a potential source of income but also bring a variety of environmental risks and can undermine traditional ways of life.
- Many villages are experiencing a loss of traditional language and cultural practices.
- The region is seeing a decline in voter participation in elections, resulting in diminishing influence at both the state and federal level.
- State and federal income limits for public assistance discourage some residents from seeking employment for fear of losing benefits, encouraging dependency and reducing incentives to work.

"I used to see the impact of commercial fishing in our region, it used to be really strong. I don't see that anymore."

- Regional Economic Summit participant

"The income limits in applying for public assistance, housing and other low income programs is a barrier. People try to stay under that line knowing that if they go just over, things may become difficult for them to provide financially for their families. As a supervisor with hiring authority, I have personally seen people turn work down and admitting that they need to stay under that cap to stay on those benefits."

- CEDS survey response

- State and federal agencies build infrastructure in Y-K communities but then leave them to the community to oversee/maintain them.
- Sport hunting and fishing and businesses are often owned by people outside the region who don't have investment or connection to the region and its communities.
- Potential changes in federal designations could remove protections from lands and open them to other owners and uses.
- Insufficient funding for the U.S. Census could result in an inaccurate count of the Y-K region, which would negatively impact re-districting and eligibility for various federal funding opportunities.
- The aviation industry is being impacted by a global shortage of pilots, resulting in a pilot shortage and high personnel costs, which increase flight costs.

“There is very little awareness in the Lower 48 about the challenges in Alaska communities. We need to tell that story. Rural Alaska does not have the basic infrastructure that is available in almost all other parts of the country.”

- CEDS interview



Source: AVCP

5. Regional Future Direction

Y-K Region: Economic Vision

A strong, innovative, self-reliant Yukon-Kuskokwim economy supported by our resilient culture and regional collaboration.

Goals and Strategies

What are goals? | Long term improvements/ changes we want to see and achieve in the Y-K economy.

What are strategies? | Projects, programs and activities that will help us meet our goals, bring new revenue to the region, create new jobs and increase quality of life. These are typically regional strategies, not community-specific.

Where did these goals and strategies these come from? | A full list of nearly 80 potential strategies was developed through interviews, surveys and partner input. The full list was narrowed to the set below based on:

- March 2018 Y-K Economic Summit prioritization process
- Fall 2017 Priority Infrastructure Projects developed by regional organizations
- CEDS Committee and stakeholder input

What criteria were used to select the proposed priority strategies?

- Will the strategy create new jobs and/or grow regional wealth?
- Does the strategy align with our economic vision?

- Are there any likely partners, including nontraditional and private sector partners?
- Is there high regional demand and support for the strategy?
- Does the strategy take advantage of existing strengths/opportunities?
- Will the strategy have a broad impact?
- Does the strategy address a time sensitive need?
- Do we have the available resources to accomplish the strategy: funding availability, staff capacity?
- Is the project innovative and sparking innovation in the region?

Chapter 6 will include an action plan and performance measures for priority strategies.

Goal A – Grow Our Own: Develop an educated and well-trained regional workforce and group of future leaders

- A. Encourage businesses, communities and organizations to engage youth earlier and more often: bring young residents to conferences, meet with them in classrooms, invite to board meetings; encourage them to vision for their future and engage them in career conversations earlier. **(Priority Strategy #1)**
- B. Connect regional corporations with five school districts on a regular basis to inform school boards of workforce needs and increase recruitment of local graduates. **(Priority Strategy #2)**
- C. Improve college readiness of local students by supporting Alaska Native Science and Engineering Program (ANSEP) pre-college components (middle and high school). **(Priority Strategy #3)**
- D. Grow the local aviation workforce. **(Priority Strategy #4)**
- E. Work with children and youth, potentially ages three to 25, to develop basic skills to operate within workplace culture. **(Priority Strategy #5)**
- F. Identify and meet training needs for local people to be prepared to work during construction and operation of Donlin Gold mine. **(Priority Strategy #6)**
- G. Encourage residents to pursue careers in education and increase local hire for teaching positions.
- H. Promote math, science, biology, research, natural resource and fisheries management as locally relevant career fields and increase training, internship and employment opportunities for residents to gain these skills for employment with federal and state agencies.
- I. Increase access to free or affordable college education for Alaska Native residents in the region using a similar model to Illasagvik College.
- J. Increase career and technical education training opportunities in Y-K communities, through either standing programs or traveling programs that rotate to different communities.
- K. Increase the percentage of highly paid positions that are filled by local people.
- L. Develop programs to help prevent drop-outs and encourage young residents to stay in school.
- M. Promote, support and expand culturally relevant practices such as language revitalization and immersion programs and subsistence activities.
- N. Continue to train for local hire at Yukon Kuskokwim Health Corporation (YKHC) and encourage residents to pursue jobs in the health care industry.
- O. Establish regional vocational/technical school(s) in hub communities.
- P. Teach young people their Yup'ik-ness – how to be successful in both traditional and western systems.
- Q. Conduct a “traveling career fair” or “career fair tour” that brings organizations out to rural communities to introduce opportunities in the region, and/or that brings youth on a tour of major employers in the region.
- R. Encourage parents to introduce reading skills and habits earlier (between ages 1-4), before children officially attend school.
- S. Increase culturally-relevant education in schools by expanding language programs and teaching about subsistence and culturally-aligned topics such as environmental and natural resource management.
- T. Explore creation of an ANSEP Acceleration High School in the Y-K region, pending success of the pilot program schools in Anchorage and Mat-Su.
- U. Support the creation of a Science, Technology, Engineering and Math (STEM) charter school in Hooper Bay to meet workforce needs; if the model is successful, consider replicating in other communities around the region.

Goal B – Address Critical Housing Needs

- A. Expand regional water and sewer infrastructure projects; allow regional housing authorities to be eligible for water and sewer infrastructure funds to help offset installation costs for new homes. **(Priority Strategy #7)**
- B. Construct 3,000 homes in the Y-K region to address the housing shortage. **(Priority Strategy #8)**
- C. Support local lumber, sawmill, and home manufacturing efforts such as a truss manufacturing plant to reduce the cost of building materials and increase local employment opportunities. **(Priority Strategy #9)**
- D. Develop programs to educate residents and local agencies on how to finance a new home. **(Priority Strategy #10)**
- E. Partner with Yuut Elitnaurviat or the Kuspuk School District’s EXCEL program for high school students to expand construction apprenticeship programs.
- F. Develop programs to educate residents and local agencies on how to finance a new home.
- G. Work with Native allottees to subdivide and construct homes in rural communities.
- H. Expand private and community-based financing options for housing projects.
- I. Increase tribal member access to land.

Goal C – Support and Grow Local Business Development and Entrepreneurship

- A. Conduct finance, business basics, and life management skills education in communities to help residents understand credit, loans, insurance and banking opportunities, starting with youth in junior and senior high schools, and including young and older adults. **(Priority Strategy #11)**
- B. Collectively invest in regional community and economic development. **(Priority Strategy #12)**
- C. Promote farm-to-table and seafood-to-table commercial and export opportunities for locally grown and harvested goods, including value-added processing. **(Priority Strategy #13)**
- D. Establish a tanning operations company or factory in the region to process harvested furs for export, local use and arts/crafts. **(Priority Strategy #14)**
- E. Support Donlin Gold’s efforts to open a mine near Donlin Creek.
- F. Support ‘cottage industries’, such as knitting cooperatives and traditional crafts; and, ‘pocket industries’ such as bed bug eradication and casket making.
- G. Create micro-lending opportunities to support start-ups, entrepreneurs and commercial fishers.
- H. Expand tourism offerings such as ecotourism packages, birding trips and guided scenic tours.
- I. Encourage local innovation.
- J. Establish work banks to encourage residents to take on income-earning roles in the community, such as cleaning, child care and chopping wood.
- K. Grow and support local guides and outfitters.
- L. Expand distribution of AVCP’s Yukon-Kuskokwim Business Start-up guide.
- M. Support and increase the retail sector in the region.
- N. Establish a visitor center at the Bethel airport.
- O. Expand promotion and incentives to encourage increased awareness of and participation in the Best in the West business competition – for example, add additional services for winners such as mentorship, assistance/advice with business management, taxes, etc.
- P. Encourage village corporations to expand and invest outside of their communities.
- Q. Establish a subsistence processing plant in the Lower Kuskokwim sub-region.
- R. Explore viability of creating a bottled water business/facility in the region.

Goal D – Expand and Improve Regional Communications, Energy and Transportation Infrastructure

- A. Construct the Yukon-Kuskokwim Freight Corridor (connect communities along the Yukon and Kuskokwim Rivers via a 44-mile overland route). **(Priority Strategy #15)**
- B. Construct the Lower Yukon River Regional Port Development Project in Emmonak. **(Priority Strategy #16)**
- C. Implement needed upgrades at airports around the region, including resurfacing, taxiways, airport lighting and other infrastructure. **(Priority Strategy #17)**
- D. Bring natural gas from Cook Inlet to the region, either in bulk shipments or via pipeline. **(Priority Strategy #18)**
- E. Increase connectivity in the region by connecting Bethel to other parts of the state via a fiber optic telecommunications cable. **(Priority Strategy #19)**
- F. Construct a gravel pit at Pilcher Mountain, along with a road and port for exporting gravel. **(Priority Strategy #20)**
- G. Complete upgrades to the City of Bethel dock. **(Priority Strategy #21)**
- H. Construct a new petroleum port/cargo dock in Bethel. **(Priority Strategy #22)**
- I. Make cell and internet service available and affordable in Y-K communities.
- J. Increase use of telecommunications for telehealth, remote education, public services, and online-based entrepreneurial and business opportunities.
- K. Conduct the first planning phase of the Calista Regional Clean-Energy Grid (would include 55 miles of electric interties, with fiber optic communication and energy storage).
- L. Increase reliability and safety of air transportation:
 - Advocate for Alaska exemption for scheduled air carriers from Federal Aviation Administration (FAA) requirement part 135 for “official weather source.”
 - Improve weather reporting in villages by updating equipment and training local residents to maintain equipment.
- M. Identify sustainable maintenance funding sources for the Kuskokwim River ice road.
- N. Continue to support winter trail marking projects to increase the viability and safety of travel between villages.
- O. Prioritize energy efficiency upgrades and investments for facilities throughout the region to help reduce energy costs.
- P. Designate Emmonak or St. Mary’s as a sub-regional transportation hub.
- Q. Develop microgrids to create more reliable, more affordable energy systems for communities in close proximity to one another.
- R. Encourage all communities to work with the Department of Energy Office of Indian Energy to prepare energy plans.
- S. Support efforts to expand port facilities at Mekoryuk.

Goal E – Improve the Health, Wellness and Safety of the Region’s People and Communities

- A. Improve success of those reentering communities from correctional facilities by providing treatment for addictions, increasing education, job training, and life skills, to increase workforce and improve public safety. **(Priority Strategy #23)**
- B. Address substance abuse challenges (including alcohol, opioids and methamphetamine) through increased programs and treatment options. **(Priority Strategy #24)**
- C. Replace village health clinics, including replacements in Kongiganak, Quinhagak, and Akiachak, and clinic expansion in Kwigillingok. **(Priority Strategy #25)**
- D. Continue to support YKHC’s clinic and hospital expansion, including identifying funding to meet YKHC staffing needs. **(Priority Strategy #26)**
- E. Design and construct a Regional Family Services Center. **(Priority Strategy #27)**
- F. Expand the Yukon-Kuskokwim Qavartarvik Hostel, YKHC’s lodging facility for patients. **(Priority Strategy #28)**
- G. Safely export waste materials from villages and process them for recycling or safe disposal.
- H. Encourage all villages to compact with YKHC to support health care facilities and services in all Y-K communities.
- I. Improve public safety by committing to ensure a Village public safety officer (VPSO) or other public safety presence in every village.

Goal F – Create Resilient and Prepared Communities

- A. Establish a Western Alaska Emergency Response Center in Bethel. **(Priority Strategy #29)**
- B. Participate in Adapt Y-K action planning to identify community-supported responses to climate change to protect natural resources for subsistence and environmental integrity. **(Priority Strategy #30)**
- C. Create a regional Disaster Relief and Recovery Plan.
- D. Encourage all Y-K communities to prepare hazard mitigation plans and conduct tribal emergency management training through FEMA.

Goal G – Cultivate Regional Coordination and Planning

- A. Develop and annually update a long-term regional economic development plan, with an annual meeting to review progress and report on advocacy efforts.
- B. Support regional political Y-K Regional Advocacy + Engagement Committee to speak with one voice, increase voter turnout, Census participation, and participation in local organizations.

Goal H – Protect Natural Resource Harvests and Subsistence

- A. Revive commercial fisheries along the Kuskokwim and Yukon Rivers.
- B. Increase agricultural production in the region, including indoor year-round growing operations, market gardening and farming.
- C. Expand opportunities for local subsistence harvesters and fishers to bring their products to market (e.g., fish, greens, berries).
- D. Support the Native Village of Mekoryuk Reindeer Herding Revitalization Project.
- E. Establish a Meat Processing Facility in Aniak.
- F. Continue to support the Inter-tribal Fisheries Commissions for the Yukon and Kuskokwim Rivers.



Source: AVCP

6. Action Plan and Performance Measures

The process for implementing this CEDS includes developing an action plan of “priority actions” that support priority strategies identified in the CEDS. This section identifies key actions, partners and resources for each of the priority strategies and will provide direction to regional leaders, partners and funders. The action plan also identifies performance measures so residents, businesses and partners have a detailed picture of what regional partners hope to accomplish and to better track progress being made on the CEDS. Annual updates will include a summary of actions taken and progress made toward CEDS-identified goals and objectives.

This section includes a draft of the 2018-2023 CEDS action plan. In the six months following CEDS completion, the CEDS Committee will reconvene to refine the specific steps, partners, costs and resources needed to implement each of the priority strategies.

Appendix D includes a detailed list of potential funding sources for implementing priority strategies and actions.

Definitions for this section:

- **Actions:** near-term steps that organizations, businesses and partners can take to help move a strategy forward
- **Partners:** organizations, businesses and community entities that can either lead the strategy or partner to support the strategy
- **Performance Measures:** how the region will measure progress on the strategy, with quantifiable benchmarks/ targets
- **Estimated Costs:** estimated costs to implement the action steps (can be cost per action step, or overall cost to implement the strategy) over the next five years
- **Resources:** what financial and physical resources are needed to accomplish the strategy? What public, private and nonprofit funding sources will be used?

Goal A – Grow Our Own: Develop an educated and well-trained regional workforce and group of future leaders

Priority Strategy #1: Encourage businesses, communities and organizations to engage youth earlier and more often: bring young residents to conferences, meet with them in classrooms, invite to board meetings; encourage them to vision for their future and engage them in career conversations earlier.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #2: Connect regional corporations with local school districts on a regular basis to inform school boards of workforce needs and increase recruitment of local graduates.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #3: Improve college readiness of Y-K students by increasing student engagement in the Alaska Native Science and Engineering Program (ANSEP).

Actions

- Increase student engagement in all ANSEP activities, including the following:
 - **Middle School Programs.** ANSEP Middle School Academy (MSA) is a two-week experience designed to promote science, technology, engineering, and math (STEM) education and careers.
 - Part of this increase will include opportunities for pre-MSA experiences, like ANSEP STEM Ready, where ANSEP engages groups of fifth grade students in hands-on activities to motivate and excite them about their future opportunities with ANSEP.
 - ANSEP will also work with districts that may be struggling to support their students to meet Algebra 1 completion by eighth grade graduation. These efforts are being developed and will require school district involvement and investment. ANSEP will make sure that students from all districts within the Y-K region are informed about and have the opportunity to apply for ANSEP opportunities.
 - **Acceleration Programs.** ANSEP Acceleration Academy, a five-week residential experience during the summer, is designed to develop students academically and socially for college, while creating excitement around STEM degree programs and careers.

- **Summer Bridge Program.** Summer Bridge is a college and career visioning opportunity that's geared toward students who are graduating high school this academic year. Summer Bridge students enroll in a college math course and work a paid summer internship in an engineering or science field with one of ANSEP's strategic partners.
- **University Success Program.** ANSEP University Success component is an academic learning community composed of students, faculty, staff, and external partners who are focused on the academic success as well as the personal and professional development of each student. Students are co-enrolled in classes, participate in organized study groups, have opportunities for peer and professional mentoring, do undergraduate research projects, work summer internships, and participate in planned group social activities.
- Employ a dedicated ANSEP staff member to manage the engagement with students, schools, districts, and stakeholders within the Y-K region. This staff member will be responsible for communication with partners involved in region, manage all student engagement and recruitment efforts, support application processes, perform check-ins with students and parents, collect data on students' progress, engage with school districts and prepare agreement reporting. The staff person will have a specific knowledge of the Y-K region's needs and regional goals.
- Identify and recruit an employee within the Y-K region to support ANSEP engagement as a part-time, region-based staff support for students, parents, teachers, and others who have contact with youth in the Y-K region. This staff will have full-time regional presence and will connect with students, parents, and regional stakeholders. This individual will be trained and informed to support students and parents during recruitment, application, and continued engagement for ANSEP opportunities.

Partners

- Lead entity: Alaska Native Science & Engineering Program
- Other partners: AVCP, Lower Kuskokwim School District, Lower Yukon School District, Kashunamiut School District, Saint Mary's School District, Yupiit School District, Kuspuk School District, Calista, Coastal Villages Region Fund (CVRF), Orutsararmiut Native Council, Alaska Department of Fish & Game (ADF&G), Bureau of Land Management (BLM), Native Village of Napaimute, Office of Subsistence Management, United States Fish & Wildlife Service (USFWS)

Performance Measures

- Middle School Components (target of 260 students annually)
 - Increased participation in the ANSEP Middle School Academy (MSA):
Eligible students must be on track to complete Algebra 1 prior to eighth grade graduation. More than 75% of Middle School Academy (MSA) students meet the goal of completing Algebra 1 before eighth grade graduation. The national average is 26%.
 - Increased participation in the ANSEP STEM Career Explorations:

- Eligible students must have successfully completed the Middle School Academy, be making progress toward Algebra 1 completion, and maintain good academic standing.
- Increased participation in the ANSEP Acceleration Academy (target of 90 students annually)
 - Participating students will enroll in a college math, science, and/or engineering course taught by University faculty. 95% of Acceleration Academy students advance one level or more in math or science each summer.
- Increased participation in the ANSEP Summer Bridge (target of 10 students annually)
 - Participating students enroll in a college math course and work a paid summer internship in an engineering or science field with an ANSEP strategic partner. Students who successfully complete their college math class and internship are eligible for scholarship funding to attend the University of Alaska in the fall immediately following Summer Bridge.
- Increased participation in the ANSEP University Success (target of 40 students annually)
 - Participating students co-enroll in University courses with other ANSEP students, participate in organized study groups, have opportunities for peer and professional mentoring, conduct undergraduate research projects, work summer internships, and participate in organized group social activities.

Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #4: Grow the local aviation workforce.

Actions

Year One

- Complete agreement between the Association of Village Council Presidents (AVCP) and Yuut Elitnaurviat (YE) to co-own the airframe and power plant (A+P) school.
- Execute management agreement for YE to begin operating the A+P center to train airplane mechanics.
- Secure operating funds to re-open the Yuut Yaqungviat flight school to train local pilots.
- Solicit A+P mechanics serving the Y-K region to speak at the schools about careers as an A+P mechanic. The local airline carriers serving the Y-K region should be the source for these speakers.
- Arrange for the local air carriers to provide support to the school in the form of scholarships and intern programs.

Year Two

- Continue the recruitment of new students for the A+P school.
- Solicit, from industry, realistic applications of how the mechanics will apply their skills and incorporate these into the curriculum.

- Conduct a feasibility study of adding an extended program to include avionics training as an addition training option.
- Develop a placement service in cooperation with the local carriers to insure the graduates find local positions with the carriers.
- Develop financial incentives with the local carriers to retain the graduates in the local community as opposed to exporting the training to larger communities like Anchorage.

Year Three

- Continue the recruitment of new students for the A+P school.
- Solicit, from industry, realistic applications of how the mechanics will apply their skills and incorporate these into the curriculum.
- Conduct a feasibility study of adding an extended program to include avionics training as an additional training option.
- Develop a placement service in cooperation with the local carriers to insure the graduates find local positions with the carriers.
- Develop financial incentives with the local carriers to retain the graduates in the local community as opposed to exporting the training to larger communities like Anchorage.

Year Four

- Encourage the graduates from the program to become the speakers at the local schools to encourage others to pursue a career as an A+P mechanic.
- Develop a comprehensive plan to add avionics training as an additional option at the school. This would include the resources needed (instructors, support staff, workspace and equipment) needed to implement an avionics option. Develop the curriculum for the avionics training.
- Solicit candidates for the avionics training as well as instructors.

Year Five

- Develop a comprehensive plan to restart the pilot training school at the school. This would include the resources needed (instructors, support staff, workspace and equipment) needed to implement a pilot training program. Develop the curriculum for the pilot training.

Partners

- Lead entity: Yuut Elitnaurviat (YE)
- Other partners: AVCP and part 135 local air carriers serving the Y-K region

Performance Measures

- Number of students enrolled in aviation programs
- Number of students completing aviation programs
- Number of air carriers partnering with educational programs at YE
- Number of local residents employed in aviation, including percentage of pilots who are local
- Number of local residents in leadership positions at local air carrier companies

Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #5: Work with children and youth, potentially ages three to 25, to develop basic skills to operate within workplace culture.

Actions

Year One

- Develop a Workplace Fundamentals curriculum that could potentially be integrated with an existing class required for graduation, which can include the job-shadowing program.
- Increase child and youth engagement within the workplace.
- Increase access to paid and unpaid internships to give students hands-on experience within a workplace, focusing on professions needed for upcoming projects in the Y-K region.
- Develop a job-shadowing program that focuses on professions needed for upcoming projects in the Y-K region (e.g., Y-K Freight Corridor, telecommunications expansion, governance/leadership).

Year Two

- Assess year one; evaluate program and make any needed changes.
- Pilot Workplace Fundamentals curriculum at Bethel Regional High School and Kuskokwim Learning Academy.
- Pilot internships and job-shadowing program with one or two partner organizations.

Year Three

- Assess year two; evaluate program and make any needed changes.
- Implement Workplace Fundamentals curriculum throughout Y-K school districts.
- Implement job shadowing program with additional partner organizations.

Year Fours and Five

- Assess progress; evaluate program and make any needed changes.

Partners

- Lead entity: Yuut Elitnaurviat
- Other partners: Lower Kuskokwim School District, ANSEP, Calista, Donlin Gold, Sea Lion Corporation, Lower Yukon School District, Kashunamiut School District, Kuspuk School District, St. Mary's School District, Yupiit School District, Yukon Kuskokwim Health Corporation (YKHC), AVCP, Orutsararmiut Native Council

Performance Measures

- Number of youth who are employed in the region
- Increase in regional income
- Decrease in poverty levels

Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #6: Identify and meet training needs for local people to be prepared to work during construction and operation of Donlin Gold mine.

Actions

- Increase job readiness for the Y-K region workforce through strengthened community and regional collaboration for the emerging workforce. The target annual goals will align with the existing Y-K region workforce development collaborative's 2018 project forecast.
- Identify partners to participate in the Y-K Delta Workforce and Youth Pathways.
- Continue to support the efforts of EXCEL Alaska, who currently serve 7-12th grade students from six school districts in the Y-K region.

Partners

- Lead entity: EXCEL Alaska
- Other partners: ANSEP, AVCP, Lower Kuskokwim School District, Lower Yukon School District, Kashunamiut School District, Saint Mary's School District, Kuspuk School District, Calista, Cook Inlet Tribal Council, Alyeska Pipeline, Alaska Department of Transportation and Public Facilities (DOT+PF), Yuut Elitnaurviat, Alaska Job Center Network

Performance Measures

- Number of students who participate in EXCEL programs, including the summer EXCEL Camp
- Number of students who graduate with certifications, including certified nursing assistant (CAN), firefighting, aviation, carpentry and welding

Resources

- Alaska Job Center Network for on-the-job training assistance, including short term job search assistance, costs related to relocating to a new job, tuition/books & fees for a training program, required tools and supplies for work or training, licenses/credentials, reimbursement of a percentage of the participant's wages for a pre-negotiated period of time with an employer and supportive services related to participating in on-the-job training or an apprenticeship.
- Others to be determined. See potential funding sources in Appendix D.

Estimated Costs

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy, including estimated costs.

Goal B – Address Critical Housing Needs

Priority Strategy #7: Expand regional water and sewer infrastructure projects; allow regional housing authorities to be eligible for water and sewer infrastructure funds to help offset installation costs for new homes.

Partners

- Lead entity: AVCP Regional Housing Authority (AVCP RHA)

Actions, Other Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #8: Construct 3,000 homes in the Y-K region to address the housing shortage.

Partners

- Lead entity: AVCP RHA

Performance Measures

- Increase in the number of homes in the region.
- Reduction in overcrowding rates.

Estimated Costs

- 3,000 (homes needed) x \$400,000 (average unit cost) = \$1.2 billion

Actions, Other Partners, and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #9: Support local lumber, sawmill, and home manufacturing efforts such as a truss manufacturing plant to reduce the cost of building materials and increase local employment opportunities.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #10: Develop programs to educate residents and local agencies on how to finance a new home.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Goal C – Support and Grow Local Business Development and Entrepreneurship

Priority Strategy #11: Conduct finance, business basics, and life management skills education in communities to help residents understand credit, loans, insurance and banking opportunities, starting with youth in junior and senior high schools, and including young and older adults.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #12: Collectively invest in regional community and economic development. Specific related action items include:

Actions

- Explore feasibility of creating a village corporation consortium or investment pool.
- Continue to explore options that increase emerging job opportunities as indicated by the YK Workforce Development working group.
- Pursue large scale infrastructure and construction projects as they emerge such as Transportation Investment Generating Economic Recovery (TIGER) Build grant for the Emmonak Port and the U.S. Department of Energy (DOE) Kwethluk Wind-Diesel turbine energy project.
- Continue to support the Small Business Development “Best in the West” competitions to encourage entrepreneurship within the region.
- Support micro-lending opportunities to support start-ups, entrepreneurs and commercial fishers or small business owners.
- Research and pursue emerging opportunities for Innovation Readiness & Training (IRT). This would assist the region with military readiness and provide realistic training in a joint environment for National Guard, Reserve, and Active Duty members, preparing them to serve during a national crisis at home or abroad within the Y-K region. These IRT trainings include engineering, health care, diving, and transportation projects and provide hands-on, mission-essential training while simultaneously providing renewal of infrastructure and health care to communities.

Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #13: Promote farm-to-table and seafood-to-table commercial and export opportunities for locally grown and harvested goods, including value-added processing.

Actions

Year One through Three

- Identify business and organizations currently engaged in commercial and export activities for locally grown and harvested goods.
- Research and identify rules and regulations required to engage in such activities (state, federal, local) – related to growing, harvesting, processing, marketing, selling, hiring help, etc.
- Research what types of products will have the best potential for growing/producing and what will be most desired; included is market research and how to value-add to the product.
- Identify individuals and communities interested in exploring and/or starting such activities.
- Identify resources available to assist an individual or entity start the process of developing a business (monetary, education, labor laws, developing a market and identifying a customer base, value-added options, etc.).
- Identify businesses that have had the most success and determine whether there are options for expansion or further development.
- Look at reasons why businesses might have failed and identify whether there are ways to remedy those situations.
- Develop training programs related to all facets related to owning a food-related business: business development, simple accounting, payroll and labor laws, how to research laws and regulations, growing/harvesting/processing your product, how to value-add, how to market, customer service, how to sell your goods, how to transport your goods, etc.

Partners

- Lead entity: to be determined.
- Other potential partners: AVCP, Native Village of Mekoryuk, Meyer's Farm, The Kuskokwim Corporation, ADF+G, Kuskokwim River Intertribal Fisheries Council, Yukon River Intertribal Fisheries Council, Bethel Lion's Club, Seashare, Yukon Delta Fisheries Development Association (YDFDA)/Kwipak Fisheries, Coastal Villages Region Fund (CVRF), USFWS, YKHC, Yuut Elitnaurviat, Ravn Alaska, Grant Aviation, KUC-Cooperative Extension, Bristol Bay Native Association (BBNA)'s TANF program, tribes, village corporations, city offices

Performance Measures

- The number of additional businesses providing farm-to-table or seafood-to-table products.

- Increase in the number of value-added production and distribution jobs in the agriculture and fishing industries.
- Increase in the number of schools in the region serving locally-harvested products.
- Development of “how to” manuals or resource guides that detail success stories, resources and links for where to find information and assistance for a person or entity interested in starting a local harvesting business.

Partners, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #14: Establish a tanning operations company or factory in the region to process harvested furs for export, local use and arts/crafts.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Goal D – Expand and Improve Regional Communications, Energy and Transportation Infrastructure

As the economic and population hub of the Y-K region, quality infrastructure in the City of Bethel is critical to connect and move cargo, information and people throughout the region and to support regional growth. For additional information on Bethel-specific projects, refer to the Bethel Comprehensive Plan:

www.cityofbethel.org/planning

Priority Strategy #15: Construct the Yukon-Kuskokwim Freight Corridor (connect communities along the Yukon and Kuskokwim Rivers via a 44-mile overland route).

Actions

- Complete current phase work with estimated completion date of March/April 2019.
- Initiate project awareness campaign to state and congressional delegation.
- Submit State of Alaska grant applications for National Environmental Policy Act (NEPA) work.
- Facilitate cost sharing between tribal transportation programs and energy & freight corridor construction where it may be applicable for strategic enhancement of dock and port projects in anticipation of a liquified natural gas (LNG) transport corridor.

Partners

- Lead entity: AVCP
- Other partners: tribes, corporations, BLM, City of Upper Kalskag, Calista, Kuskokwim Corporation, State of Alaska

Performance Measures

- Lower transportation costs as it pertains to shipped goods, fuel and bulk storage goods or local natural resources (gravel, wood, fuel containers, fish, etc.)
- Increased employment in the mining, transportation, maritime, construction and federal contract industries and support industries
- Increased revenue for port and aviation communities

Estimated Costs

- Total project estimated cost is between \$100 million and \$150 million
- This includes an estimated \$2 million for the pre-NEPA and \$5 million for the full NEPA work
- Other costs will include right of way acquisition and construction

Resources

- State of Alaska awarded \$450,000 to AVCP for project development, plus an additional \$3 million in 2012.
- Additional sources need to be determined. See potential funding sources in Appendix D.

Priority Strategy #16: Construct the Lower Yukon River Regional Port Development Project in Emmonak.

Actions

- City of Emmonak pursues a federal TIGER: BUILD block grant.
- City of Emmonak secures funding in collaboration with local and adjacent resources to obtain the necessary high-quality grade rock to enhance road improvements and loading/staging areas for the port.
- Permit and secure permissions to tap into the advancing Alaska LNG corridor.

Partners

- Lead entity: AVCP Transportation Department, City of Emmonak, State of Alaska, Denali Commission
- Other partners: Tribes, village corporations, City of Emmonak, Calista Corporation, National Guard, State of Alaska Department of Natural Resources, Bureau of Indian Affairs (BIA), BLM, Denali Commission, DOE, U.S. Department of Agriculture (USDA) Rural Development, Alaska Energy Authority (AEA) and the Alaska Industrial Development and Export Authority (AIDEA)

Performance Measures

- Lower transportation costs as it pertains to shipped goods, fuel and bulk storage goods or local natural resources (gravel, wood, fuel containers, fish, etc.).
- Decreased percentage of household income spent on energy.
- Increased employment in the mining, transportation, maritime, construction and federal contract industries and support industries.

Estimated Costs

- Lower Yukon Regional Port Development Project: \$17 million total. The project has already received three million dollars from the state and a pledge of one million dollars from YDFDA but an additional \$13 million is estimated to be needed to construct the port and enhance roads and key access points.

Resources

- Three million dollars have already been appropriated by the State of Alaska.
- YDFDA has pledged one million dollars toward the project.
- Additional resources to be determined. See potential funding sources in Appendix D.

Priority Strategy #17: Implement needed upgrades at airports around the region, including resurfacing, taxiways, airport lighting and other infrastructure.

Actions

- Implement needed upgrades at the St. Mary's Airport, including resurfacing, taxiways, airport lighting and other infrastructure.
- Initiate reconstruction at the Kwigillingok Airport.
- Discourage DOT+PF from moving forward with airport upgrades that shorten runways, which make it harder for large cargo carriers to service the region.
- Develop a comprehensive plan for improved infrastructure within the Y-K region to provide support for safer air travel in the form of weather station and instrument flight rule support.
- Implement needed upgrades at the other Y-K region airports to include resurfacing, taxiways, airport lighting and other infrastructure.
- Solicit funding from the Federal DOT for grants and funding to assist with making the improvements at the other Y-K region airports.

Partners

- Lead entity: Alaska Department of Transportation and Public Facilities, AVCP
- Other partners: Federal Aviation Administration (FAA), Part 135 local air carriers serving the Y-K region, municipalities, tribes and village corporations

Performance Measures

- Number of Y-K region airports with upgrades
- Reduction in the number of annual flight delays/cancellations for each Y-K community

Estimated Costs

- St. Mary's airport upgrades: \$13.5 million
- Kwigillingok Airport upgrades: \$36 million

Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #18: Bring natural gas from Cook Inlet to the region, either in bulk shipments or via pipeline.

Actions

- If the Donlin mining project moves forward, work with Donlin to ensure a mining-related gas line can carry sufficient quantities so communities can access/purchase natural gas as well.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #19: Increase connectivity in the region by connecting Bethel to other parts of the state via a fiber optic telecommunications cable.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #20: Construct a gravel pit at Pilcher Mountain, along with a road and port for exporting gravel.

Partners

- Lead entity: Alaska Department of Transportation and Public Facilities
- Other partners: City of Marshall, Calista, Army Corp. of Engineers

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #21: Complete upgrades to the City of Bethel dock.

- Needed upgrades include better lighting, running water (for fire suppression), height increases and other changes.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #22: Construct a new petroleum port/cargo dock in Bethel.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Goal E – Improve the Health, Wellness and Safety of the Region’s People and Communities

Priority Strategy #23: Improve success of those reentering communities from correctional facilities by providing treatment for addictions, increasing education, job training, and life skills, to increase workforce and improve public safety.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #24: Address substance abuse challenges (including alcohol, opioids and methamphetamine) through increased programs and treatment options.

Actions

- Replace the YKHC Bautista House residential facility.

Partners

- Lead entity: YKHC

Estimated Costs

- Replace Bautista House: \$5 million

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #25: Replace aging village health clinics.

Actions

- Replace health clinic in Kongiganak.
- Replace health clinic in Quinhagak.
- Replace health clinic in Akiachak.
- Expand clinic in Kwigillingok.

Partners

- Lead entity: YKHC
- Other partners: Indian Health Services, tribes

Performance Measures

- To be determined

Estimated Costs

- Replace health clinic in Kongiganak: \$3 million
- Replace health clinic in Quinhagak: \$3 million
- Replace health clinic in Akiachak: \$3 million
- Expand clinic in Kwigillingok: \$1.5 million

Performance Measures, Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #26: Continue to support YKHC's clinic and hospital expansion, including identifying funding to meet YHKC staffing needs.

Partners

- Lead entity: YKHC
- Other partners: Indian Health Services, USDA, Alaska Municipal Bond Bank

Actions, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #27: Design and construct a Regional Family Services Center.

Actions

- The Family Service Center will allow families and tribal members to go to one location to access the services they need instead of traveling to multiple locations around Bethel. AVCP programs housed in this center will include: Education; Employment and Training; Child Care; Headstart; Healthy Families; Indian Child Welfare; Social Services; Energy Assistance; TANF; Housing Improvement; Suicide Prevention; Youth Services; and Vocational Rehabilitation.

Partners

- Lead entity: AVCP

Estimated Costs

- Cost of regional family service center: \$33 million

Actions, Partners, Performance Measures, and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #28: Expand the Yukon-Kuskokwim Qavartarvik Hostel, YKHC's lodging facility for patients.

Actions, Partners, Performance Measures, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Goal F – Create Resilient and Prepared Communities

Priority Strategy #29: Establish a Western Alaska Emergency Response Center in Bethel.

Actions

- AVCP has donated an 8,400 sq. ft. two-story steel building, adjacent to the Kuskokwim River in Bethel, Alaska to become the Emergency Response Center.
- Renovation is necessary to turn the building into a headquarters and training center for the coordination of emergency responses to industrial, natural and environmental disasters.

Estimated Costs

- \$4 million to renovate the facility.
- Other costs to be determined.

Actions, Partners, Performance Measures, and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Priority Strategy #30: Participate in Adapt Y-K action planning to identify community-supported responses to climate change to protect natural resources for subsistence and environmental integrity.

Actions

Year One through Two

- Attend and participate in the Adapt Y-K Delta Workshop in Fall 2018 and any additional workshops to follow.
- Participate in identifying resources available to assist individuals and communities with target threats affecting or potentially affecting their areas.
- Advocate for additional resources.

- Advocate to designate a federal agency to lead the response to climate change and to make funding available for affected communities.
- Advocate to change FEMA criteria for disaster declaration to include ‘slow-moving’ disasters caused by climate change.
- Address invasive species including small mammals, plants and insects.
- Develop regional protocols or response procedures for communities to utilize in the event of natural or man-made climate events.

Year Three

- Revisit 2018 workshop outcomes and evaluate the effectiveness of results attained.
- Determine what was not accomplished and whether there are still threats or potential threats. Identify if there are any new threats.
- Identify resources available; advocate for more if necessary.

Partners

- Lead entity: To be determined
- Other partners: AVCP, Nuvista, Calista, USFWS, Federal Emergency Management Agency (FEMA), Alaska Department of Commerce, Community and Economic Development (DCCED), ADF+G, U.S. Geological Survey (USGS), U.S. Army Corps of Engineers (USACE) Silver Jackets, UAF – Kuskokwim Campus, Tanana Chiefs Conference, AVCP RHA, YKHC, village corporations, city offices, tribes

Performance Measures

- Attendance at the Fall 2018 workshop
- Additional funding secured for two follow-up workshops
- Resources secured to assist affected individuals and communities
- Successful identification of a federal agency who will lead response efforts to climate change
- Successfully change FEMA criteria for disaster declarations to include climate change
- Number of invasive species identified in the region
- Development of regional protocols and response procedures (a “tool box” of options) developed to assist communities in dealing with future climate-related events (natural or man-made)

Estimated Costs

- Workshop costs are dependent on the number of participants – estimate \$50,000 to \$75,000 each
- Other costs to be determined.

Partners, Estimated Costs and Resources

- Over the next six months, the CEDS Committee will convene to develop and finalize the action plan for this strategy. Potential funding sources are identified in Appendix D.

Goal G – Cultivate Regional Coordination and Planning

(no priority strategies associated with this goal, but this CEDS effort, and the associated infrastructure priorities developed in Fall 2017, are a clear demonstration of regional coordination and planning happening today)

Goal H – Protect Natural Resource Harvests and Subsistence

(see strategy #30)