



Yukon Kuskokwim Region Comprehensive Economic Development Strategy (CEDS)

2020/2021 Annual Update

Final, January 26, 2022

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Cover Photo: Scammon Bay

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Acronyms

AFN	Alaska Federation of Natives
ANSEP	Alaska Native Science and Engineering Program
ANTHC	Alaska Native Tribal Health Consortium
AVCP RHA	Association of Village Council Presidents Regional Housing Authority
AVCP	Association of Village Council Presidents
AVEC	Alaska Village Electric Cooperative
BIA	Bureau of Indian Affairs
BLS	Bureau of Labor Statistics
CARES	COVID-19 Economic Relief
CCHRC	Cold Climate Housing Research Center
CDL	Commercial Driver's License
CED	Center for Economic Development (UAA)
CEDS	Comprehensive Economic Development Strategy
CETC	Center for Environmentally Threatened Communities
CVRF	Coastal Villages Region Fund
DHSEM	Alaska Division of Homeland Security and Emergency Management
DOE	U.S. Department of Energy
DOT&PF	Alaska Department of Transportation and Public Facilities
EDA	Economic Development Administration
EPA	U.S. Environmental Protection Agency
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
GDP	Gross Domestic Product
KTC	The Kuskokwim Corporation
NNA-CO	Navigating the New Arctic Community Office
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fisheries Management Council
NTIA	National Telecommunications and Information Administration
NWR	National Wildlife Refuge
ONC	Orutsararmiut Native Council
PFD	Permanent Fund Dividend
REAP	Renewable Energy Alaska Project
SEARCH	Study of Environmental Arctic Change
STEM	Science, technology, engineering and math
TBD	To be determined
TKC	The Kuskokwim Corporation
UAA	University of Alaska Anchorage
UAF	University of Alaska Fairbanks
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
VSW	Village Safe Water
YK	Yukon-Kuskokwim
YKDTBC	Yukon Kuskokwim Delta Tribal Broadband Consortium
YKHC	Yukon Kuskokwim Health Corporation

1. Introduction

What is a CEDS Annual Update?

Regional Comprehensive Economic Development Strategy (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 2018. Between full updates, AVCP, in partnership with regional partners, conducts less intensive annual updates, which on the following three questions:

1. How are we doing toward achieving our economic development goals and vision? What have we accomplished over the past year?
2. What has changed in the region? Which data need to be updated to better tell the story of the region?
3. What can we do better? Are there strategies and actions that should be added or adapted?

What is our economic vision?

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

What are our current economic development goals?



Priority Strategies and Actions

Business Development and Entrepreneurship

STRATEGY 1: Build interest, investment in, and capacity for locally owned, operated, and innovative businesses.

1-A. Continue the Small Business Development “Best in the West” competitions to encourage entrepreneurship in the YK region.

1-B. Develop and robustly distribute how-to manuals or resource guides that detail success stories, resources, and links for where to find information and assistance for a person or organization interested in starting a local business.

STRATEGY 2: Encourage larger scale, “anchor” economic development projects with potential to generate revenue, increase wealth and create employment opportunities across the YK region.

2-A. For each project, work together to examine costs, benefits, potential impacts, mitigation strategies, and opportunities for mutually beneficial investments in regional education, workforce and infrastructure development.

Climate Adaptation

STRATEGY 3: Conduct capacity building and implement proactive solutions for communities to respond to climate change and ensure all YK communities have active hazard mitigation plans and climate adaptation plans.

3-A. Complete risk assessments, FEMA Hazard Mitigation Plans, and associated reports (e.g., Preliminary Engineering Report) for communities to address near-term and long-term threats.

3-B. Provide technical assistance and training to communities to obtain federal funding, conduct assessments, and manage ongoing communications around climate change response.

3-C. Build capacity among communities and Tribes to advocate for more flexible FEMA regulations and other agency programs to meet the immediate needs of communities.

3-D. Establish a Collective Impact Initiative: Set a goal to develop a certain number of climate adaptation professionals from the YK region to work in the region. Align entities to leverage educational opportunities, internships, employment opportunities, etc.

Communications

STRATEGY 4: Increase connectivity in the region and support Tribal efforts to develop Tribal broadband spectrum.

4-A. Expand broadband infrastructure and connectivity throughout the region, prioritizing local ownership of key assets.

4-B. Organize a YK Broadband Conference for regional entities and communications businesses.

4-C. Encourage partnerships between public, private, and Tribal entities to collaborate on infrastructure projects to achieve affordable, accessible, reliable internet in the YK region.

Education and Workforce Development

STRATEGY 5: Prepare regional residents for work in emerging economic sectors, including aviation, energy, housing construction and rehabilitation, infrastructure, planning, transportation and resource development.

5-A. Collectively develop and implement regional vocational training workforce development plans for key needed occupations.

Energy

STRATEGY 6: Build renewable energy infrastructure and address barriers to building more renewable energy infrastructure in the YK Delta.

6-A. Implement energy action plans for TKC communities.

6-B. Collect energy audits that have been completed but not actioned. If possible, bundle projects for implementation.

6-C. Establish a Regional Utility Facility Support Collaborative to advocate for rural utilities. Create an inventory of existing/needed feasibility studies and bundle implementation of related projects.

6-D. Construct a gas line to deliver natural gas to the region, providing an alternative source for energy and heat generation.

Health Care and Community Wellness

STRATEGY 7: Improve regional access to affordable, quality health care facilities and services.

7-A. YKHC Qavartarvik Customer Lodging

7-B. YKHC Employee Apartments

7-C. New Village clinics in Anvik, Mertarvik, Stony River, Quinhagak (started in 2021), Akiakchak (starting in 2022)

7-D. Renovate Village clinics in Oscarville, Lime Village, Kwigillingok

7-E. Medical Supply Warehouse Expansion

7-F. YKHC Daycare (in partnership with AVCP)

7-G. YKHC Elders Home, 18 Bed Expansion

7-H. Women's Group Home

7-I. New Bautisa House Assisted Living Facility

7-J. Community Health Service Building Renovation Project

Housing and Water-Sewer Infrastructure

STRATEGY 8: Construct 3,000 housing units in the Y-K region and increase residential access to clean water through piped or hauled water systems.

8-A. Expand onsite water and/or sanitation projects from Village Safe Water and ANTHC to more YK communities.

8-B. Convene a collaborator meeting to discuss a partnership funding model that better leverages funds to construct homes with appropriate water-sewer systems.

Subsistence and Food Security

STRATEGY 9: Expand local employment and involvement in natural resource research, management and subsistence decision-making at the community, regional, state and federal levels.

9-A. Maintain a youth seat on CEDS Subsistence working group.

9-B. Develop a career pathway for subsistence and natural resource management.

9-C. Develop an apprenticeship program to guide younger people into high-level resource management positions.

9-D. Establish a small cohort of youth to be mentored and introduced to educational and career pathways in natural resources.

Transportation

STRATEGY 10: Prioritize and implement regional transportation projects (e.g., Kuskokwim River ice road, winter trails).

10-A. Secure funding for ongoing Kuskokwim Ice Road construction and maintenance.

10-B. Construct trails as identified in winter trails plan.

10-C. Adopt winter trail design standards and universal color coding for trail marking. Educate regional residents on the color system.

10-D. Develop a gravel pit at Pilcher Mountain with a road and port for exporting the gravel.

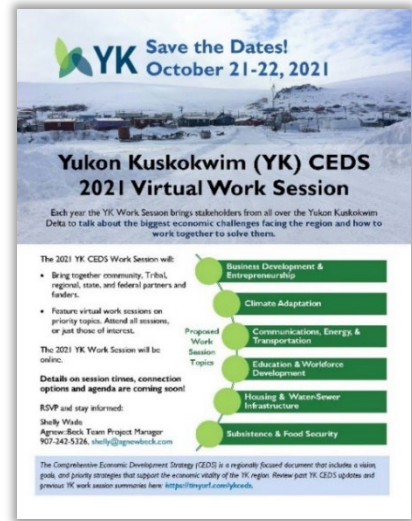
10-E. Develop a Lower Yukon River Regional Port in Emmonak.

10-F. Establish a Western Alaska Emergency Response Center in Bethel.

Methodology: How did we gather information for the update?

AVCP oversaw the 2020/2021 Yukon Kuskokwim (YK) CEDS update process with assistance from Agnew::Beck Consulting. The information in this document comes from feedback gathered during two virtual Work Sessions held August 2020 and October 2021, working group meetings held December 2020, updated indicator data, as well as input from nine CEDS Committee interviews and September and December 2021 CEDS Committee meetings.

The annual update was released for a 30-day comment period from December 17, 2021 to January 17, 2022. Feedback received during the comment period was incorporated into the draft.



YK CEDS Committee

The YK CEDS Committee represents the main economic interests of the YK region and offers guidance, input, and implementation support for the YK CEDS Update. Individuals serving on the current YK CEDS Committee include:

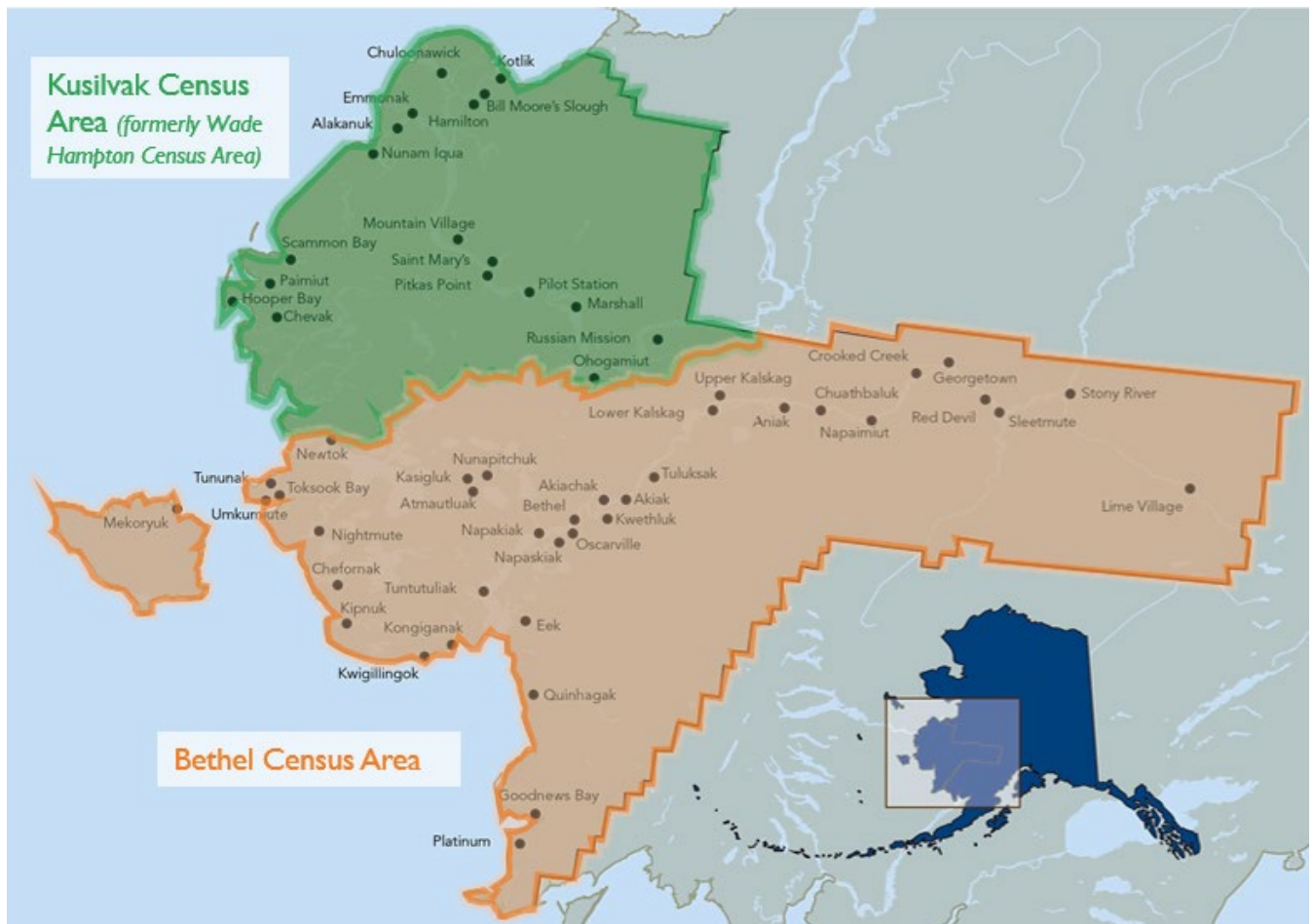
Figure 1: YK CEDS Committee Membership

Organization	Names
Alaska Native Science & Engineering Program (ANSEP)	Audrey Alstrom
Alaska Village Electric Cooperative (AVEC)	Bill Stamm
Association of Village Council Presidents, Community Development	Clarence Daniel, Eric Evon, Seth O'Brien
Association of Village Council Presidents, Natural Resources	Jennifer Hooper
Bethel Native Corporation	Ana Hoffman
Calista Corporation	Brenda Pacarro
City of Bethel	Mark Springer
Native Village of Napaimute	Mark Leary
Nuvista Light and Electric Cooperative/ Calista Energy Management Assistance Initiative	Natalie Hanson, Bertha Prince
Orutsararmiut Native Council (ONC)	Calvin Cockroft
Yukon Kuskokwim Health Corporation	Rahnia Boyer
Yuut Elitnaurviat	Fannie Black
Agnew::Beck Consulting (coordination, facilitation, planning and technical support)	Shelly Wade, Heather Stewart, Molly Mylius, Freddie Olin

2. Economic Changes to the YK Region

This section presents a set of key demographic and economic indicators for the YK region, updated with the most recent data available. The 56 member Tribes of AVCP 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 map below shows an outline of the YK region and the two census areas. Generally, census areas are used to identify socioeconomic trends in the region.

Figure 2: Map of the YK Region



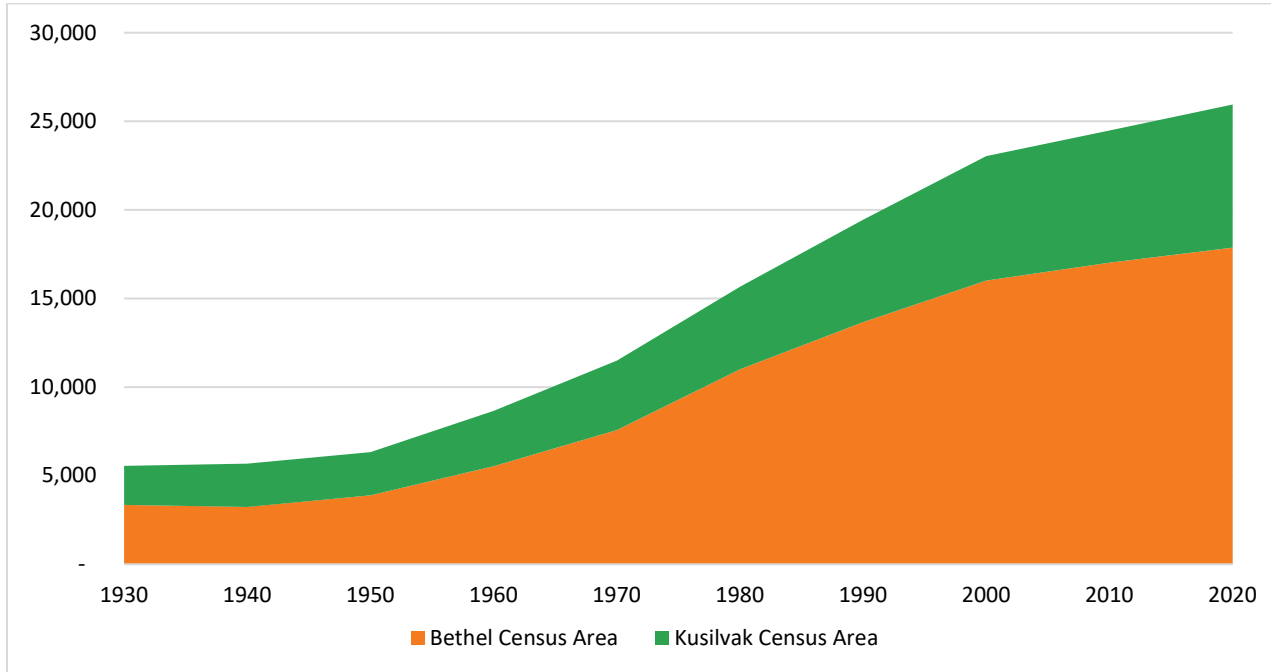
Source: AVCP, with census area overlay added by Agnew::Beck Consulting

Population Updates

Regional Population

Based on decennial Census data, the YK region’s population has been increasing steadily over the past century (Figure 3). This growth largely leveled off between 2010 and 2020. Between 2019 and 2020, the YK region experienced a decline in population from 26,311 to 25,956, a loss of 355 people.

Figure 3: YK Region Population, 1930-2020



Population by Community

The populations of individual communities continue to fluctuate; 2019 and 2020 population changes are shown in the table below.

- Communities with a population increase of four percent or more between 2019 and 2020 include: Atmautluak (from 338 to 353), Chuathbaluk (100 to 107), Mertarvik (0 to 114, as the Newtok population relocates), Napakiak (351 to 370), Alakanuk (704 to 747), Nunam Iqua (213 to 222).
- Communities with a population decrease of six percent or more between 2019 and 2020 include: Akiak (from 420 to 392), Crooked Creek (80 to 75), Kasigluk (627 to 589), Lime Village (15 to 14), Newtok (339 to 221 as residents relocate to Mertarvik), Platinum (48 to 43), Sleetmute (95 to 89), Upper Kalskag (220 to 200), Mountain Village (808 to 753).

Figure 4: Population Updates by Community

Community Populations	2019 (DOLWD, July)	2020 (DOLWD, July)	% change, 2019-2020	Community Populations	2019 (DOLWD, July)	2020 (DOLWD, July)	% change, 2019-2020
Bethel Census Area	18,131	17,868	-1%	Kusilvak Census Area	8,180	8,088	-1%
Akiachak	724	724	0.0%	Alakanuk	704	747	6.1%
Akiak	420	392	-6.7%	Chevak	1,014	994	-2.0%
Aniak	477	460	-3.6%	Emmonak	836	858	2.6%
Atmautluak	338	353	4.4%	Hooper Bay	1,239	1,193	-3.7%
Bethel	6,259	6,179	-1.3%	Kotlik	649	633	-2.5%
Chefornak	457	433	-5.3%	Marshall	471	447	-5.1%
Chuathbaluk	100	107	7.0%	Mountain Village	808	753	-6.8%
Crooked Creek	80	75	-6.3%	Nunam Iqua	213	222	4.2%
Eek	349	356	2.0%	Pilot Station	606	604	-0.3%
Goodnews Bay	284	277	-2.5%	Pitkas Point	116	117	0.9%
Kasigluk	627	589	-6.1%	Russian Mission	350	330	-5.7%
Kipnuk	700	701	0.1%	St. Mary's	555	569	2.5%
Kongiganak	523	503	-3.8%	Scammon Bay	593	595	0.3%
Kwethluk	814	772	-5.2%	Balance	26	26	0.0%
Kwigillingok	374	354	-5.3%				
Lime Village	15	14	-6.7%				
Lower Kalskag	281	288	2.5%				
Mekoryuk	206	194	-5.8%				
Mertarvik CDP	0	114	114.0%				
Napakiak	351	370	5.4%				
Napaskiak	440	434	-1.4%				
Newtok	339	221	-34.8%				
Nightmute	286	294	2.8%				
Nunapitchuk	560	569	1.6%				
Oscarville	74	74	0.0%				
Platinum	48	43	-10.4%				
Quinhagak	716	713	-0.4%				
Red Devil	16	16	0.0%				
Sleetmute	95	89	-6.3%				
Stony River	39	38	-2.6%				
Toksook Bay	667	682	2.2%				
Tuluksak	361	353	-2.2%				
Tuntutuliak	464	468	0.9%				
Tununak	376	368	-2.1%				
Upper Kalskag	220	200	-9.1%				
Balance	51	51	0.0%				

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

Economic Indicator Updates

The following section identifies a set of economic indicators to identify regional baselines in key components of the economy, track progress and evaluate performance toward reaching CEDS goals, and evaluate the overall economic health of the YK region. This section supplements the more comprehensive regional dataset shared in the 2018-2023 Five-Year CEDS. As implementation moves forward, the CEDS Committee and working groups will develop regional targets for each indicator and may add other indicators, such as the cost of energy. Indicators were selected that broadly capture the economic health and wellbeing of the region, are easily available from trusted state and federal sources, are available at a regional scale, and are updated at least annually. The action plan also identifies sector-specific indicators that can be used to track progress by focus area. Key indicators in the 2020/2021 Update include:

Figure 5: List of YK CEDS Indicators

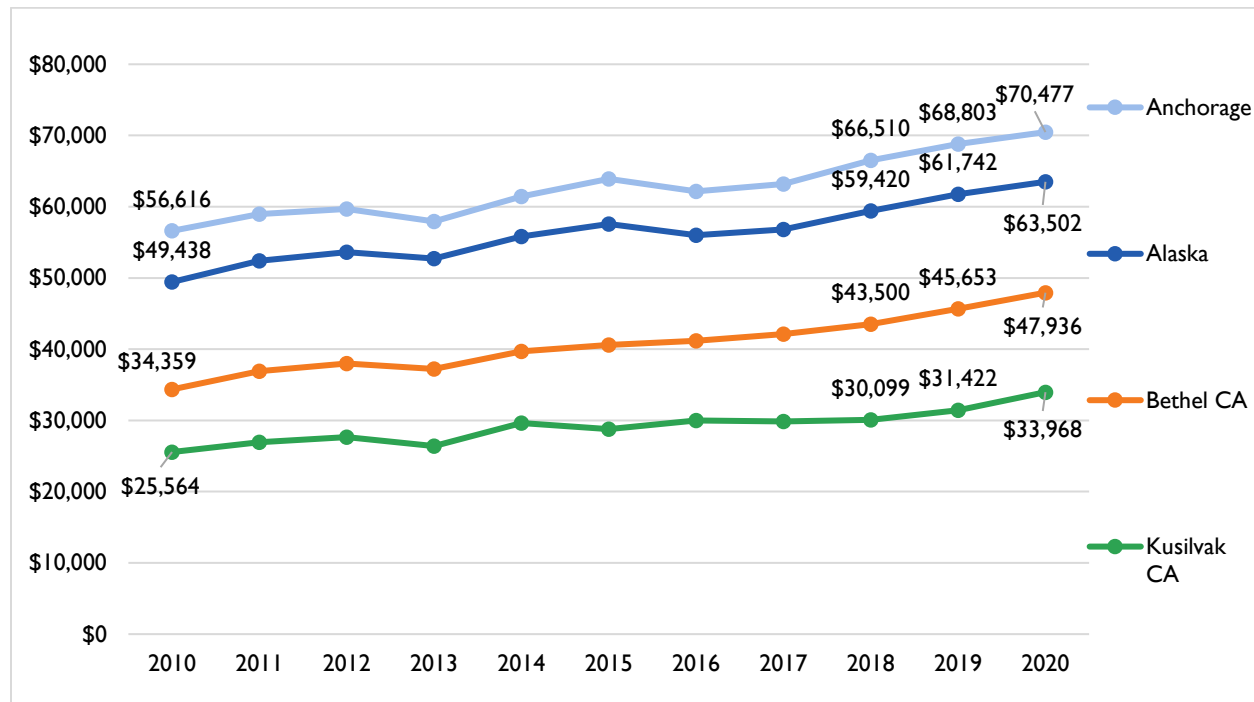
Indicator	Source	Scale	Frequency
Per capita income	Bureau of Economic Analysis	County/Census Area	Annually
Total wages	Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages	County/Census Area	Quarterly
Employment by sector	BLS Quarterly Census of Employment and Wages	County/Census Area	Quarterly
Unemployment	Alaska Department of Labor and Workforce Development	County/Census Area	Monthly
Number of business establishments	BLS Quarterly Census of Employment and Wages	County/Census Area	Quarterly
Gross Domestic Product (GDP)	Bureau of Economic Analysis	County/Census Area	Annually
Poverty	U.S. Census’s Small Area Income and Poverty Estimates	County/Census Area	Annually
Graduation rates	Alaska Department of Education and Early Development	School District	Annually
Migration	Alaska Department of Labor and Workforce Development	County/Census Area	Annually
Subsistence harvests	Alaska Department of Fish and Game, in partnership with Orutsarmiut Native Council	Game Management Unit	Annually

Income and employment measures indicate that the YK region lags behind Anchorage and the state. For most indicators, the Bethel Census Area outperforms the Kusilvak Census Area. One of the reasons for the discrepancy between census areas is the City of Bethel, which is the region’s population and employment hub. The City of Bethel represents approximately one-third of the Bethel Census Area’s population and has significantly higher incomes and a lower poverty rate. Data for the Bethel Census Area may not be fully representative of the economic realities of the more rural communities in the census area.¹

¹ For more information comparing the economy of the City of Bethel with the Bethel Census Area, see page 32 of the Five-Year CEDS, available here: <https://www.avcp.org/tribal-resources/community-development/regional-comprehensive-economic-development-strategy/>

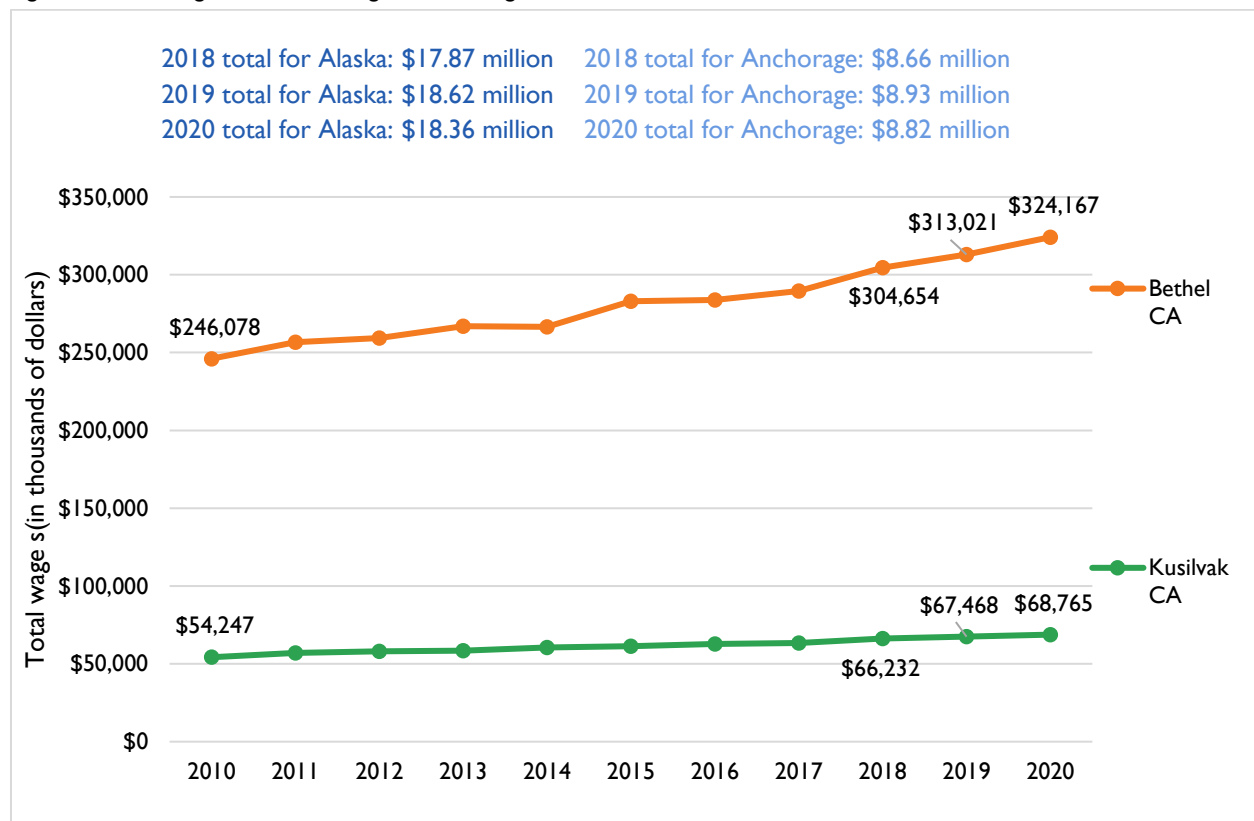
Per Capita Income			
What it tracks	Target	Where it comes from	Limitations
Total personal income divided by total population, not adjusted for inflation. Personal income includes wages, retirement earnings, unemployment benefits, dividends, etc.	Increase	Bureau of Economic Analysis	A small number of high-income residents can skew the averages. It does not show the spectrum of incomes and does not capture the value of subsistence harvests.
Changes from previous update (May 2020)	2020 Per Capita Income and Trends		
Added data for 2019, 2020	<ul style="list-style-type: none"> Alaska: \$63,502 (up 3% from 2019) Anchorage: \$70,477 (up 2% from 2019) Bethel CA: \$47,936 (up 5% from 2019) Kusilvak CA: \$33,968 (up 7% from 2019) 		

Figure 6: Per Capita Income for the YK Region, Anchorage and Alaska, 2010-2020



Total Wages			
What it tracks	Target	Where it comes from	Limitations
Total wages include pay, bonuses, and tips for all civilian jobs in the census area combined, based on unemployment insurance reporting.	Increase	BLS Quarterly Census of Employment and Wages	Excludes self-employed individuals (including many fishermen) and business owners. It does not capture the value of subsistence harvests.
Changes from previous update (May 2020)	2020 Wages and Trends		
Added data for 2019, 2020	<ul style="list-style-type: none"> Alaska: \$18.36 million (down 1% from 2019) Anchorage: \$8.82 million (down 1% from 2019) Bethel CA: \$324,167 thousand (up 3% from 2019) Kusilvak CA: \$68,765 thousand (up 2% from 2019) 		

Figure 7: Total Wages for the YK Region, Anchorage, and Alaska, 2010-2020



Employment by Sector			
What it tracks	Target	Where it comes from	Limitations
The number of jobs by location of work (not the location of the worker). Most Tribal entities are categorized under "local government."	Increase	BLS Quarterly Census of Employment and Wages	Excludes self-employed individuals and business owners. If someone holds multiple jobs, they may be counted more than once.
Changes from previous update (May 2020)	2020 Employment and Trends		
Added data for 2019, 2020	<ul style="list-style-type: none"> Bethel CA: 6,606 (down 4% from 2019) Kusilvak CA: 1,888 (down 27% from 2019) 		

Figure 8: Employees by Sector in the Bethel Census Area, 2010-2020

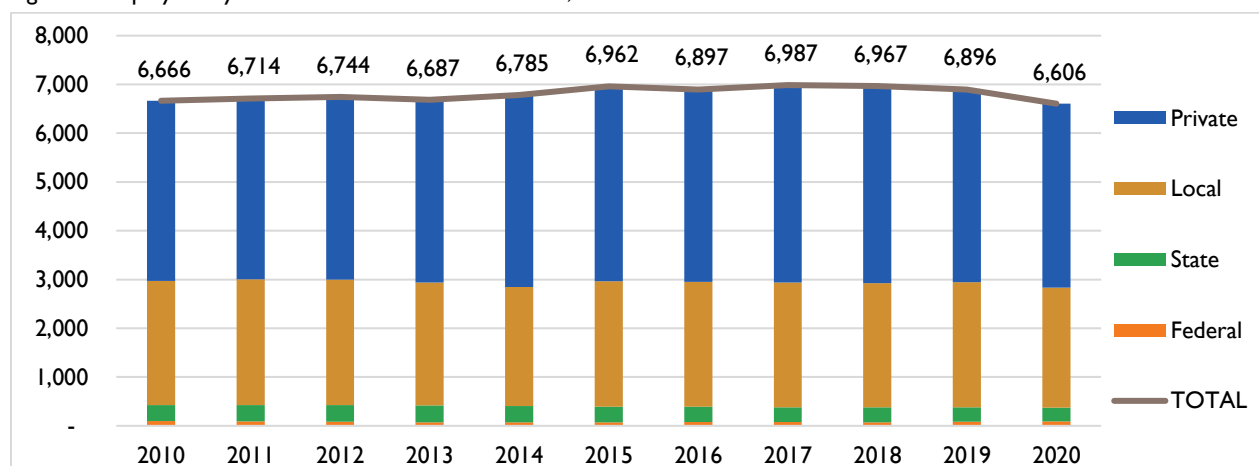
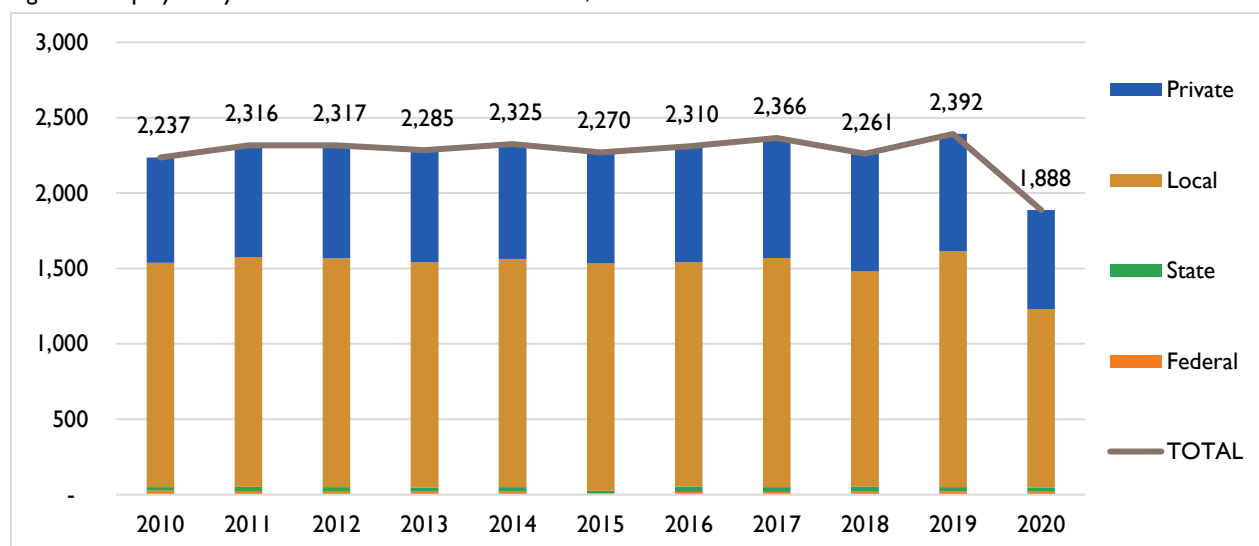
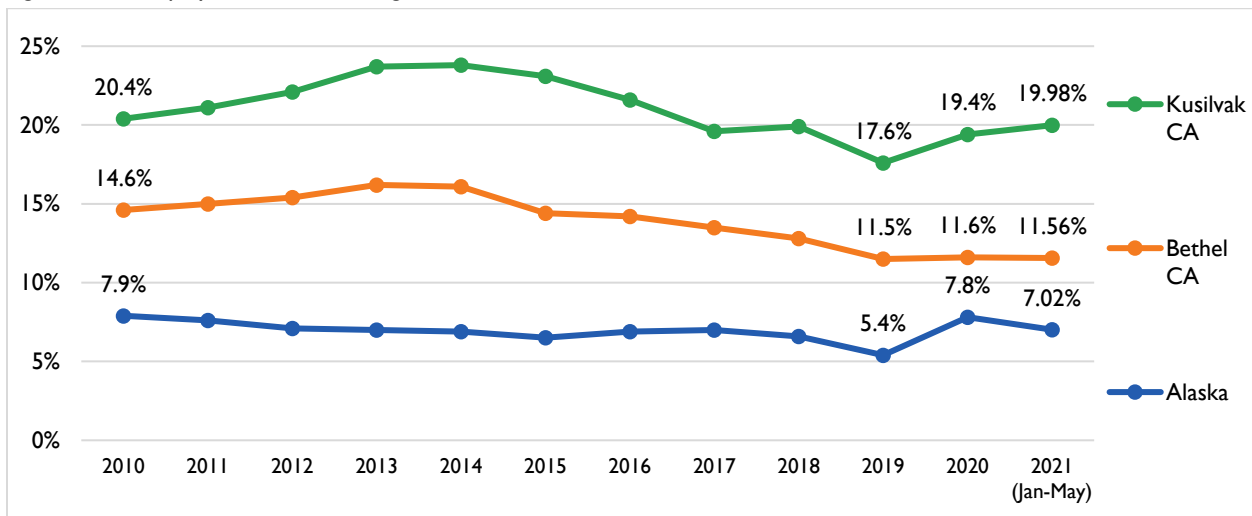


Figure 9: Employees by Sector in the Kusilvak Census Area, 2010-2020



Unemployment			
What it tracks	Target	Where it comes from	Limitations
The number of jobless civilians 16 and older who are seeking employment. It does not include retirees or those who choose not to work.	Decrease	Alaska Department of Labor and Workforce Development	Does not include people who want jobs but have not searched for work in the past four months.
Changes from previous update (May 2020)	2020 Unemployment and Trends		
Added data for 2019, 2020, part of 2021	<ul style="list-style-type: none"> Alaska: 7.02% (up 2.4% from 2019) Bethel CA: 11.56% (no change from 2019) Kusilvak CA: 19.98% (up 2% from 2019) 		

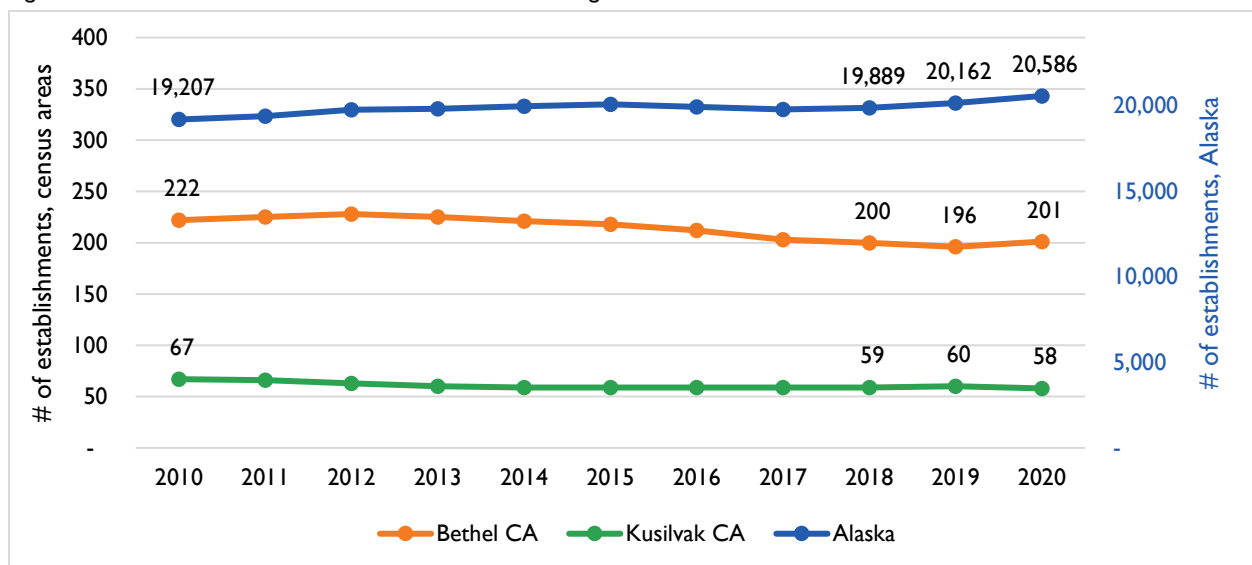
Figure 10: Unemployment in the YK Region and Alaska, 2010-2021



Number of Business Establishments

What it tracks	Target	Where it comes from	Limitations
The number of private businesses by the location of work (not the location of the worker), based largely on unemployment insurance data.	Increase	BLS Quarterly Census of Employment and Wages	Excludes sole proprietorships and the self-employed (including many fishermen).
Changes from previous update (May 2020)	2020 Business Establishments and Trends		
Added data for 2019, 2020	<ul style="list-style-type: none"> Alaska: 20,586 businesses (up 2% from 2019) Bethel CA: 201 businesses (up 2% from 2019) Kusilvak CA: 58 businesses (down 3% from 2019) 		

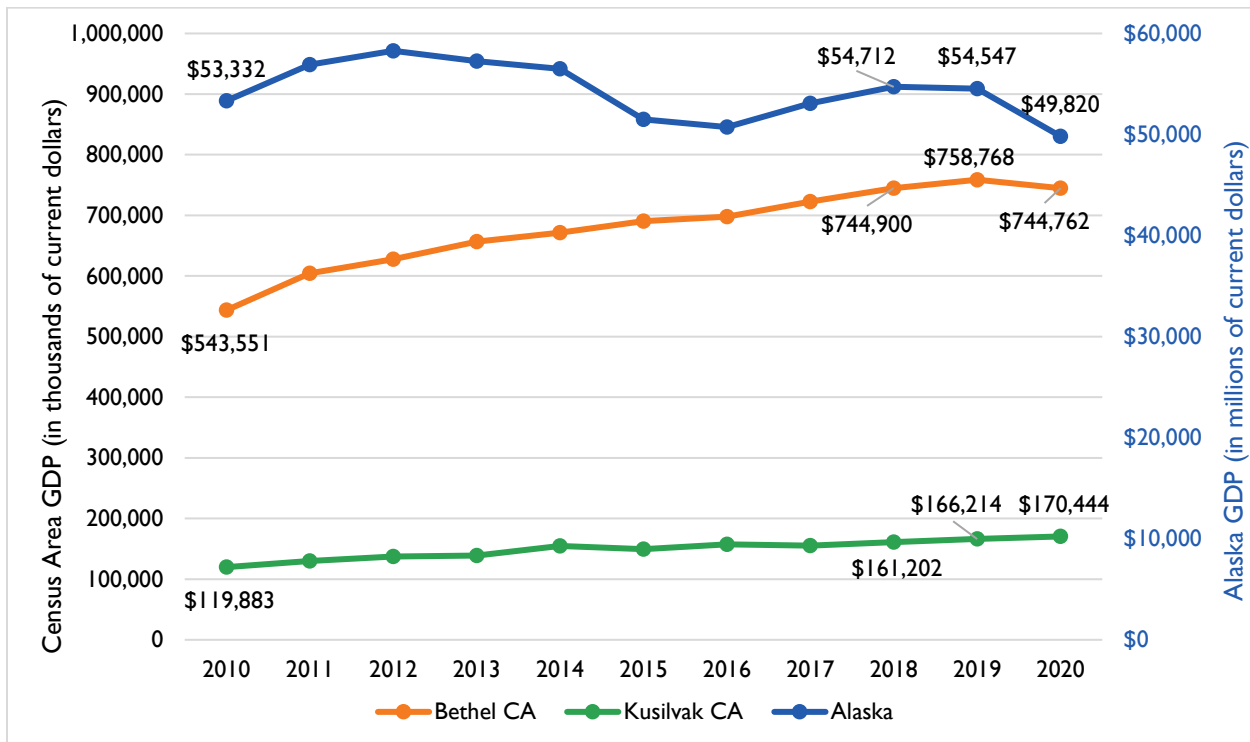
Figure 11: Number of Business Establishments in the YK Region and Alaska, 2010-2020



Gross Domestic Product (GDP)

What it tracks	Target	Where it comes from	Limitations
The total market value of goods and services (both public and private) produced in the region based on earnings data, business receipts, production value and more. It can also be thought of as the sum of spending and exports, minus the sum of imports. ²	Increase	Bureau of Economic Analysis	Does not capture many local economic activities, such as subsistence.
Changes from previous update (May 2020)	2020 GDP and Trends		
Added data for 2019, 2020	<ul style="list-style-type: none"> Alaska: \$49,820 million (down 9% from 2019) Bethel CA: \$744,762 thousand (down 2% from 2019) Kusilvak CA: \$170,444 thousand (up 2% from 2019) 		

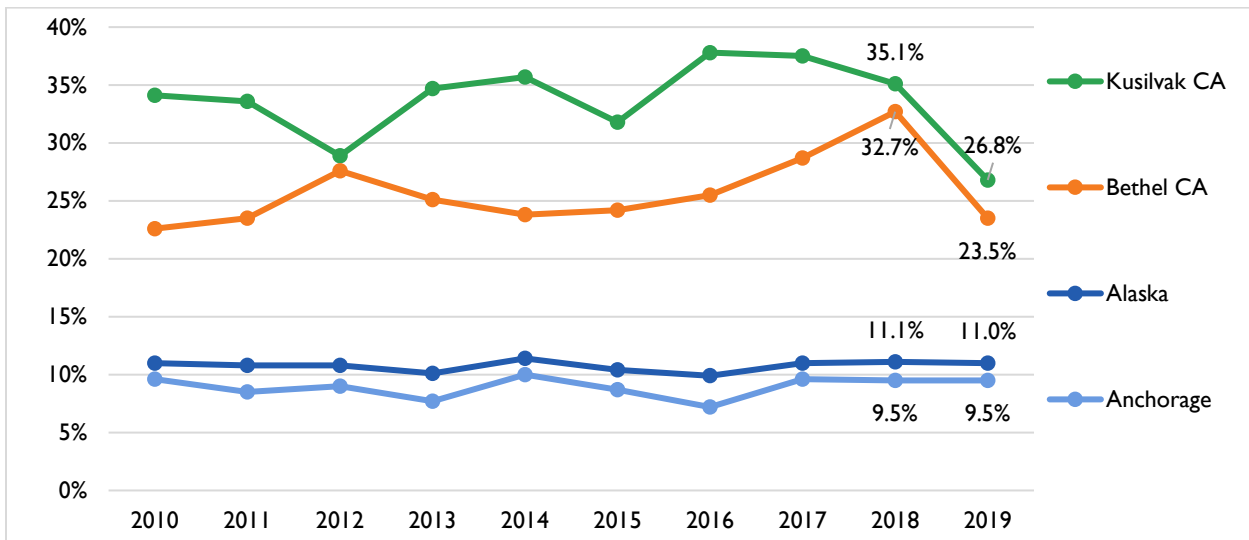
Figure 12: Gross Domestic Product in the YK Region and Alaska, 2010-2020



² For more information about this newly released data source, visit this article on the Bureau of Economic Analysis's webpage: <https://apps.bea.gov/scb/2020/03-march/0320-county-level-gdp.htm>

Poverty			
What it tracks	Target	Where it comes from	Limitations
Model-based estimates of poverty using state and county data from the American Community Survey, combined with other data such as federal income tax returns, SNAP benefits, etc.	Decrease	U.S. Census's Small Area Income and Poverty Estimates	The estimates have high error margins in low-populated areas.
Changes from previous update (May 2020)	2019 Poverty and Trends		
Added data for 2019	<ul style="list-style-type: none"> Alaska: 11.0% (no change from 2018 to 2019) Anchorage: 9.5% (no change from 2018 to 2019) Bethel CA: 23.5% (down 9% from 2018 to 2019) Kusilvak CA: 26.8% (down 8% from 2018 to 2019) 		

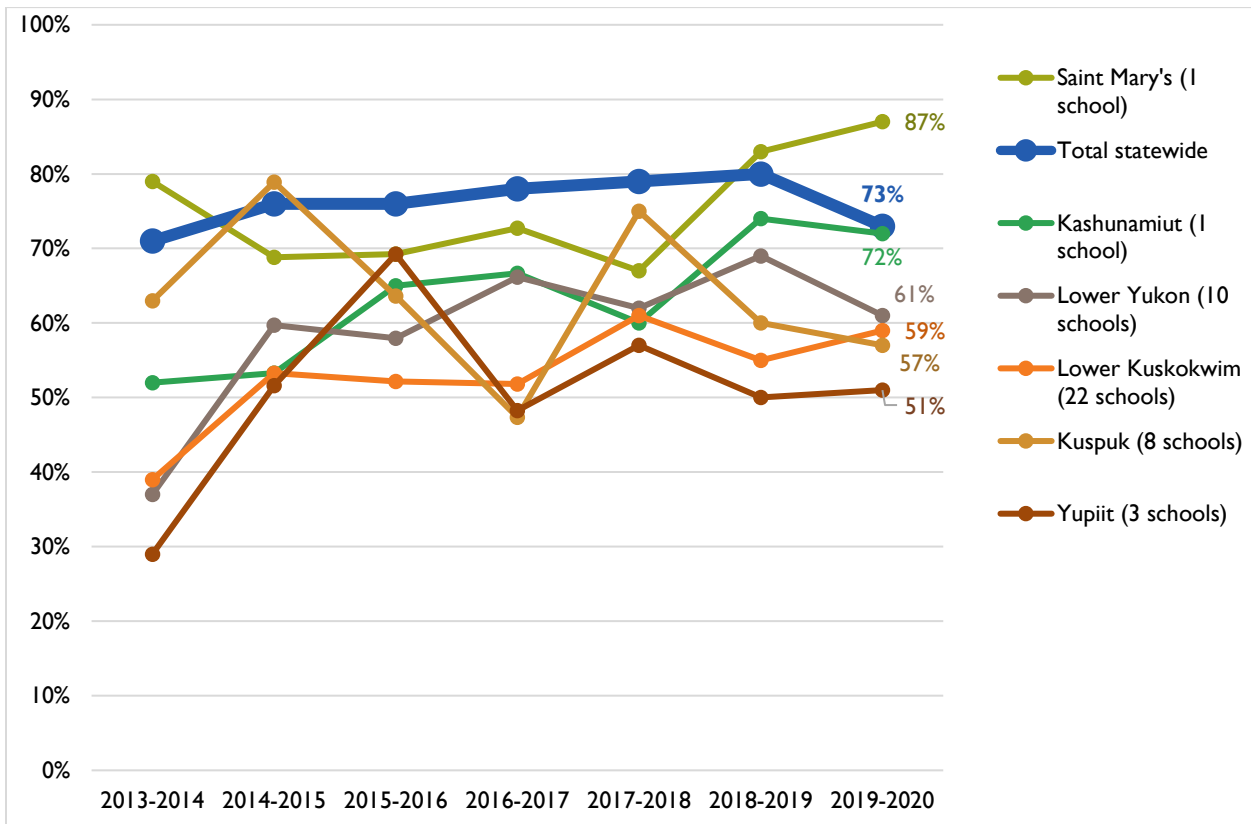
Figure 13: Poverty in the YK Region, Anchorage, Alaska and the United States, 2010-2019



Graduation Rates by District

What it tracks	Target	Where it comes from	Limitations
Percentage of students from each school district who graduate high school within four years.	Increase	Alaska Department of Education and Early Development	Does not capture students who later go on to earn their GEDs or those who graduate in more than four years. School districts with small populations typically experience larger year-to-year swings.
Changes from previous update (May 2020)	2019-2020 Graduation Rates and Trends		
Added data for 2019-2020	<ul style="list-style-type: none"> Alaska: 73% graduation rate (down 7% from 2018-2019) School districts that saw an increase in graduation rates between the 2018-2019 and 2019-2020 school year: <ul style="list-style-type: none"> Saint Mary's (up 4% from 2018-2019) Lower Kuskokwim (up 4% from 2018-2019) Yupitit (up 1% from 2018-2019) School districts that saw a decrease in graduation rates between the 2018-2019 and 2019-2020 school year: <ul style="list-style-type: none"> Kashunamiut (down 2% from 2018-2019) Lower Yukon (down 8% from 2018-2019) Kuspuk (down 3% from 2018-2019) 		

Figure 14: YK Region Graduation Rates by School District, 2013 – 2020



Migration

What it tracks	Target	Where it comes from	Limitations
Migration trends of residents around the state using Permanent Fund Dividend (PFD) and Internal Revenue Service tax information. These numbers help explain what is driving regional population changes.	Decrease outmigration	Alaska Department of Labor and Workforce Development	The data only track PFD recipients. It does not capture seasonal workers or residents who are new to Alaska and ineligible for a PFD.
Changes from previous update (May 2020)	2019-2020 Migration and Trends		
Added data for 2018-2019 and 2019-2020	<ul style="list-style-type: none"> Bethel CA: lost 289 residents (outmigration up 42% from 2019) Kusilvak CA: lost 185 residents (outmigration up 28% from 2019) 		

Figure 15: Migration into and out of the Bethel Census Area, 2010-2020

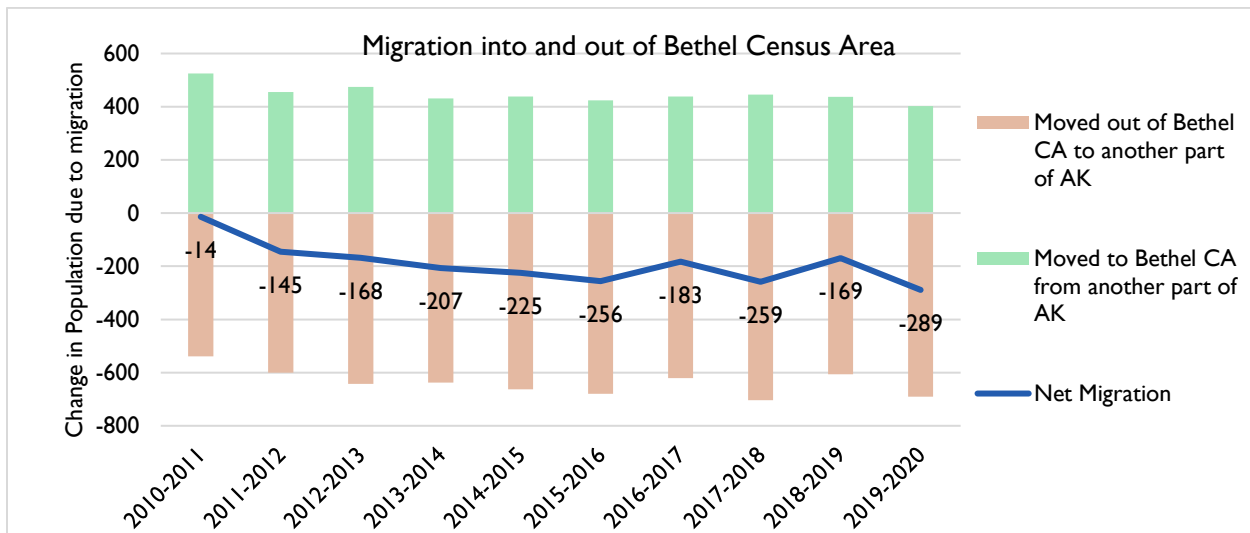
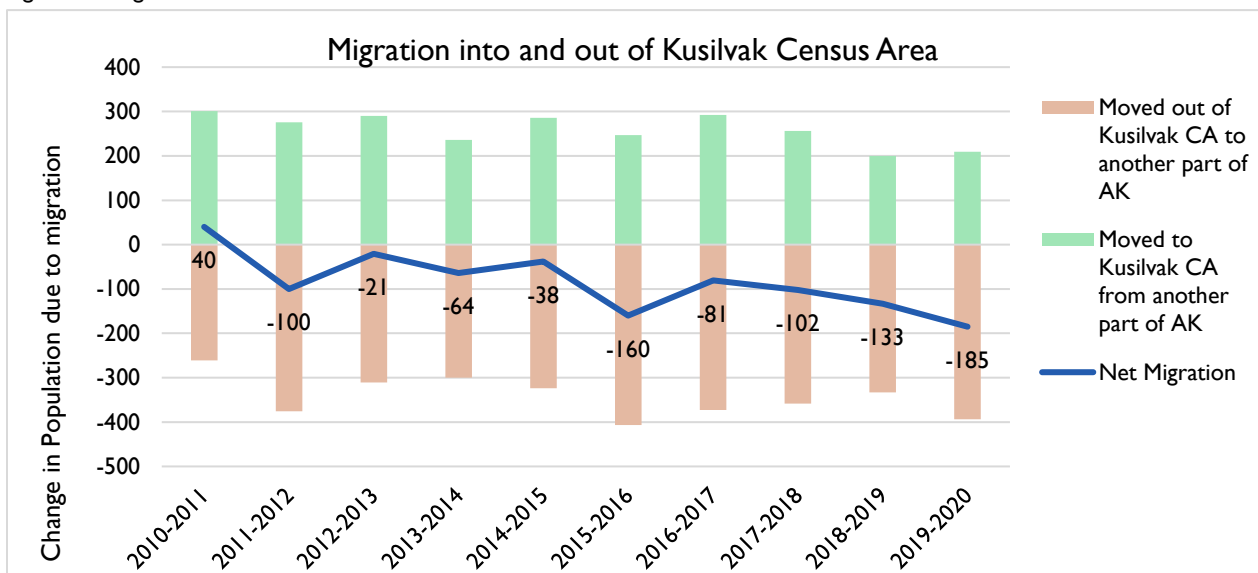


Figure 16: Migration into and out of the Kusilvak Census Area, 2010-2020



Subsistence Harvests			
What it tracks	Target	Where it comes from	Limitations
Total by-species subsistence salmon harvests as reported annually in voluntary household interviews	Increase	Alaska Department of Fish and Game, Office of Subsistence Management, collected in partnership with Orutsararmiut Native Council	The data includes total number of fish harvested but does not consider the quality of the harvest. Research and resident observations indicate western Alaska salmon are decreasing in size, meaning the same number of fish equals fewer pounds of food for a household. ³ In addition, the Yukon and Kuskokwim salmon fisheries are being managed for conservation, which means harvest numbers likely do not reflect actual demand or need. This indicator only captures salmon harvests. While salmon are a critical subsistence species, many YK residents also rely on other wild harvests such as land mammals (e.g., moose), marine mammals, non-salmon fish species, birds, berries and more.
Changes from previous update (May 2020)	2020 Subsistence Harvests and Trends		
Added data for 2020	<ul style="list-style-type: none"> • Kuskokwim River: 151,687 fish (down 9% from 2019) • Yukon River: 74,394 fish (down 143% from 2019) 		

Figure 17: Kuskokwim River Subsistence Salmon Harvests, 2015-2020

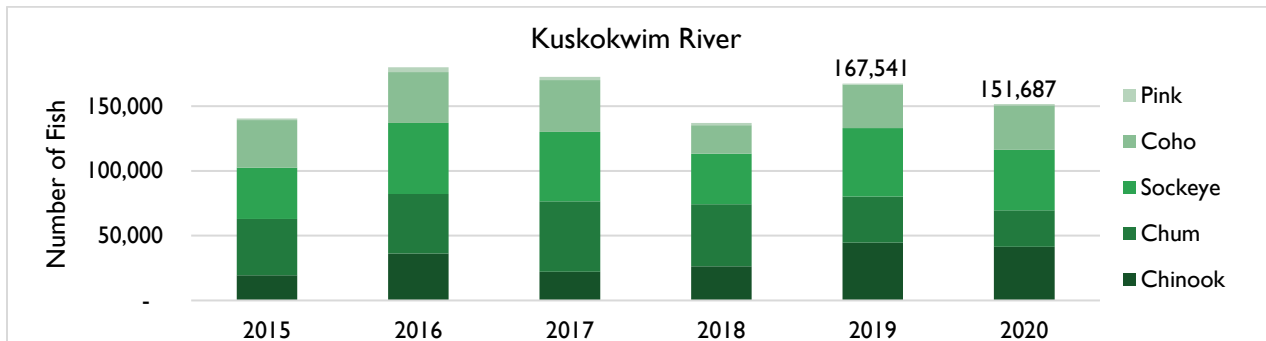
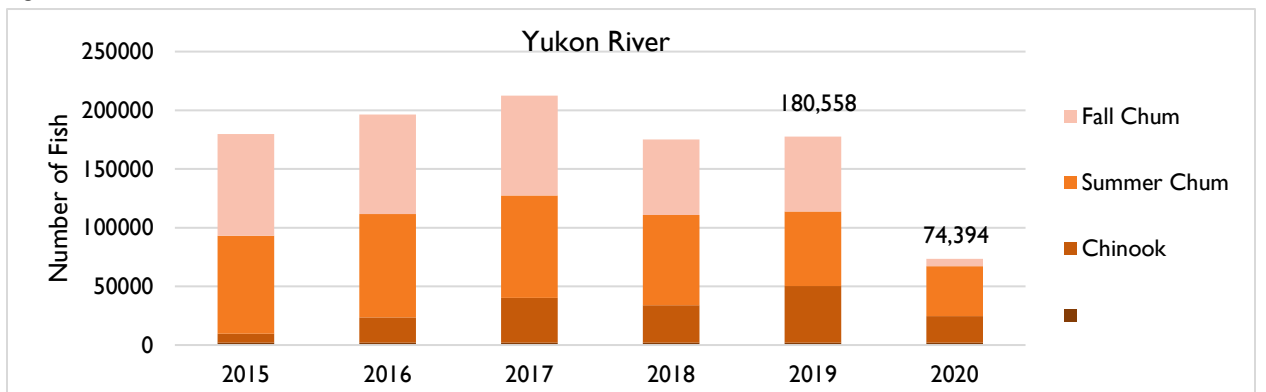


Figure 18: Yukon River Subsistence Salmon Harvests, 2015-2019



³ To learn more, read the Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative’s analysis, Changes in Quality of Chinook Salmon Escapement in the YK region. Available at <https://www.avkssi.org/project/escapement-quality-expert-panel/>

3. Progress and Performance Updates

Overview

The table below offers a crosswalk comparing the eight goals from the 2018-2023 CEDS to the six broad focus areas in the 2020/2021 update.









Figure 19: YK CEDS Goals and Focus Areas

2018-2023 CEDS Goals	2020/2021 YK CEDS Focus Areas								
	Business Development & Entrepreneurship	Climate Adaptation	Communications	Health Care & Community Wellness	Education & Workforce Development	Energy	Housing & Water-Sewer Infrastructure	Subsistence & Food Security	Transportation
A: Grow Our Own	✓	✓	✓	✓	✓	✓	✓	✓	✓
B: Address Critical Housing Needs							✓		
C: Support & Grow Local Business Development & Entrepreneurship	✓	✓	✓		✓	✓	✓	✓	✓
D: Expand & Improve Regional Communications, Energy & Transportation Infrastructure			✓	✓		✓			✓
E: Improve the Health, Wellness and Safety of the Region’s People and Communities		✓	✓	✓	✓		✓	✓	✓
F: Create Resilient and Prepared Communities	✓	✓	✓	✓	✓	✓	✓	✓	✓
G: Cultivate Regional Coordination and Planning	✓	✓	✓	✓	✓	✓	✓	✓	✓
H: Protect Natural Resource Harvests and Subsistence		✓		✓				✓	





Accomplishments and Challenges Over the Past Year

The following accomplishments and challenges are compiled based on CEDS Committee interviews and discussion at the 2021 YK CEDS work session.

General (span multiple focus areas)

	The American Rescue Plan Act of 2021 provided stimulus and relief funding for businesses and organizations impacted by the pandemic.
	A monthly call open to all regional stakeholders informed individuals, businesses, and local government of pandemic-related mandates and restrictions.
	Direct payments from the COVID-19 Economic Relief (CARES) I/II Act from March 2020 and 2021 reduced poverty in the region.
	The Infrastructure Investment and Jobs Act of 2021 will provide significant funding for meeting transportation, communications, housing, and water and sewer needs in rural Alaska.
	Native American Deb Haaland was appointed as Secretary of the U.S. Department of the Interior, the first Native American to serve as a cabinet secretary. Secretary Haaland's appointment was celebrated as a major milestone and success story for Native and indigenous peoples around the country.
	Supply chain issues related to the pandemic slowed the shipping of goods around the region. This has impacted the cost of living and the progress of construction projects, including energy, transportation and climate mitigation projects.
	The pandemic exacerbated the need for high-speed, reliable internet in the region. Businesses, workers, and students increasingly require affordable and dependable broadband to communicate, learn, and conduct business.
	Federal funding opportunities for regional projects are often slowed because of a lack of matching fund sources. This impacts housing, broadband, transportation, and other sectors.

Business Development and Entrepreneurship

	Despite the pandemic, the Best in the West competition awarded \$31,000 to entrepreneurs in 2020 and another \$25,000 in 2021.
	Some Alaska Native corporations participated in community planning on regional priorities like broadband connectivity and climate change adaptation.
	Tourism has come to a standstill for the region, resulting in significant financial loss, including to fish and big game guiding.
	Private employers struggle to recruit and retain employees. Tribes offer higher wages, making it difficult for private employers to compete.

Climate Change Adaptation

	<p>The University of Alaska Fairbanks (UAF) Climate Adaptation Science Center developed a concept paper to place more Alaska Native youth into Science, Technology, Engineering and Math (STEM)-related climate change adaptation and community planning. It also supports adults continuing education in these fields.</p>
	<p>AVCP submitted Resolution 20-20 to the Alaska Federation of Natives (AFN), which passed at the AVCP Annual Convention in September 2020 and the AFN Convention in December 2020. The resolution supports increased coordination, technical assistance, and funding for Alaska Native communities to respond to environmental threats.</p>
	<p>There are local, state, and federal efforts underway to improve climate change adaptation and emergency response. AVCP's Resilience Division is anticipated to be fully developed by the end of 2022 and can be a convener for regional climate initiatives. The Alaska Division of Homeland Security and Emergency Management (DHSEM) is working on a regional approach to hazard mitigation planning with the Federal Emergency Management Agency (FEMA). The Bureau of Indian Affairs (BIA) is holding listening sessions specifically focused on climate adaptation. BIA Tribal Climate Resilience and Community Relocation Appropriations allocated \$216 million from FY2022 to FY2026 for Tribal climate resilience, adaptation and community relocation projects.</p>
	<p>Alaska Native Tribal Health Consortium (ANTHC)'s Center for Environmentally Threatened Communities (CETC) created a tool to map the status of assessments in the Y-K in partnership with the Alaska Division of Geological & Geophysical Surveys.</p>
	<p>In 2021 a collective of partners released a draft report, <i>Unmet Needs of Environmentally Threatened Alaska Native Villages: Assessment and Recommendations</i>. Report authors include the Alaska Division of Community and Regional Affairs, ANTHC, and other Alaska Tribal organizations. ANTHC will be facilitating meetings in environmentally threatened communities in 2022 to solicit feedback on the proposed agency coordination framework and stakeholders' vision for a more effective system. Ultimately the recommendations will be shared with state and federal agencies to ensure future adaptation and mitigation efforts reflect the needs of local communities.</p>
	<p>The Biden administration is engaging on priority topics important to the region and Alaska Native communities, such as climate change. For example, the administration re-established the Arctic Executive Steering Committee.</p>
	<p>Many communities in the region face ongoing degradation to coastline and other impacts from climate change. While planning and response efforts have increased, the level of urgency and need for planning, mitigation, and adaptation remains high. Many threatened communities face urgent threats to health, safety, and infrastructure. In addition, federal programs relevant to climate change and environmental threats continue to disadvantage and exclude YK communities.</p>

Communications


+	The Infrastructure Investment and Jobs Act of 2021 allocated \$75 million for the Denali Commission to assist with rural Alaska broadband rollout and service delivery over the next five years. The Denali Commission built a plan for the Federal Communications Commission (FCC) 2.5GHz Tribal spectrum program opportunity. A Tribally controlled nonprofit, Alaska Tribal Spectrum, has worked to simplify and streamline the application process, with an estimated 85 Tribal applications submitted. ⁴
+	The U.S. Department of Treasury’s new Tribal Capital Project Fund supports infrastructure and broadband needs in Tribal communities.
+	The Yukon-Kuskokwim Delta Tribal Broadband Consortium (YKDTBC), a 501c3 nonprofit Tribal organization, was established, with headquarters in Bethel. YKDTBC is dedicated to bringing affordable broadband to the region and currently has 17 member Tribes representing over 30 percent of the region’s population.
+	Alaska Native corporations, YKDTBC, and other businesses (i.e., GCI TERRA, ACS FiberOptic Project, Pacific Dataport/OneWeb, etc.) are partnering to provide broadband internet to the region through funding programs like the National Telecommunications and Information Administration (NTIA) Tribal Broadband Connectivity Program. These efforts bring reliable and affordable broadband service to the region. For example, OneWeb recently partnered with the Native Village of Akiak to provide internet service delivery through the FCC 2.5GHz Tribal Spectrum Program.

Health Care and Community Wellness







+	A new health clinic was completed and opened in Kongiganak, and funding has been secured for a new clinic in Akiachak, with construction beginning this summer.
+	As of January 25, 2022, 78% of Yukon-Koyukuk Census Area residents and 75% of Bethel Census Area residents over the age of five have been vaccinated against COVID-19, higher than the statewide rate of 62%.
+	In early 2022, the Yukon Kuskokwim Health Corporation (YKHC) announced plans to construct a new, 109-room customer lodging facility. The facility will be large enough to accommodate all of the hospital’s current and anticipated customer needs. The current 24 room facility, built in 1999, is too small and unable to fully accommodate daily needs. The newer, larger facility will allow more residents from around the region to come to Bethel for health care needs, and better accommodate visitors who experience weather disruptions and delayed flights.
+	Yuut Elitnaurviat and Alaska Pacific University teamed up to launch a new nursing program in Bethel. Program participants will be able to earn a Licensed Practical Nursing certificate, the first program of its kind in Alaska. ⁵
-	There have been 48 deaths and 133 hospitalizations due to COVID-19 in the YK region, with almost 12,000 cases reported (numbers as of 1/21/22; see YKHC’s data dashboard for most current numbers). During the peak of the spread of the Delta variant in fall 2021, YKHC was

⁴ <https://aktribalspectrum.org/about-ats/>






⁵ <https://www.kyuk.org/education/2021-10-29/bethel-will-host-alaskas-only-licensed-practical-nursing-certificate-program>

	forced to activate crisis standards of care in response to high case numbers and availability of resources.
	The health care sector continues to experience shortages of staff in key roles. YKHC is working closely with the UAF Kuskokwim Campus, Alaska Area Health Education Centers, Yuut Elitnaurviat and other key organizations to recruit and train mental health aides, nurses, community health aides/practitioners, dental assistants, dental health aides, mental health aides and more.

Education and Workforce Development

	The Kuskokwim Corporation (TKC) is working on a regional training and development center in Aniak. The Center will work with Yuut Elitnaurviat, Mat-Su Valley-based Northern Industrial Training, and AVCP to assist people in getting credentialed for various projects.
	ANSEP, the UAF Kuskokwim Campus, and regional school districts facilitate advanced or accelerated youth learning and training opportunities in STEM, allied health, and Tribal and community leadership.
	Calista Corporation held its annual YK Delta Workforce Development summit.
	The region increased training for key industries such as aviation and health care. For example, the YE Air Frame and Power Plant School graduated its first cohort in January 2021. The second cohort is expected to begin in January 2022. EXCEL Alaska has flight school and ground school class at Summer XL; they recently graduated private pilots who are progressing to get licensed.
	Enrollment in higher education and vocational training is down, likely due to the pandemic.
	The BIA Tribal Climate Resilience Program will fund young Alaska Native/Native American employment and placement opportunities with professional engineering firms involved with climate change adaptation planning. Local hire and workforce capacity for climate adaptation planning remains low.

Energy


	A court ruling reinstated the FY22 Power Cost Equalization program, continuing the practice of rural energy subsidies.
	Distance learning and training became more available. The Alaska Vocational Technical Center started a bulk fuels handling course based in Sitka with flexible options for participation. In addition, the UAF Bristol Bay Campus provided virtual Sustainable Energy Occupational Endorsement Program courses.
	Nuvista, AVEC, and Alaska Native Tribal Health Consortium (ANTHC) partnered to provide heat energy audits in most villages.
	Energy partners explored new technologies to reduce heating costs for communities in the region, such as heat recovery and biomass.
	Living costs in the region remain high, including heat and power generation.

Housing and Water-Sewer Infrastructure





+	ANTHC prioritized weatherization throughout the region, reducing commercial and residential heat and energy costs. ANTHC completed major water and sewer projects in the YK, including relocating homes to access water and sewer hookups, investing in water and sewer energy efficiency upgrades, first service water and sewer connections, replacement water and sewer service connections, sewage lagoon construction, raw water intake repair and replacement, deteriorating water and sewer mainline replacements, and preparing engineering documents for new projects.
+	Designated Housing Entities such as AVCP Housing and ONC Housing collaborated with non-traditional organizations like the Coastal Villages Region Fund construct new housing.
+	Statewide and regional programs like ANTHC PASS and Village Safe Water (VSW)'s Alaska Simplett Pilot system used new technologies to address the water-sewer needs of rural Alaska communities. VSW's onsite water reuse prototype will be tested this winter on the University of Alaska Anchorage (UAA) campus. The Alaska Rural Utility Collaborative developed a new water-sewer hookup design that allows for flexibility to accommodate shifting and leveling of structures. TKC partnered with Cold Climate Housing Research Center (CCHRC) to design homes in the Middle Kuskokwim area using traditional and modern technologies and local timber resources.
+	ONC, NeighborWorks and Cook Inlet Housing Authority provided market rate housing to fund low-income housing developments.
+	AVCP Regional Housing Authority (RHA) plans to add a financial education program to its homeownership orientation.
-	Permafrost thaw and shoreline erosion continue to negatively impact housing and water sewer infrastructure.

Subsistence and Food Security

+	Three UAF ANSEP students formed an all-Yup'ik waterfowl research crew and provided a keynote speech at the October 2021 YK CEDS work session.
+	The Kuskokwim River Inter-Tribal Fish Commission (KRITC) and the Yukon River Inter-Tribal Fish Commissions supported subsistence fishermen along both rivers through low salmon returns in 2020 and 2021. The collapse of the fisheries fostered collaboration and recognized local and indigenous perspectives to North Pacific Fisheries Management Council (NPFMC).
+	Disaster declaration requests are pending with National Oceanic and Atmospheric Administration (NOAA) for the Yukon and the Kuskokwim Rivers, which include relief for subsistence fishermen impacted by the Chinook and chum fisheries collapses.
+	New resource management training opportunities include: ANSEP placements into the Yukon Delta National Wildlife Refuge (NWR), Navigating the New Arctic Community Office (NNA-CO); Study of Environmental Arctic Change (SEARCH), UAF Fisheries Management Program, Tamamta, and the UAF Tribal Governance Program. In addition, Calista Education and Culture, Inc. (CECI) awarded 362 natural resource scholarships over the past five years.
-	The Chinook and chum fisheries crashes of 2020 and 2021 impacted YK subsistence fishermen.
-	There is a lack of coordination between regions like Bristol Bay, Interior Alaska and Norton Sound around commercial and subsistence salmon fishing.

	<p>Climate change is impacting the subsistence way of life by changing weather patterns, modifying animal movements, and increasing permafrost thaw and erosion.</p>
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Transportation

	<p>The Kuskokwim Ice Road alleviates high shipping costs with seasonal connectivity to and from Bethel.</p>
	<p>Improved trail marking between villages in the region increased public safety.</p>
	<p>Climate change caused permafrost thaw and coastal and river erosion, impacting roadways and other public infrastructure.</p>
	<p>The regulations for Commercial Driver's Licenses (CDLs) are being modified to include additional requirements. Regional test sites will no longer be compliant, requiring rural students to travel to Anchorage, Palmer, or Kenai to complete the test. This will further exacerbate the challenge of hiring local CDL drivers, and will further increase the cost for those seeking to get their CDL.</p>

4. Priority 2020/2021 Strategies and Actions by Focus Area

This section includes priority strategies and actions for 2022, organized by focus area. For some actions, potential funding sources have been identified and linked. This list of strategies and actions has been carefully refined with input from the YK CEDS Committee, YK CEDS working groups, input at three YK CEDS Work Sessions. The priority actions generally meet the following criteria:

- Creates new jobs and/or grows regional wealth
- Aligns with our economic vision
- Has likely partners, including nontraditional and private sector
- Has high regional demand and support
- Takes advantage of existing strengths/opportunities
- Has a broad impact
- Addresses a time sensitive need
- Is supported by available resources (funding, staff capacity, etc.)
- Is innovative and sparking regional innovation

These recommendations do not replace those in the 2018-2023 Five-Year CEDS, which are still current and relevant. Rather, this is intended to be an updated, more succinct list of priority strategies and actions that were identified as immediate priorities for implementation in the coming one to two years.

The YK CEDS Committee and YK CEDS working groups will guide implementation of these strategies and actions with regional partners over the coming year. This will include convening CEDS working groups who will lead priority strategy implementation. YK CEDS working groups will also be tracking measures of success for each of the priorities. Preliminary measures of success have been identified in the table below; the working groups will need to start by identifying baseline indicators and 5-year targets, which can be used to track annual progress going forward.

Priority Strategies and Actions

Business Development and Entrepreneurship

STRATEGY 1: Build interest, investment in, and capacity for locally owned, operated, and innovative businesses.

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>1-A. Continue the Small Business Development “Best in the West” competitions to encourage entrepreneurship in the YK region. UAA Center for Economic Development (CED) added a mentorship component to the competition and is always looking for local business owners/operators to help mentor.</p>	<p>Lead: UAA CED Partners: UAF Kuskokwim Campus, Bethel Community Services Foundation, Cultural Center, Alaska Growth Capital, AVCP</p>	<p>Where this is at today: [#] businesses are owned and operated in YK region communities.</p>
<p>1-B. Develop and robustly distribute how-to manuals or resource guides that detail success stories, resources, and links for where to find information and assistance for a person or organization interested in starting a local business. The Economic Development Administration (EDA) funded the CED to create manuals (e.g., how to run a fish plant or lodge): https://ua-ced.org/reports (scroll to the bottom).</p>	<p>Lead: UAA CED Partners: TBD</p>	<p>Where we want to be in five years: [#] businesses are owned and operated in YK region communities.</p>

STRATEGY 2: Encourage larger scale, “anchor” economic development projects with potential to generate revenue, increase wealth and create employment opportunities across the YK region.

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>2-A. For each project, work together to examine costs, benefits, potential impacts, mitigation strategies, and opportunities for mutually beneficial investments in regional education, workforce and infrastructure development. Example projects include Donlin Gold Mine and Pilcher Mountain gravel.</p>	<p>Lead and partners: varies by project</p>	<p>Where this is at today: [#] private sector employment and regional GDP. Where we want to be in five years: [#] private sector employment and regional GDP.</p>

Climate Adaptation

STRATEGY 3: Conduct capacity building and implement proactive solutions for communities to respond to climate change and ensure all YK communities have active hazard mitigation plans and climate adaptation plans.

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>3-A. Complete risk assessments, FEMA Hazard Mitigation Plans, and associated reports (e.g., Preliminary Engineering Report) for communities to address near-term and long-term threats. This Action focuses on FEMA hazard mitigation plans, which allow the community to make annual updates that incorporate new elements (e.g., other plans and reports). DHSEM is working on a regional approach to hazard mitigation planning with FEMA.</p>	<p>Lead: Communities Partners: ANTHC, Calista, CETC, academic institutions, FEMA, DHSEM</p>	<p>Where this is at today: [#] communities in the YK region have completed FEMA hazard mitigation plans. [#] of climate adaptation jobs filled by YK residents.</p>
<p>3-B. Provide technical assistance and training to communities to obtain federal funding, conduct assessments, and manage ongoing communications around climate change response. AVCP’s Resilience Division (anticipated to be fully developed by the end of 2022) may act as a convening organization. The BIA is holding listening sessions focused on climate adaptation to inform U.S. Department of Interior-wide initiatives.</p>	<p>Lead: AVCP Community Resilience Division, Alaska Climate Adaptation Science Center Partners: CETC, Tribal liaisons, Alaska Department of Commerce, Community and Economic Development, Raychelle, Pew Charitable Trusts, BIA Tribal Resiliency Program</p>	<p>Where we want to be in five years: All [#] communities in the YK region have completed FEMA hazard mitigation plans. [#] of climate adaptation jobs filled by YK residents.</p>
<p>3-C. Build capacity among communities and Tribes to advocate for more flexible FEMA regulations and other agency programs to meet the immediate needs of communities. AVCP submitted AFN Resolution 20-20, which passed at the AVCP Convention in September and the AFN Convention in December 2020.</p>	<p>Lead: AVCP Partners: ANTHC, Climate Adaptation Science Center, CETC, Alaska Center for Climate Assessment and Policy</p>	
<p>3-D. Establish a Collective Impact Initiative: Set a goal to develop a certain number of climate adaptation professionals from the YK region to work in the region. Align entities to leverage educational opportunities, internships, employment opportunities, etc. A concept paper was drafted that explains how a formal program could be developed to implement a Collective Impact initiative focused on increasing the number and capacity of climate professionals from and working in the region.</p>	<p>Lead: TBD (Alaska Climate Adaptation Science Center?) Partners: TBD</p>	

To learn more about climate adaption planning, check out the following guidance and resources listed on the [Alaska Climate Adaptation Science Center website](#), especially the [Tribal Climate Adaptation Guidebook](#), and hose listed in on the [BIA Tribal Climate Resilience Program website](#).

Communications

STRATEGY 4: Increase connectivity in the region and support Tribal efforts to develop Tribal broadband spectrum.

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>4-A. Expand broadband infrastructure and connectivity throughout the region, prioritizing local ownership of key assets. Securing communications infrastructure is an equity issue and supports regional economic expansion. The 8(a) Tribal business structure supports exercising sovereignty and self-determination as well as implementing NTIA opportunities, e.g., the Tribal Broadband Connectivity Program.</p>	<p>Lead: YKDTBC Partners: AVCP, Alaska Tribal Spectrum, GCI, ACS, Denali Commission. EDA as a potential funder.</p>	<p>Where this is at today: [#] communities in the YK region are served by Tribally owned broadband. [#] average upload/download speeds available [#] average cost of internet service.</p>
<p>4-B. Organize a YK Broadband Conference for regional entities and communications businesses. The YK region is the second largest area without broadband internet (i.e. “unserved”) in the country. The Bethel Census Area has the largest unserved general and indigenous population in Alaska. A conference presents the opportunity for networking and collaboration to accelerate expansion of affordable broadband access and use in the region.</p>	<p>Lead: YKDTBC Partners: AVCP, Alaska Tribal Spectrum, Denali Commission, telecommunication companies</p>	<p>Where we want to be in five years: All [#] communities in the YK region are served by Tribally owned broadband.</p>
<p>4-C. Encourage partnerships between public, private, and Tribal entities to collaborate on infrastructure projects to achieve affordable, accessible, reliable internet in the YK region. Access to affordable broadband internet will expand economic development, allow access to remote job opportunities, provide telehealth, and virtual education, etc.</p>	<p>Lead: Varies Partners: AVCP, Alaska Tribal Spectrum, Denali Commission, telecommunication companies, YKDTBC</p>	<p>[#] average upload/ download speeds available [#] average cost of internet service.</p>

Education and Workforce Development

STRATEGY 5: Prepare regional residents for work in emerging economic sectors, including aviation, energy, housing construction and rehabilitation, infrastructure, planning, transportation and resource development.

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>5-A. Collectively develop and implement regional vocational training workforce development plans for key needed occupations. Key industries to focus on include aviation (e.g., ground school instructors, pilots), communications (e.g., broadband technicians), energy (e.g., utility operators), health care (e.g., community health aides), housing construction/rehabilitation (e.g., skilled trade jobs), planning (e.g., climate adaptation), public safety (e.g., VPSOs), transportation (e.g., CDL certified drivers, traffic control technicians, surveyors, equipment operators), and resource development (biotechnicians, natural resource management, GIS).</p>	<p>Lead: Yuut Elitnaurviat Key Partner: AVCP Workforce Development Other Partners: Alaska Department of Labor and Workforce Development (YK Delta Job Center), Alaska Department of Transportation & Public Facilities (DOT&PF), human resources representatives from all major employers</p>	<p>Where this is at today: [#] of jobs created or retained among YK region in emerging-sector industries. [%] of jobs filled by regional residents.</p> <p>Where we want to be in five years: [#] of jobs created or retained in YK region among emerging-sector industries. [%] of jobs filled by regional residents.</p>

Energy

STRATEGY 6: Build renewable energy infrastructure and address barriers to building more renewable energy infrastructure in the YK Delta.

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>6-A. Implement energy action plans for TKC communities. Priorities include biomass infrastructure investment and household LED lighting. TKC (with the U.S. Department of Energy [DOE] Office of Indian Energy and ANTHC) created an energy plan of immediate actionable items for each of their 10 member communities. ANTHC continues to install remote monitoring systems to prevent catastrophic failure and collect real-time data on energy use.</p>	<p>Lead: TKC Partners: DOE Office of Indian Energy/ANTHC</p>	<p>Where this is at today: [#] communities in the YK region are served by renewable energy. Average [#] of gallons of diesel fuel used for community energy production.</p>
<p>6-B. Collect energy audits that have been completed but not actioned. If possible, bundle projects for implementation. Nuvista conducted community audits in cooperation with AVEC and worked through a heat recovery database. Older audits also need to be updated to reflect emerging technology including heat recapture and wind turbines.</p>	<p>Lead: Nuvista, Renewable Energy Alaska Project (REAP) Partners: ANTHC has energy audits for water treatment plants and community facilities; AHFC audits</p>	<p>Where we want to be in five years: All [#] communities in the YK region are served by renewable energy.</p>
<p>6-C. Establish a Regional Utility Facility Support Collaborative to advocate for rural utilities. Create an inventory of existing/needed feasibility studies and bundle implementation of related projects. Nuvista is identifying proposed membership for the collaborative and working through business plan proposals.</p>	<p>Lead: Nuvista Partners: REAP</p>	<p>Average [#] of gallons of diesel fuel used for community energy production.</p>
<p>6-D. Construct a gas line to deliver natural gas to the region, providing an alternative source for energy and heat generation. A gas line from Cook Inlet could serve the Donlin mine and also deliver natural gas at lower cost to communities.</p>	<p>Lead: Donlin Partners: Utilities</p>	

Health Care and Community Wellness

STRATEGY 7: Improve regional access to affordable, quality health care facilities and services.

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>The health care sector is a major economic driver in the region. Access to quality and affordable health care is also an essential component of supporting quality of life. Health care organizations have also played a pivotal role in the region’s response to the pandemic. YKHC is the largest employer in the region and operates a network of village and sub-regional clinics and a regional hospital. The following list of priority projects was compiled by YKHC for inclusion in this update.</p> <ul style="list-style-type: none"> 7-A. YKHC Qavartarvik Customer Lodging 7-B. YKHC Employee Apartments 7-C. New Village clinics in Anvik, Mertarvik, Stony River, Quinhagak (started in 2021), Akiakchak (starting in 2022) 7-D. Renovate Village clinics in Oscarville, Lime Village, Kwigillingok 7-E. Medical Supply Warehouse Expansion 7-F. YKHC Daycare (in partnership with AVCP) 7-G. YKHC Elders Home, 18 Bed Expansion 7-H. Women’s Group Home 7-I. New Bautisa House Assisted Living Facility 7-J. Community Health Service Building Renovation Project 	<p>Lead: YKHC</p> <p>Partners: Tribes, communities, Indian Health Service, USDA, AVCP</p>	<p>Where this is at today:</p> <p>[#] of Villages with updated clinics</p> <p>[#] of health care jobs filled by regional residents</p> <p>Where we want to be in five years:</p> <p>[#] of Villages with updated clinics</p> <p>[#] of health care jobs filled by regional residents</p>

Housing and Water-Sewer Infrastructure

STRATEGY 8: Construct 3,000 housing units in the Y-K region and increase residential access to clean water through piped or hauled water systems.

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>8-A. Expand onsite water and/or sanitation projects from Village Safe Water and ANTHC to more YK communities. The ANTHC PASS has been successfully deployed in Y-K communities with variations that can be customized to individual household needs. Village Safe Water’s Alaska Simplett Pilot system has been installed in test homes and community buildings in Kongiganak and Arctic Village. After a three-year wait for EPA approval to test with human subjects, Village Safe Water’s onsite water reuse prototype will be tested this winter on the UAA campus with a professor and students.</p>	<p>Lead: Alaska Village Safe Water Program, AVCP Community Development, ANTHC Partners: TBD</p>	<p>Where this is at today: [#] communities in the YK region have adequate housing</p> <p>Where this is at today: [#] communities in the YK region have adequate housing and are served by clean water and sanitation systems.</p>
<p>8-B. Convene a collaborator meeting to discuss a partnership funding model that better leverages funds to construct homes with appropriate water-sewer systems. The Coastal Villages Region Fund (CVRF) has a tiny house program for residents in its member communities including down payment assistance leveraging different funding sources. ONC is working with NeighborWorks and Cook Inlet Housing Authority to provide market value housing to generate program income and subsidize lower income housing needs. TKC partnered with CCHRC to implement a USFS Wood Innovations grant that is funding the development of new design(s) for homes in the Middle Kuskokwim area using traditional and modern technologies and local timber resources.</p>	<p>Lead: AVCP RHA, AVCP Partners: Air National Guard (Innovative Readiness Program), BIA, U.S. Department of Housing and Urban Development, ANTHC, U.S. Department of Agriculture, Denali Commission, CVRF</p>	<p>There are many toilet alternatives in development but no fully tested, affordably-priced alternatives have been identified to date.</p> <p>Where we want to be in five years: All communities in the YK region have adequate housing and are served by clean water and sanitation systems.</p> <p>A viable alternative to the flush tank and haul method has been identified as a fundable option in communities where piped sewer and water is not feasible.</p>

Subsistence and Food Security

STRATEGY 9: Expand local employment and involvement in natural resource research, management and subsistence decision-making at the community, regional, state and federal levels.

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>9-A. Maintain a youth seat on CEDS Subsistence working group. Three Yup'ik UAF ANSEP students were featured as keynote speakers for the October 2021 YK CEDS work session, providing a leading example of an all-Yup'ik waterfowl research crew.</p>	<p>Lead: AVCP Partners: n/a</p>	<p>Where this is at today: [#] of natural resource stewardship jobs created or retained in YK region.</p>
<p>9-B. Develop a career pathway for subsistence and natural resource management. A number of resources exist or are in development, including: ANSEP placements into the Yukon Delta NWR; Navigating the New Arctic Community Office (NNA-CO) capacity-building in early-career researchers; Study of Environmental Arctic Change (SEARCH); UAF Fisheries Management Program; Tamamta; UAF Tribal Governance Program.</p>	<p>Lead: TBD Partners: Tanana Chiefs Conference, UAF/Alaska Pacific University, BIA Pathways Program</p>	<p>Where we want to be in five years: [#] of natural resource stewardship jobs created or retained in YK region.</p>
<p>9-C. Develop an apprenticeship program to guide younger people into high-level resource management positions. ANSEP is guiding young people toward high-level resource management positions, starting with its Acceleration Academy (in partnership with Lower Kuskokwim School District and UAF Kuskokwim Campus). USFWS is hiring youth from the region into its Fisheries Resource Management Program. Calista awarded 362 CECI natural resource scholarships over the last five years.</p>	<p>Lead: TBD Partners: Calista, ANSEP, Bering Sea Fishermen's Association</p>	
<p>9-D. Establish a small cohort of youth to be mentored and introduced to educational and career pathways in natural resources. The Native Youth Climate Adaptation Leadership Congress is an annual national mentorship program for youth that is a collaboration among the USFWS, National Park Service, BIA, and USFS. TKC is building subsistence advocacy into their internship program. Four of the current Tamamta cohort members have ties to the Y-K.</p>	<p>Lead: TBD Partners: ANSEP, First Alaskans Institute, Inuit Circumpolar Council, ANTHC</p>	

Transportation

STRATEGY 10: Prioritize and implement regional transportation projects (e.g., Kuskokwim River ice road, winter trails, etc.).

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>10-A. Secure funding for ongoing Kuskokwim Ice Road construction and maintenance. The Federal Highway Administration and UAF are producing an Alaska Ice Road Manual (2021-2022). AVCP plans to host a symposium related to the BIA Tribal Transportation Program in 2022.</p>	<p>Lead: Native Village of Napaimute Partners: Tribes who use the road, DOT&PF Northern Region, Calista (advocacy), Donlin Gold, AVCP, FHWA, BIA, Alaska Federal Delegation, TKC (assisting member villages with ice road activities), Donlin (assisted with some funding needs from Napaimute to Sleetmute)</p>	<p>Where this is at today: [#] regional transportation projects have been completed.</p> <p>Where we want to be in five years: [#] regional transportation projects have been completed.</p>
<p>10-B. Construct trails as identified in winter trails plan. AVCP recently hired a Transportation Planner.</p>	<p>Lead: AVCP Transportation Partners: Tribes, USFWS, Alaska Department of Natural Resources, BIA TTP; Village Search and Rescue Groups</p>	
<p>10-C. Adopt winter trail design standards and universal color coding for trail marking. Educate regional residents on the color system. Visible and consistent color codes of signs and flags are a major safety improvement.</p>	<p>Lead: AVCP Partners: BIA (for design, info distribution to non-AVCP Tribes); DOT&PF; UAF; USFWS (engineers can help design), FHWA Title 23; TKC assisting member villages with trail staking</p>	
<p>10-D. Develop a gravel pit at Pilcher Mountain with a road and port for exporting the gravel. Calista was awarded a BIA grant to conduct preliminary site work.</p>	<p>Lead: Calista Partners: ADOT&PF, City of Marshall</p>	
<p>10-E. Develop a Lower Yukon River Regional Port in Emmonak. Emmonak serves as a transportation hub for 13 nearby communities. Emmonak’s current port is inadequate to fully meet the needs of residents, workers, and vessel operators, with riverbank erosion and challenging offloading conditions. This project has already secured key funding, including \$23.1 million awarded by the U.S. Department of Transportation through a</p>	<p>Lead: City of Emmonak Partners: DOT&PF, Calista Corporation, Yukon Delta Fisheries Development Association, Emmonak Tribal Council, Chuloonawick Native Village, the State of Alaska, U.S. Army Corps of Engineers,</p>	

PRIORITY ACTIONS	LEAD/PARTNERS	MEASURES OF SUCCESS
<p>Better Utilizing Infrastructure Investments to Leverage Development (BUILD) grant, a \$3 million appropriation from the State of Alaska, and a \$1 million pledge from the Yukon Delta Fisheries Development Association. Construction began in 2020 and new dock should be ready for barge services for the 2022 shipping season. The City is seeking funding for additional phases to fund a ramp and port operations center.</p>	<p>AVCP, Kwik’Pak Fisheries, AVEC, and YKHC</p>	
<p>10-F. Establish a Western Alaska Emergency Response Center in Bethel. The center will be used as a training center and headquarters for coordination of emergency responses to industrial, natural, and environmental disasters. This includes use for public health needs such as coordinating pandemic response. AVCP donated an 8,4000 square foot building for the space but renovation is needed (estimated at \$4 million).</p>	<p>Lead: AVCP Partners: Bethel Search and Rescue, Alaska State Troopers, Alaska National Guard</p>	

Other Strategies and Actions

The following strategies and actions, while not selected as priorities, offer additional ideas, projects, and suggestions for supporting economic development and resiliency in the YK region.

Business Development and Entrepreneurship

- Develop training program(s) in partnership with school districts (Lower Kuskokwim School District, Lower Yukon School District, etc.) related to all facets of business (e.g., business development, accounting, payroll and labor laws, how to research laws and regulations, service or product development, how to add value, market/advertise, customer service, how to sell and transport goods).
- Make a list of local/regional businesses to showcase.
- Create a Facebook group to share job postings or possible work opportunities (e.g., if a construction project is slated).
- Research re-establishing a regional Chamber of Commerce or YK Business Alliance. Having a Chamber of Commerce would give the region access to a national Chamber of Commerce network to support local businesses.
- Explore organizing a regional business conference.
- Support micro-lending opportunities for start-ups, entrepreneurs, commercial fishers, and small business owners.

Climate Adaptation

- Develop map-based climate adaptation community profiles that describe threat assessment status, relevant plans, and links to other agency data.
- Preserve and implement traditional knowledge, technical models and data collected throughout the region.

Communications

- Organize a YK Broadband Conference for regional entities and communications businesses that would be involved in expanding broadband within the YK region to organize and prepare for funding or other support opportunities.
- Build a cohort of innovators or specialists to assist potential Tribal applicants for upcoming funding opportunities.
- Connect Bethel to other parts of the state via a fiber optic telecommunications cable.

- Identify direct climate change impacts on priority natural resources, especially resources used for subsistence. These can help inform subsistence harvest research and management practices (e.g., how, when, and where to hunt).

Education and Workforce Development

- Conduct quarterly meetings between education/workforce development agencies, and the HR departments of major employers.

Energy

- Provide energy literacy education, training, and workforce development (online and in-person classes).
- Implement new energy infrastructure projects that result in increased efficiency and decreased costs. Heat recovery is considered a renewable energy project/source.
- Secure operating funding to re-open a regional flight school and train local pilots.

Housing and Water-Sewer Infrastructure

- Provide home ownership financial education and home maintenance education to position YK residents to apply for a mortgage, purchase, and maintain homes.
- Support individuals and communities in securing equipment and training needed to level homes.
- Support local lumber, sawmill, and home manufacturing efforts (e.g., a truss manufacturing plant). This will also reduce the cost of building materials and increase local employment opportunities.
- Expand piped water system to new housing subdivisions in Bethel, including the Ciulkulek Subdivision.
- Create master plans for communities showing lots and phases for future development in order to most effectively tie into existing sewer and water infrastructure
- Develop home relocation plan for communities threatened by river erosion. Plan for relocating homes in locations that are adjacent to existing sewer and water infrastructure so the reconnect cost is economically feasible.

Subsistence and Food Security

- Participate in resource-management meetings, including: RACs, in-season management teleconferences, Native corporation meetings, NPFMC, etc.

- Create a video guide covering topics such as running to be on a council, internships, and/or participating in/presenting to councils. This could be an internship project.
- Document the opportunities offered by existing internships and youth leadership programs (e.g., supporting partners, types of projects, exchanges, etc.). Identify any regions that are under-represented by existing programs. Establish a talent bank for YK Delta job seekers in natural resource careers.
- Create a Lower River and Upper River youth exchange so the future users of the resource will understand why we need to conserve and have escapement for the upper river users.
- Create an exchange among Arctic, Yukon and Kuskokwim River fisheries programs.
- Develop tools and processes to better track total annual subsistence harvests across the region and estimate/communicate the economic value of subsistence harvests.

Transportation

- Ensure ice roads are on the BIA Tribal Transportation Plan inventory.
- Design a smart phone application with GPS coordinates for all winter trail tripods, with the ability to support/collect trail maintenance updates.
- Conduct and input real-time trail condition reporting. Use AVCP's winter trail reporting app if/when available.
- Learn more about the approval process for constructing emergency shelters on USFWS lands. There is a waiver process to work through Federal guidelines.
- Ensure winter trails are included in the BIA and USFWS trail inventories. Streamline this data sharing/updating between agencies.
- Develop a gravel pit at Pilcher Mountain with a road and port for exporting the gravel.
- Develop a new Petroleum Port/Cargo Dock in Bethel.
- Develop the Yukon-Kuskokwim Freight Corridor.⁶
- Complete upgrades to the Bethel City dock. Needed upgrades include better lighting, running water, and height increases.

⁶ The YK Freight Corridor Plan has been completed. The project team found that due to the current economic climate, fuel supply chain logistics, and other factors, this project would not currently succeed in public finance project selection processes and is therefore unlikely to proceed into the NEPA/design phase in the short term. In the future, however, the Freight Corridor may still be viable if barge operators determine the fuel price differentials between the two rivers warrant overland transfers, or an Alaska natural gas pipeline project creates pricing opportunities for western Alaska freight markets.